11TH EDITION

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8.0 Critical Reasoning

Critical reasoning questions appear in the Verbal section of the GMAT® exam. The Verbal section uses multiple-choice questions to measure your ability to read and comprehend written material, to reason and to evaluate arguments, and to correct written material to conform to standard written English. Because the Verbal section includes content from a variety of topics, you may be generally familiar with some of the material; however, neither the passages nor the questions assume knowledge of the topics discussed. Critical reasoning questions are intermingled with reading comprehension and sentence correction questions throughout the Verbal section of the exam.

You will have 75 minutes to complete the Verbal section, or about 1 3/4 minutes to answer each question. Although critical reasoning questions are based on written passages, these passages are shorter than reading comprehension passages. They tend to be less than 100 words in length and generally are followed by one or two questions. For these questions, you will see a split computer screen. The written passage will remain visible as each question associated with that passage appears in turn on the screen. You will see only one question at a time.

Critical reasoning questions are designed to test the reasoning skills involved in (1) making arguments, (2) evaluating arguments, and (3) formulating or evaluating a plan of action. The materials on which questions are based are drawn from a variety of sources. The GMAT® test does not suppose any familiarity with the subject matter of those materials.

In these questions, you are to analyze the situation on which each question is based, and then select the answer choice that most appropriately answers the question. Begin by reading the passages carefully, then reading the five answer choices. If the correct answer is not immediately obvious to you, see whether you can eliminate some of the wrong answers. Reading the passage a second time may be helpful in illuminating subtleties that were not immediately evident.

Answering critical reasoning questions requires no specialized knowledge of any particular field; you don't have to have knowledge of the terminology and conventions of formal logic. The sample critical reasoning questions in this chapter illustrate the variety of topics the exam may cover, the kinds of questions it may ask, and the level of analysis it requires.

The following pages describe what critical reasoning questions are designed to measure and present the directions that will precede questions of this type. Sample questions and explanations of the correct answers follow.

8.1 What Is Measured

Critical reasoning questions are designed to provide one measure of your ability to reason effectively in the following areas:

- **Argument construction**
  Questions in this category may ask you to recognize such things as the basic structure of an argument, properly drawn conclusions, underlying assumptions, well-supported explanatory hypotheses, and parallels between structurally similar arguments.
- **Argument evaluation**
  These questions may ask you to analyze a given argument and to recognize such things as factors that would strengthen or weaken the given argument; reasoning errors committed in making that argument; and aspects of the method by which the argument proceeds.
- **Formulating and evaluating a plan of action**
  This type of question may ask you to recognize such things as the relative appropriateness, effectiveness, or efficiency of different plans of action; factors that would strengthen or weaken the prospects of success of a proposed plan of action; and assumptions underlying a proposed plan of action.

8.2 Test-Taking Strategies for Critical Reasoning Questions

1. **Read very carefully the set of statements on which a question is based.**

   Pay close attention to—

   - what is put forward as factual information;
   - what is not said but necessarily follows from what is said;
   - what is claimed to follow from facts that have been put forward; and
   - how well substantiated are any claims that a particular conclusion follows from the facts that have been put forward.

   In reading the arguments, it is important to pay attention to the logical reasoning used; the actual truth of statements portrayed as fact is not important.

2. **Identify the conclusion.**
   The conclusion does not necessarily come at the end of the text; it may come somewhere in the middle or even at the beginning. Be alert to clues in the text that an argument follows logically from another statement or statements in the text.

3. **Determine exactly what each question asks.**
   You might find it helpful to read the question first, before reading the material on which it is based; don't assume that you know what you will be asked about an argument. An argument may have obvious flaws, and one question may ask you to detect them. But another question may direct you to select the one answer choice that does NOT describe a flaw in the argument.

4. **Read all the answer choices carefully.**
   Do not assume that a given answer is the best without first reading all the choices.

8.3 The Directions

These are the directions you will see for critical reasoning questions when you take the GMAT® test. If you read them carefully and understand them clearly before going to sit for the exam, you will not need to spend too much time reviewing them when you are at the test center and the exam is underway.

For this question, select the best of the answer choices given.

8.4 Critical Reasoning Sample Questions

For these questions, select the best of the answer choices given.

1. Some economists view the Kennedy–Johnson tax cut of 1964, which radically reduced corporate and individual taxes, as the impetus for the substantial prosperity enjoyed by the United States in the late 1960's and early 1970's.

Which of the following, if true, would most weaken the claim that the tax cut of 1964 was the impetus for economic prosperity?

(A) Modernized, more productive factories were built in the late 1960's as a result of the funds made available by the tax cut.
(B) Improved economic conditions in Western Europe and Japan resulted in substantially increased demand for United States manufactured goods in the late 1960's.
(C) The tax cut of 1964 contained regulations concerning tax shelters that prompted investors to transfer their savings to more economically productive investments.
(D) Personal income after taxes rose in the years following 1964.
(E) In the late 1960's, unemployment was relatively low compared with the early 1960's.

2. In order to increase profits during a prolonged slowdown in sales, the largest manufacturers of automobiles in the United States have instituted record-setting price increases on all their models. The manufacturers believe that this strategy will succeed, even though it is inconsistent with the normal relationship between price and demand.

The manufacturers' plan to increase profits relies on which of the following assumptions?

(A) Automobile manufacturers will, of necessity, raise prices whenever they introduce a new model.
(B) The smaller automobile manufacturers will continue to take away a large percentage of business from the largest manufacturers.
(C) The increased profit made on cars sold will more than compensate for any decline in sales caused by the price increases.
(D) New safety restraints that will soon become mandatory for all new cars will not be very costly for manufacturers to install.
(E) Low financing and extended warranties will attract many price-conscious consumers.

3. "Life expectancy" is the average age at death of the entire live-born population. In the middle of the nineteenth century, life expectancy in North America was 40 years, whereas now it is nearly 80 years. Thus, in those days, people must have been considered old at an age that we now consider the prime of life.

Which of the following, if true, undermines the argument above?

(A) In the middle of the nineteenth century, the population of North America was significantly smaller than it is today.
(B) Most of the gains in life expectancy in the last 150 years have come from reductions in the number of infants who die in their first year of life.
(C) Many of the people who live to an advanced age today do so only because of medical technology that was unknown in the nineteenth century.
(D) The proportion of people who die in their seventies is significantly smaller today than is the proportion of people who die in their eighties.
(E) More people in the middle of the nineteenth century engaged regularly in vigorous physical activity than do so today.

4. From June through August 1987, Premiere Airlines had the best on-time service of 10 United States airlines. From January through March 1988, Premiere Airlines had the worst on-time service of the 10 airlines. The on-time performance ranking of the other nine airlines relative to each other remained unchanged.

Which of the following, if true, would most contribute to an explanation of the facts above?

(A) Although Premiere Airlines only revoked its policy of routinely holding flights for late passengers in the fall of 1987, the other nine airlines never had that policy.
(B) Premiere Airlines reduced its business by 10 percent when it raised its rates in the fall of 1987 to compensate for rising gasoline costs.
(C) Premiere Airlines bought five new planes in the fall of 1987 that proved to have fewer mechanical problems than the ones they replaced.
(D) Premiere Airlines serves New England, which has heavy winter snowfalls, whereas the other airlines do most of their business in warmer regions of the country.
(E) Although all 10 airlines strive to keep their flights on schedule, overcrowded airports increased flight delays for all 10 airlines in January 1988 as compared with June 1987.

5. Homeowners aged 40 to 50 are more likely to purchase ice cream and are more likely to purchase it in large amounts than are members of any other demographic group. The popular belief that teenagers eat more ice cream than adults must, therefore, be false.

The argument is flawed primarily because the author_____.

(A) fails to distinguish between purchasing and consuming
(B) does not supply information about homeowners in age groups other than 40 to 50
(C) depends on popular belief rather than on documented research findings
(D) does not specify the precise amount of ice cream purchased by any demographic group
(E) discusses ice cream rather than more nutritious and healthful foods

6. Not all life depends on energy from sunlight. Microbial life has been found in bedrock more than five kilometers below the surface of the Earth, and bacteria have been found on the deep ocean floor feeding on hydrogen and other gases rising from the interior of the Earth through vents in the ocean floor.

The statements above, if true, best support which of the following as a conclusion?

(A) The location in the bedrock where microbial life was found was not near a system of volcanic vents through which hydrogen and other gases rose from the interior of the Earth.
(B) Bacteria are able to exist at the molten center of the Earth.
(C) A thorough survey of a planet's surface is insufficient to establish beyond a doubt that the planet contains no life.
(D) Life probably exists on Sun-orbiting comets, which are cold agglomerations of space dust and frozen gases.
(E) Finding bacterial remains in coal and oil would establish that the bacteria had been feeding on substances that had not been produced from the energy of sunlight.

7. A company is considering changing its policy concerning daily working hours. Currently, this company requires all employees to arrive at work at 8 a.m. The proposed policy would permit each employee to decide when to arrive—from as early as 6 a.m. to as late as 11 a.m.

The adoption of this policy would be most likely to decrease employees' productivity if the employees' job functions required them to _____.

(A) work without interruption from other employees
(B) consult at least once a day with employees from other companies
(C) submit their work for a supervisor's eventual approval
(D) interact frequently with each other throughout the entire workday
(E) undertake projects that take several days to complete

8. The amount of time it takes for most of a worker's occupational knowledge and skills to become obsolete has been declining because of the introduction of advanced manufacturing technology (AMT). Given the rate at which AMT is currently being introduced in manufacturing, the average worker's old skills become obsolete and new skills are required within as little as five years.

Which of the following plans, if feasible, would allow a company to prepare most effectively for the rapid obsolescence of skills described above?

(A) The company will develop a program to offer selected employees the opportunity to receive training six years after they were originally hired.
(B) The company will increase its investment in AMT every year for a period of at least five years.
(C) The company will periodically survey its employees to determine how the introduction of AMT has affected them.
(D) Before the introduction of AMT, the company will institute an educational program to inform its employees of the probable consequences of the introduction of AMT.
(E) The company will ensure that it can offer its employees any training necessary for meeting their job requirements.

9. Mayor: In each of the past five years, the city has cut school funding and each time school officials complained that the cuts would force them to reduce expenditures for essential services. But each time, only expenditures for nonessential services were actually reduced. So school officials can implement further cuts without reducing any expenditures for essential services.

Which of the following, if true, most strongly supports the mayor's conclusion?

(A) The city's schools have always provided essential services as efficiently as they have provided nonessential services.
(B) Sufficient funds are currently available to allow the city's schools to provide some nonessential services.
(C) Price estimates quoted to the city's schools for the provision of nonessential services have not increased substantially since the most recent school-funding cut.
(D) Few influential city administrators support the funding of costly nonessential services in the city's schools.
(E) The city's school officials rarely exaggerate the potential impact of threatened funding cuts.

10. Advertisement: For sinus pain, three out of four hospitals give their patients Novex. So when you want the most effective painkiller for sinus pain, Novex is the one to choose.

Which of the following, if true, most seriously undermines the advertisement's argument?

(A) Some competing brands of painkillers are intended to reduce other kinds of pain in addition to sinus pain.
(B) Many hospitals that do not usually use Novex will do so for those patients who cannot tolerate the drug the hospitals usually use.
(C) Many drug manufacturers increase sales of their products to hospitals by selling these products to the hospitals at the lowest price the manufacturers can afford.
(D) Unlike some competing brands of painkillers, Novex is available from pharmacies without a doctor's prescription.
(E) In clinical trials Novex has been found to be more effective than competing brands of painkillers that have been on the market longer than Novex.

11. A report that many apples contain a cancer-causing preservative called Alar apparently had little effect on consumers. Few consumers planned to change their apple-buying habits as a result of the report. Nonetheless, sales of apples in grocery stores fell sharply in March, a month after the report was issued.

Which of the following, if true, best explains the reason for the apparent discrepancy described above?

(A) In March, many grocers removed apples from their shelves in order to demonstrate concern about their customers' health.
(B) Because of a growing number of food-safety warnings, consumers in March were indifferent to such warnings.
(C) The report was delivered on television and also appeared in newspapers.
(D) The report did not mention that any other fruit contains Alar, although the preservative is used on other fruit.
(E) Public health officials did not believe that apples posed a health threat because only minute traces of Alar were present in affected apples.

12. Cable-television spokesperson: Subscriptions to cable television are a bargain in comparison to "free" television. Remember that "free" television is not really free. It is consumers, in the end, who pay for the costly advertising that supports "free" television.

Which of the following, if true, is most damaging to the position of the cable-television spokesperson?

(A) Consumers who do not own television sets are less likely to be influenced in their purchasing decisions by television advertising than are consumers who own television sets.
(B) Subscriptions to cable television include access to some public-television channels, which do not accept advertising.
(C) For locations with poor television reception, cable television provides picture quality superior to that provided by free television.
(D) There is as much advertising on many cable-television channels as there is on "free" television channels.
(E) Cable-television subscribers can choose which channels they wish to receive, and the fees.

13. Wood smoke contains dangerous toxins that cause changes in human cells. Because wood smoke presents such a high health risk, legislation is needed to regulate the use of open-air fires and wood-burning stoves.

Which of the following, if true, provides the most support for the argument above?

(A) The amount of dangerous toxins contained in wood smoke is much less than the amount contained in an equal volume of automobile exhaust.
(B) Within the jurisdiction covered by the proposed legislation, most heating and cooking is done with oil or natural gas.
(C) Smoke produced by coal-burning stoves is significantly more toxic than smoke from wood-burning stoves.
(D) No significant beneficial effect on air quality would result if open-air fires were banned within the jurisdiction covered by the proposed legislation.
(E) In valleys where wood is used as the primary heating fuel, the concentration of smoke results in poor air quality.

14. Within 20 years it will probably be possible to identify the genetic susceptibility an individual may have toward any particular disease. Eventually, effective strategies will be discovered to counteract each such susceptibility. Once these effective strategies are found, therefore, the people who follow them will never get sick.

The argument above is based on which of the following assumptions?

(A) For every disease there is only one strategy that can prevent its occurrence.
(B) In the future, genetics will be the only medical specialty of any importance.
(C) All human sicknesses are in part the result of individuals' genetic susceptibilities.
(D) All humans are genetically susceptible to some diseases.
(E) People will follow medical advice when they are convinced that it is effective.

15. A researcher studying drug addicts found that, on average, they tend to manipulate other people a great deal more than nonaddicts do. The researcher concluded that people who frequently manipulate other people are likely to become addicts.

Which of the following, if true, most seriously weakens the researcher's conclusion?

(A) After becoming addicted to drugs, drug addicts learn to manipulate other people as a way of obtaining drugs.
(B) When they are imprisoned, drug addicts often use their ability to manipulate other people to obtain better living conditions.
(C) Some nonaddicts manipulate other people more than some addicts do.
(D) People who are likely to become addicts exhibit unusual behavior patterns other than frequent manipulation of other people.
(E) The addicts that the researcher studied were often unsuccessful in obtaining what they wanted when they manipulated other people.

16. In Swartkans territory, archaeologists discovered charred bone fragments dating back one million years. Analysis of the fragments, which came from a variety of animals, showed that they had been heated to temperatures no higher than those produced in experimental campfires made from branches of white stinkwood, the most common tree around Swartkans.

Which of the following, if true, would, together with the information above, provide the best basis for the claim that the charred bone fragments are evidence of the use of fire by early hominids?

(A) The white stinkwood tree is used for building material by the present-day inhabitants of Swartkans.
(B) Forest fires can heat wood to a range of temperatures that occur in campfires.
(C) The bone fragments were fitted together by the archaeologists to form the complete skeletons of several animals.
(D) Apart from the Swartkans discovery, there is reliable evidence that early hominids used fire as many as 500,000 years ago.
(E) The bone fragments were found in several distinct layers of limestone that contained primitive cutting tools known to have been used by early hominids.

17. A conservation group in the United States is trying to change the long-standing image of bats as frightening creatures. The group contends that bats are feared and persecuted solely because they are shy animals that are active only at night.

Which of the following, if true, would cast the most serious doubt on the accuracy of the group's contention?

(A) Bats are steadily losing natural roosting places such as caves and hollow trees and are thus turning to more developed areas for roosting.
(B) Bats are the chief consumers of nocturnal insects and thus can help make their hunting territory more pleasant for humans.
(C) Bats are regarded as frightening creatures not only in the United States but also in Europe, Africa, and South America.
(D) Raccoons and owls are shy and active only at night, yet they are not generally feared and persecuted.
(E) People know more about the behavior of other greatly feared animal species, such as lions, alligators, and snakes, than they do about the behavior of bats.

18. Opponents of laws that require automobile drivers and passengers to wear seat belts argue that in a free society people have the right to take risks as long as the people do not harm others as a result of taking the risks. As a result, they conclude that it should be each person's decision whether or not to wear a seat belt.

Which of the following, if true, most seriously weakens the conclusion drawn above?

(A) Many new cars are built with seat belts that automatically fasten when someone sits in the front seat.

(B) Automobile insurance rates for all automobile owners are higher because of the need to pay for the increased injuries or deaths of people not wearing seat belts.
(C) Passengers in airplanes are required to wear seat belts during takeoffs and landings.
(D) The rate of automobile fatalities in states that do not have mandatory seat-belt laws is greater than the rate of fatalities in states that do have such laws.
(E) In automobile accidents, a greater number of passengers who do not wear seat belts are injured than are passengers who do wear seat belts.

19. Which of the following best completes the passage below?

People buy prestige when they buy a premium product. They want to be associated with something special. Mass-marketing techniques and price-reduction strategies should not be used because _____.

(A) affluent purchasers currently represent a shrinking portion of the population of all purchasers
(B) continued sales depend directly on the maintenance of an aura of exclusivity
(C) purchasers of premium products are concerned with the quality as well as with the price of the products
(D) expansion of the market niche to include a broader spectrum of consumers will increase profits
(E) manufacturing a premium brand is not necessarily more costly than manufacturing a standard brand of the same product

20. The number of people diagnosed as having a certain intestinal disease has dropped significantly in a rural county this year, as compared to last year. Health officials attribute this decrease entirely to improved sanitary conditions at water-treatment plants, which made for cleaner water this year and thus reduced the incidence of the disease.

Which of the following, if true, would most seriously weaken the health officials' explanation for the lower incidence of the disease?

(A) Many new water-treatment plants have been built in the last five years in the rural county.
(B) Bottled spring water has not been consumed in significantly different quantities by people diagnosed as having the intestinal disease, as compared to people who did not contract the disease.
(C) Because of a new diagnostic technique, many people who until this year would have been diagnosed as having the intestinal disease are now correctly diagnosed as suffering from intestinal ulcers.
(D) Because of medical advances this year, far fewer people who contract the intestinal disease will develop severe cases of the disease.
(E) The water in the rural county was brought up to the sanitary standards of the water in neighboring counties 10 years ago.

21. Rural households have more purchasing power than do urban or suburban households at the same income level, since some of the income urban and suburban households use for food and shelter can be used by rural households for other needs.

Which of the following inferences is best supported by the statement made above?

(A) The average rural household includes more people than does the average urban or suburban household.
(B) Rural households have lower food and housing costs than do either urban or suburban households.
(C) Suburban households generally have more purchasing power than do either rural or urban households.
(D) The median income of urban and suburban households is generally higher than that of rural households.
(E) All three types of households spend more of their income on housing than on all other purchases combined.

22. In Asia, where palm trees are nonnative, the trees' flowers have traditionally been pollinated by hand, which has kept palm fruit productivity unnaturally low. When weevils known to be efficient pollinators of palm flowers were introduced into Asia in 1980, palm fruit productivity increased—by up to 50 percent in some areas—but then decreased sharply in 1984.

Which of the following statements, if true, would best explain the 1984 decrease in productivity?

(A) Prices for palm fruit fell between 1980 and 1984 following the rise in production and a concurrent fall in demand.
(B) Imported trees are often more productive than native trees because the imported ones have left behind their pests and diseases in their native lands.
(C) Rapid increases in productivity tend to deplete trees of nutrients needed for the development of the fruit-producing female flowers.
(D) The weevil population in Asia remained at approximately the same level between 1980 and 1984.
(E) Prior to 1980 another species of insect pollinated the Asian palm trees, but not as efficiently as the species of weevil that was introduced in 1980.

23. With the emergence of biotechnology companies, it was feared that they would impose silence about proprietary results on their in-house researchers and their academic consultants. This constraint, in turn, would slow the development of biological science and engineering.

Which of the following, if true, would tend to weaken most seriously the prediction of scientific secrecy described above?

(A) Biotechnological research funded by industry has reached some conclusions that are of major scientific importance.
(B) When the results of scientific research are kept secret, independent researchers are unable to build on those results.
(C) Since the research priorities of biotechnology companies are not the same as those of academic institutions, the financial support of research by such companies distorts the research agenda.
(D) To enhance the companies' standing in the scientific community, the biotechnology companies encourage employees to publish their results, especially results that are important.
(E) Biotechnology companies devote some of their research resources to problems that are of fundamental scientific importance and that are not expected to produce immediate practical applications.

24. Guitar strings often go "dead"—become less responsive and bright in tone—after a few weeks of intense use. A researcher whose son is a classical guitarist hypothesized that dirt and oil, rather than changes in the material properties of the string, were responsible.

Which of the following investigations is most likely to yield significant information that would help evaluate the researcher's hypothesis?

(A) Determining whether a metal alloy is used to make the strings used by classical guitarists
(B) Determining whether classical guitarists make their strings go dead faster than do folk guitarists
(C) Determining whether identical lengths of string, of the same gauge, go dead at different rates when strung on various brands of guitars
(D) Determining whether a dead string and a new string produce different qualities of sound
(E) Determining whether smearing various substances on new guitar strings causes them to go dead

25. In recent years, many cabinetmakers have been winning acclaim as artists. But since furniture must be useful, cabinetmakers must exercise their craft with an eye to the practical utility of their product. For this reason, cabinetmaking is not art.

Which of the following is an assumption that supports drawing the conclusion above from the reason given for that conclusion?

(A) Some furniture is made to be placed in museums, where it will not be used by anyone.
(B) Some cabinetmakers are more concerned than others with the practical utility of the products they produce.
(C) Cabinetmakers should be more concerned with the practical utility of their products than they currently are.
(D) An object is not an art object if its maker pays attention to the object's practical utility.
(E) Artists are not concerned with the monetary value of their products.

26. Male bowerbirds construct elaborately decorated nests, or bowers. Basing their judgment on the fact that different local populations of bowerbirds of the same species build bowers that exhibit different building and decorative styles, researchers have concluded that the bowerbirds' building styles are a culturally acquired, rather than a genetically transmitted, trait.

Which of the following, if true, would most strengthen the conclusion drawn by the researchers?

(A) There are more common characteristics than there are differences among the bower-building styles of the local bowerbird population that has been studied most extensively.
(B) Young male bowerbirds are inept at bower-building and apparently spend years watching their elders before becoming accomplished in the local bower style.
(C) The bowers of one species of bowerbird lack the towers and ornamentation characteristic of the bowers of most other species of bowerbird.
(D) Bowerbirds are found only in New Guinea and Australia, where local populations of the birds apparently seldom have contact with one another.
(E) It is well known that the song dialects of some songbirds are learned rather than transmitted genetically.

27. A drug that is highly effective in treating many types of infection can, at present, be obtained only from the bark of the ibora, a tree that is quite rare in the wild. It takes the bark of 5,000 trees to make one kilogram of the drug. It follows, therefore, that continued production of the drug must inevitably lead to the ibora's extinction.

Which of the following, if true, most seriously weakens the argument above?

(A) The drug made from ibora bark is dispensed to doctors from a central authority.
(B) The drug made from ibora bark is expensive to produce.
(C) The leaves of the ibora are used in a number of medical products.
(D) The ibora can be propagated from cuttings and grown under cultivation.
(E) The ibora generally grows in largely inaccessible places.

28. Many breakfast cereals are fortified with vitamin supplements. Some of these cereals provide 100 percent of the recommended daily requirement of vitamins. Nevertheless, a well-balanced breakfast, including a variety of foods, is a better source of those vitamins than are such fortified breakfast cereals alone.

Which of the following, if true, would most strongly support the position above?

(A) In many foods, the natural combination of vitamins with other nutrients makes those vitamins more usable by the body than are vitamins added in vitamin supplements.
(B) People who regularly eat cereals fortified with vitamin supplements sometimes neglect to eat the foods in which the vitamins occur naturally.
(C) Foods often must be fortified with vitamin supplements because naturally occurring vitamins are removed during processing.
(D) Unprocessed cereals are naturally high in several of the vitamins that are usually added to fortified breakfast cereals.
(E) Cereals containing vitamin supplements are no harder to digest than similar cereals without added vitamins.

Questions 29–30 are based on the following:

In many corporations, employees are being replaced by automated equipment in order to save money. However, many workers who lose their jobs to automation will need government assistance to survive, and the same corporations that are laying people off will eventually pay for that assistance through increased taxes and unemployment insurance payments.

29. The author is arguing that _____.

(A) higher taxes and unemployment insurance payments will discourage corporations from automating
(B) replacing people through automation to reduce production costs will result in increases of other costs to corporations
(C) many workers who lose their jobs to automation will have to be retrained for new jobs
(D) corporations that are laying people off will eventually rehire many of them
(E) corporations will not save money by automating because people will be needed to run the new machines

30. Which of the following, if true, most strengthens the author's argument?

(A) Many workers who have already lost their jobs to automation have been unable to find new jobs.
(B) Many corporations that have failed to automate have seen their profits decline.
(C) Taxes and unemployment insurance are also paid by corporations that are not automating.
(D) Most of the new jobs created by automation pay less than the jobs eliminated by automation did.
(E) The initial investment in machinery for automation is often greater than the short-term savings in labor costs.

31. When a polygraph test is judged inconclusive, this is no reflection on the examinee. Rather, such a judgment means that the test has failed to show whether the examinee was truthful or untruthful. Nevertheless, employers will sometimes refuse to hire a job applicant because of an inconclusive polygraph test result.

Which of the following conclusions can most properly be drawn from the information above?

(A) Most examinees with inconclusive polygraph test results are in fact untruthful.
(B) Polygraph tests should not be used by employers in the consideration of job applicants.
(C) An inconclusive polygraph test result is sometimes unfairly held against the examinee.
(D) A polygraph test indicating that an examinee is untruthful can sometimes be mistaken.
(E) Some employers have refused to consider the results of polygraph tests when evaluating job applicants.

32. The technological conservatism of bicycle manufacturers is a reflection of the kinds of demand they are trying to meet. The only cyclists seriously interested in innovation and willing to pay for it are bicycle racers. Therefore, innovation in bicycle technology is limited by what authorities will accept as standard for purposes of competition in bicycle races.

Which of the following is an assumption made in drawing the conclusion above?

(A) The market for cheap, traditional bicycles cannot expand unless the market for high-performance competition bicycles expands.
(B) High-performance bicycles are likely to be improved more as a result of technological innovations developed in small workshops than as a result of technological innovations developed in major manufacturing concerns.

(C) Bicycle racers do not generate a strong demand for innovations that fall outside what is officially recognized as standard for purposes of competition.

(D) The technological conservatism of bicycle manufacturers results primarily from their desire to manufacture a product that can be sold without being altered to suit different national markets.

(E) The authorities who set standards for high-performance bicycle racing do not keep informed about innovative bicycle design.

33. Robot satellites relay important communications and identify weather patterns. Because the satellites can be repaired only in orbit, astronauts are needed to repair them. Without repairs, the satellites would eventually malfunction. Therefore, space flights carrying astronauts must continue.

Which of the following, if true, would most seriously weaken the argument above?

(A) Satellites falling from orbit because of malfunctions burn up in the atmosphere.

(B) Although satellites are indispensable in the identification of weather patterns, weather forecasters also make some use of computer projections to identify weather patterns.

(C) The government, responding to public pressure, has decided to cut the budget for space flights and put more money into social welfare programs.

(D) Repair of satellites requires heavy equipment, which adds to the amount of fuel needed to lift a spaceship carrying astronauts into orbit.

(E) Technical obsolescence of robot satellites makes repairing them more costly and less practical than sending new, improved satellites into orbit.

34. A company's two divisions performed with remarkable consistency over the past three years: in each of those years, the pharmaceuticals division has accounted for roughly 20 percent of dollar sales and 40 percent of profits, and the chemicals division for the balance.

Regarding the past three years, which of the following can properly be inferred from the statement above?

(A) Total dollar sales for each of the company's divisions have remained roughly constant.

(B) The pharmaceuticals division has faced stiffer competition in its markets than has the chemicals division.

(C) The chemicals division has realized lower profits per dollar of sales than has the pharmaceuticals division.

(D) The product mix offered by each of the company's divisions has remained unchanged.

(E) Highly profitable products accounted for a higher percentage of the chemicals division's sales than of the pharmaceuticals division's.

35. Advertisement: Today's customers expect high quality. Every advance in the quality of manufactured products raises customer expectations. The company that is satisfied with the current quality of its products will soon find that its customers are not. At MegaCorp, meeting or exceeding customer expectations is our goal.

Which of the following must be true on the basis of the statements in the advertisement above?

(A) MegaCorp's competitors will succeed in attracting customers only if those competitors adopt MegaCorp's goal as their own.

(B) A company that does not correctly anticipate the expectations of its customers is certain to fail in advancing the quality of its products.

(C) MegaCorp's goal is possible to meet only if continuing advances in product quality are possible.

(D) If a company becomes satisfied with the quality of its products, then the quality of its products is sure to decline.

(E) MegaCorp's customers are currently satisfied with the quality of its products.

36. Many companies now have employee assistance programs that enable employees, free of charge, to improve their physical fitness, reduce stress, and learn ways to stop smoking. These programs increase worker productivity, reduce absenteeism, and lessen insurance costs for employee health care. Therefore, these programs benefit the company as well as the employee.

Which of the following, if true, most significantly strengthens the conclusion above?

(A) Physical fitness programs are often the most popular services offered to employees.
(B) Studies have shown that training in stress management is not effective for many people.
(C) Regular exercise reduces people's risk of heart disease and provides them with increased energy.
(D) Physical injuries sometimes result from entering a strenuous physical fitness program too quickly.
(E) Employee assistance programs require companies to hire people to supervise the various programs offered.

Questions 37–38 are based on the following:

Companies O and P each have the same number of employees who work the same number of hours per week. According to records maintained by each company, the employees of Company O had fewer job-related accidents last year than did the employees of Company P. Therefore, employees of Company O are less likely to have job-related accidents than are employees of Company P.

37. Which of the following, if true, would most strengthen the conclusion above?

(A) Company P manufactures products that are more hazardous for workers to produce than does Company O.
(B) Company P holds more safety inspections than does Company O.
(C) Company P maintains a more modern infirmary than does Company O.
(D) Company O paid more for new job-related medical claims than did Company P.
(E) Company P provides more types of health-care benefits than does Company O.

38. Which of the following, if true, would most weaken the conclusion above?

(A) The employees of Company P lost more time at work due to job-related accidents than did the employees of Company O.
(B) Company P considered more types of accidents to be job-related than did Company O.
(C) The employees of Company P were sick more often than were the employees of Company O.
(D) Several employees of Company O each had more than one job-related accident.
(E) The majority of job-related accidents at Company O involved a single machine.

39. Last year the rate of inflation was 1.2 percent, but during the current year it has been 4 percent. We can conclude that inflation is on an upward trend and the rate will be still higher next year.

Which of the following, if true, most seriously weakens the conclusion above?

(A) The inflation figures were computed on the basis of a representative sample of economic data rather than all the available data.
(B) Last year a dip in oil prices brought inflation temporarily below its recent stable annual level of 4 percent.
(C) Increases in the pay of some workers are tied to the level of inflation, and at an inflation rate of 4 percent or above, these pay raises constitute a force causing further inflation.
(D) The 1.2 percent rate of inflation last year represented a 10-year low.
(E) Government intervention cannot affect the rate of inflation to any significant degree.

40. Offshore oil-drilling operations entail an unavoidable risk of an oil spill, but importing oil on tankers presently entails an even greater such risk per barrel of oil. Therefore, if we are to reduce the risk of an oil spill without curtailing our use of oil, we must invest more in offshore operations and import less oil on tankers.

Which of the following, if true, most seriously weakens the argument above?

(A) Tankers can easily be redesigned so that their use entails less risk of an oil spill.
(B) Oil spills caused by tankers have generally been more serious than those caused by offshore operations.
(C) The impact of offshore operations on the environment can be controlled by careful management.
(D) Offshore operations usually damage the ocean floor, but tankers rarely cause such damage.
(E) Importing oil on tankers is currently less expensive than drilling for it offshore.

41. Manufacturers of mechanical pencils make most of their profit on pencil leads rather than on the pencils themselves. The Write Company, which cannot sell its leads as cheaply as other manufacturers can, plans to alter the design of its mechanical pencil so that it will accept only a newly designed Write Company lead, which will be sold at the same price as the Write Company's current lead.

Which of the following, if true, most strongly supports the Write Company's projection that its plan will lead to an increase in its sales of pencil leads?

(A) First-time buyers of mechanical pencils tend to buy the least expensive mechanical pencils available.
(B) Annual sales of mechanical pencils are expected to triple over the next five years.
(C) A Write Company executive is studying ways to reduce the cost of manufacturing pencil leads.
(D) A rival manufacturer recently announced similar plans to introduce a mechanical pencil that would accept only the leads produced by that manufacturer.
(E) In extensive test marketing, mechanical-pencil users found the new Write Company pencil markedly superior to other mechanical pencils they had used.

42. Mourdet Winery: Danville Winery's new wine was introduced to compete with our most popular wine, which is sold in a distinctive tall, black bottle. Danville uses a similar bottle. Thus, it is likely that many customers intending to buy our wine will mistakenly buy theirs instead.

Danville Winery: Not so. The two bottles can be readily distinguished: the label on ours, but not on theirs, is gold colored.

Which of the following, if true, most undermines Danville Winery's response?

(A) Gold is the background color on the label of many of the wines produced by Danville Winery.
(B) When the bottles are viewed side by side, Danville Winery's bottle is perceptibly taller than Mourdet Winery's.
(C) Danville Winery, unlike Mourdet Winery, displays its wine's label prominently in advertisements.
(D) It is common for occasional purchasers to buy a bottle of wine on the basis of a general impression of the most obvious feature of the bottle.
(E) Many popular wines are sold in bottles of a standard design.

43. Which of the following best completes the passage below?

The computer industry's estimate that it loses millions of dollars when users illegally copy programs without paying for them is greatly exaggerated. Most of the illegal copying is done by people with no serious interest in the programs. Thus, the loss to the industry is quite small, because _____.

(A) many users who illegally copy programs never find any use for them
(B) most people who illegally copy programs would not purchase them even if purchasing them were the only way to obtain them
(C) even if the computer industry received all the revenue it claims to be losing, it would still be experiencing financial difficulties
(D) the total market value of all illegal copies is low in comparison to the total revenue of the computer industry
(E) the number of programs that are frequently copied illegally is low in comparison to the number of programs available for sale

44. In the last decade there has been a significant decrease in coffee consumption. During this same time, there has been increasing publicity about the caffeine in coffee's adverse long-term effects on health. Therefore, the decrease in coffee consumption must have been caused by consumers' awareness of the harmful effects of caffeine.

Which of the following, if true, most seriously calls into question the explanation above?

(A) On average, people consume 30 percent less coffee today than they did 10 years ago.
(B) Heavy coffee drinkers may have mild withdrawal symptoms, such as headaches, for a day or so after significantly decreasing their coffee consumption.
(C) Sales of specialty types of coffee have held steady as sales of regular brands have declined.
(D) The consumption of fruit juices and caffeine-free herbal teas has increased over the past decade.
(E) Coffee prices increased steadily in the past decade because of unusually severe frosts in coffee-growing nations.

45. Fewer families lose their houses because of major disasters such as fire or flood than because of a wage earner's illness that results in death or disability. Yet, whereas most mortgage companies require borrowers to carry insurance to protect against major disasters, they do not require insurance to protect against the death or disability of a wage earner.

Which of the following, if true, would contribute most to an explanation of the difference in insurance requirements?

(A) Some people are less aware of tragedies caused by major disasters than of those caused by the death or disability of a wage earner.
(B) Many people are made uncomfortable by having to consider the possibility of their own death or disability or that of a family member.
(C) Few wage earners are insured by their employers against a temporary loss of income resulting from disability.
(D) The value of a property to a mortgage company is not affected by the death or disability of a wage earner.
(E) Insuring against major disasters can be more costly than insuring against death or disability.

46. Which of the following best completes the passage below?

When the products of several competing suppliers are perceived by consumers to be essentially the same, classical economics predicts that price competition will reduce prices to the same minimal levels and all suppliers' profits to the same minimal levels. Therefore, if classical economics is true, and given suppliers' desire to make as much profit as possible, it should be expected that _____.

(A) in a crowded market widely differing prices will be charged for products that are essentially the same as each other

(B) as a market becomes less crowded as suppliers leave, the profits of the remaining suppliers will tend to decrease
(C) each supplier in a crowded market will try to convince consumers that its product differs significantly from its competitors' products.
(D) when consumers are unable to distinguish among the products in a crowded market, consumers will judge that the higher-priced products are of higher quality
(E) suppliers in crowded markets will have more incentive to reduce prices and thus increase sales than to introduce innovations that would distinguish their product from their competitors' products

47. Installing scrubbers in smokestacks and switching to cleaner-burning fuel are the two methods available to Northern Power for reducing harmful emissions from its plants. Scrubbers will reduce harmful emissions more than cleaner-burning fuels will. Therefore, by installing scrubbers, Northern Power will be doing the most that can be done to reduce harmful emissions from its plants.

Which of the following is an assumption on which the argument depends?

(A) Switching to cleaner-burning fuel will not be more expensive than installing scrubbers.
(B) Northern Power can choose from among various kinds of scrubbers, some of which are more effective than others.
(C) Northern Power is not necessarily committed to reducing harmful emissions from its plants.
(D) Harmful emissions from Northern Power's plants cannot be reduced more by using both methods together than by the installation of scrubbers alone.
(E) Aside from harmful emissions from the smoke-stacks of its plants, the activities of Northern Power do not cause significant air pollution.

48. Some anthropologists study modern-day societies of foragers in an effort to learn about our ancient ancestors who were also foragers. A flaw in this strategy is that forager societies are extremely varied. Indeed, any forager society with which anthropologists are familiar has had considerable contact with modern, non-forager societies.

Which of the following, if true, would most weaken the criticism made above of the anthropologists' strategy?

(A) All forager societies throughout history have had a number of important features in common that are absent from other types of societies.
(B) Most ancient forager societies either dissolved or made a transition to another way of life.
(C) All anthropologists study one kind or another of modern-day society.
(D) Many anthropologists who study modern-day forager societies do not draw inferences about ancient societies on the basis of their studies.
(E) Even those modern-day forager societies that have not had significant contact with modern societies are importantly different from ancient forager societies.

49. Contrary to earlier predictions, demand for sugarcane has not increased in recent years. Yet, even though prices and production amounts have also been stable during the last three years, sugarcane growers last year increased their profits by more than 10 percent over the previous year's level.

Any of the following statements, if true about last year, helps to explain the rise in profits EXCEPT:

(A) Many countries that are large consumers of sugarcane increased their production of sugarcane-based ethanol, yet their overall consumption of sugarcane decreased.
(B) Sugarcane growers have saved money on wages by switching from paying laborers an hourly wage to paying them by the amount harvested.
(C) The price of oil, the major energy source used by sugarcane growers in harvesting their crops, dropped by more than 20 percent.
(D) Many small sugarcane growers joined together to form an association of sugarcane producers and began to buy supplies at low group rates.
(E) Rainfall in sugarcane-growing regions was higher than it had been during the previous year, allowing the growers to save money on expensive artificial irrigation.

50. If the county continues to collect residential trash at current levels, landfills will soon be overflowing and parkland will need to be used in order to create more space. Charging each household a fee for each pound of trash it puts out for collection will induce residents to reduce the amount of trash they create; this charge will therefore protect the remaining county parkland.

Which of the following is an assumption made in drawing the conclusion above?

(A) Residents will reduce the amount of trash they put out for collection by reducing the number of products they buy.
(B) The collection fee will not significantly affect the purchasing power of most residents, even if their households do not reduce the amount of trash they put out.
(C) The collection fee will not induce residents to dump their trash in the parklands illegally.
(D) The beauty of county parkland is an important issue for most of the county's residents.
(E) Landfills outside the county's borders could be used as dumping sites for the county's trash.

51. Biometric access-control systems—those using fingerprints, voiceprints, and so forth, to regulate admittance to restricted areas—work by degrees of similarity, not by identity. After all, even the same finger will rarely leave exactly identical prints. Such systems can be adjusted to minimize refusals of access to legitimate access-seekers. Such adjustments, however, increase the likelihood of admitting impostors.

Which of the following conclusions is most strongly supported by the information above?

(A) If a biometric access-control system were made to work by identity, it would not produce any correct admittance decisions.
(B) If a biometric access-control system reliably prevents impostors from being admitted, it will sometimes turn away legitimate access-seekers.
(C) Biometric access-control systems are appropriate only in situations in which admittance of impostors is less of a problem than is mistaken refusal of access.
(D) No biometric access-control systems—based, for example, on numerical codes—are less likely than biometric ones to admit impostors.
(E) Anyone choosing an access-control system should base the choice solely on the ratio of false refusals to false admittances.

52. Although computers can enhance people's ability to communicate, computer games are a cause of underdeveloped communication skills in children. After-school hours spent playing computer games are hours not spent talking with people. Therefore, children who spend all their spare time playing these games have less experience in interpersonal communication than other children have.

The argument depends on which of the following assumptions?

(A) Passive activities such as watching television and listening to music do not hinder the development of communication skills in children.
(B) Most children have other opportunities, in addition to after-school hours, in which they can choose whether to play computer games or to interact with other people.
(C) Children who do not spend all their after-school hours playing computer games spend at least some of that time talking with other people.
(D) Formal instruction contributes little or nothing to children's acquisition of communication skills.
(E) The mental skills developed through playing computer games do not contribute significantly to children's intellectual development.

53. One variety of partially biodegradable plastic beverage container is manufactured from small bits of plastic bound together by a degradable bonding agent such as cornstarch. Since only the bonding agent degrades, leaving the small bits of plastic, no less plastic refuse per container is produced when such containers are discarded than when comparable nonbiodegradable containers are discarded.

Which of the following, if true, most strengthens the argument above?

(A) Both partially biodegradable and non-biodegradable plastic beverage containers can be crushed completely flat by refuse compactors.
(B) The partially biodegradable plastic beverage containers are made with more plastic than comparable nonbiodegradable ones in order to compensate for the weakening effect of the bonding agents.
(C) Many consumers are ecology-minded and prefer to buy a product sold in partially biodegradable plastic beverage containers rather than in nonbiodegradable containers, even if the price is higher.
(D) The manufacturing process for partially biodegradable plastic beverage containers results in less plastic waste than the manufacturing process for non-biodegradable plastic beverage containers.
(E) Technological problems with recycling currently prevent the reuse as food or beverage containers of the plastic from either type of plastic beverage container.

54. Most employees in the computer industry move from company to company, changing jobs several times in their careers. However, Summit Computers is known throughout the industry for retaining its employees. Summit credits its success in retaining employees to its informal, nonhierarchical work environment.

Which of the following, if true, most strongly supports Summit's explanation of its success in retaining employees?

(A) Some people employed in the computer industry change jobs if they become bored with their current projects.
(B) A hierarchical work environment hinders the cooperative exchange of ideas that computer industry employees consider necessary for their work.
(C) Many of Summit's senior employees had previously worked at only one other computer company.
(D) In a nonhierarchical work environment, people avoid behavior that might threaten group harmony and thus avoid discussing with their colleagues any dissatisfaction they might have with their jobs.
(E) The cost of living near Summit is relatively low compared to areas in which some other computer companies are located.

55. Low-income families are often unable to afford as much child care as they need. One government program would award low-income families a refund on the income taxes they pay of as much as $1,000 for each child under age four. This program would make it possible for all low-income families with children under age four to obtain more child care than they otherwise would have been able to afford.

Which of the following, if true, most seriously calls into question the claim that the program would make it possible for all low-income families to obtain more child care?

(A) The average family with children under age four spends more than $1,000 a year on child care.
(B) Some low-income families in which one of the parents is usually available to care for children under age four may not want to spend their income tax refund on child care.
(C) The reduction in government revenues stemming from the income tax refund will necessitate cuts in other government programs, such as grants for higher education.
(D) Many low-income families with children under age four do not pay any income taxes because their total income is too low to be subject to such taxes.
(E) Income taxes have increased substantially over the past 20 years, reducing the money that low-income families have available to spend on child care.

56. Social scientists are underrepresented on the advisory councils of the National Institutes of Health (NIH). Since these councils advise NIH directors and recommend policy, the underrepresentation of social scientists results in a relative lack of NIH financial support for research in the social sciences.

If the statements above are correct, they most strongly support which of the following?

(A) A significant increase in the size of NIH advisory councils would be required in order to increase the representation of social scientists on these councils.
(B) A significant increase in the representation of social scientists on NIH advisory councils would result in an increase in NIH funding for social science research.
(C) A significant increase in funding for social science research would result in improved policy recommendations to NIH directors.
(D) A significant increase in funding for the training of social scientists would result in an increase in the number of social scientists on NIH advisory councils.
(E) A significant increase in the representation of social scientists on NIH advisory councils would have to precede any increase in the number of NIH directors who are social scientists.

57. Among the more effective kinds of publicity that publishers can get for a new book is to have excerpts of it published in a high-circulation magazine soon before the book is published. The benefits of such excerption include not only a sure increase in sales but also a fee paid by the magazine to the book's publisher.

Which of the following conclusions is best supported by the information above?

(A) The number of people for whom seeing an excerpt of a book in a magazine provides an adequate substitute for reading the whole book is smaller than the number for whom the excerpt stimulates a desire to read the book.
(B) Because the financial advantage of excerpting a new book in a magazine usually accrues to the book's publisher, magazine editors are unwilling to publish excerpts from new books.
(C) In calculating the total number of copies that a book has sold, publishers include sales of copies of magazines that featured an excerpt of the book.
(D) The effectiveness of having excerpts of a book published in a magazine, measured in terms of increased sales of a book, is proportional to the circulation of the magazine in which the excerpts are published.
(E) Books that are suitable for excerpting in high-circulation magazines sell more copies than books that are not suitable for excerpting.

58. Insurance Company X is considering issuing a new policy to cover services required by elderly people who suffer from diseases that afflict the elderly. Premiums for the policy must be low enough to attract customers. Therefore, Company X is concerned that the income from the policies would not be sufficient to pay for the claims that would be made.

Which of the following strategies would be most likely to minimize Company X's losses on the policies?

(A) Attracting middle-aged customers unlikely to submit claims for benefits for many years
(B) Insuring only those individuals who did not suffer any serious diseases as children
(C) Including a greater number of services in the policy than are included in other policies of lower cost
(D) Insuring only those individuals who were rejected by other companies for similar policies
(E) Insuring only those individuals who are wealthy enough to pay for the medical services

59. To prevent some conflicts of interest, Congress could prohibit high-level government officials from accepting positions as lobbyists for three years after such officials leave government service. One such official concluded, however, that such a prohibition would be unfortunate because it would prevent high-level government officials from earning a livelihood for three years.

The official's conclusion logically depends on which of the following assumptions?

(A) Laws should not restrict the behavior of former government officials.
(B) Lobbyists are typically people who have previously been high-level government officials.
(C) Low-level government officials do not often become lobbyists when they leave government service.
(D) High-level government officials who leave government service are capable of earning a livelihood only as lobbyists.
(E) High-level government officials who leave government service are currently permitted to act as lobbyists for only three years.

Questions 60–61 are based on the following:

The fewer restrictions there are on the advertising of legal services, the more lawyers there are who advertise their services, and the lawyers who advertise a specific service usually charge less for that service than the lawyers who do not advertise. Therefore, if the state removes any of its current restrictions, such as the one against advertisements that do not specify fee arrangements, overall consumer legal costs will be lower than if the state retains its current restrictions.

60. If the statements above are true, which of the following must be true?

(A) Some lawyers who now advertise will charge more for specific services if they do not have to specify fee arrangements in the advertisements.
(B) More consumers will use legal services if there are fewer restrictions on the advertising of legal services.
(C) If the restriction against advertisements that do not specify fee arrangements is removed, more lawyers will advertise their services.
(D) If more lawyers advertise lower prices for specific services, some lawyers who do not advertise will also charge less than they currently charge for those services.
(E) If the only restrictions on the advertising of legal services were those that apply to every type of advertising, most lawyers would advertise their services.

61. Which of the following, if true, would most seriously weaken the argument concerning overall consumer legal costs?

(A) The state has recently removed some other restrictions that had limited the advertising of legal services.
(B) The state is unlikely to remove all the restrictions that apply solely to the advertising of legal services.
(C) Lawyers who do not advertise generally provide legal services of the same quality as those provided by lawyers who do advertise.
(D) Most lawyers who now specify fee arrangements in their advertisements would continue to do so even if the specification were not required.
(E) Most lawyers who advertise specific services do not lower their fees for those services when they begin to advertise.

62. During the Second World War, about 375,000 civilians died in the United States and about 408,000 members of the United States armed forces died overseas. On the basis of those figures, it can be concluded that it was not much more dangerous to be overseas in the armed forces during the Second World War than it was to stay at home as a civilian.

Which of the following would reveal most clearly the absurdity of the conclusion drawn above?

(A) Counting deaths among members of the armed forces who served in the United States in addition to deaths among members of the armed forces serving overseas
(B) Expressing the difference between the numbers of deaths among civilians and members of the armed forces as a percentage of the total number of deaths
(C) Separating deaths caused by accidents during service in the armed forces from deaths caused by combat injuries
(D) Comparing death rates per thousand members of each group rather than comparing total numbers of deaths
(E) Comparing deaths caused by accidents in the United States to deaths caused by combat in the armed forces

63. Even though most universities retain the royalties from faculty members' inventions, the faculty members retain the royalties from books and articles they write. Therefore, faculty members should retain the royalties from the educational computer software they develop.

The conclusion above would be more reasonably drawn if which of the following were inserted into the argument as an additional premise?

(A) Royalties from inventions are higher than royalties from educational software programs.
(B) Faculty members are more likely to produce educational software programs than inventions.
(C) Inventions bring more prestige to universities than do books and articles.
(D) In the experience of most universities, educational software programs are more marketable than are books and articles.
(E) In terms of the criteria used to award royalties, educational software programs are more nearly comparable to books and articles than to inventions.

64. Red blood cells in which the malarial-fever parasite resides are eliminated from a person's body after 120 days. Because the parasite cannot travel to a new generation of red blood cells, any fever that develops in a person more than 120 days after that person has moved to a malaria-free region is not due to the malarial parasite.

Which of the following, if true, most seriously weakens the conclusion above?

(A) The fever caused by the malarial parasite may resemble the fever caused by flu viruses.
(B) The anopheles mosquito, which is the principal insect carrier of the malarial parasite, has been eradicated in many parts of the world.
(C) Many malarial symptoms other than the fever, which can be suppressed with antimalarial medication, can reappear within 120 days after the medication is discontinued.
(D) In some cases, the parasite that causes malarial fever travels to cells of the spleen, which are less frequently eliminated from a person's body than are red blood cells.
(E) In any region infested with malaria-carrying mosquitoes, there are individuals who appear to be immune to malaria.

65. Most consumers do not get much use out of the sports equipment they purchase. For example, 17 percent of the adults in the United States own jogging shoes, but only 45 percent of the owners jog more than once a year, and only 17 percent jog more than once a week.

Which of the following, if true, casts the most doubt on the claim that most consumers get little use out of the sports equipment they purchase?

(A) Joggers are most susceptible to sports injuries during the first six months in which they jog.
(B) In surveys designed to elicit such information, joggers often exaggerate the frequency with which they jog.
(C) Many consumers purchase jogging shoes for use in activities other than jogging.
(D) Consumers who take up jogging often purchase athletic shoes that can be used in other sports.
(E) Joggers who jog more than once a week are often active participants in other sports as well.

66. Neither a rising standard of living nor balanced trade, by itself, establishes a country's ability to compete in the international marketplace. Both are required simultaneously since standards of living can rise because of growing trade deficits and trade can be balanced by means of a decline in a country's standard of living.

If the facts stated in the passage above are true, a proper test of a country's ability to be competitive is its ability to_____.

(A) balance its trade while its standard of living rises
(B) balance its trade while its standard of living falls
(C) increase trade deficits while its standard of living rises
(D) decrease trade deficits while its standard of living falls
(E) keep its standard of living constant while trade deficits rise

67. A greater number of newspapers are sold in Town S than in Town T. Therefore, the citizens of Town S are better informed about major world events than are the citizens of Town T.

Each of the following, if true, weakens the conclusion above EXCEPT:

(A) Town S has a larger population than Town T.
(B) Most citizens of Town T work in Town S and buy their newspapers there.
(C) The average citizen of Town S spends less time reading newspapers than does the average citizen of Town T.
(D) A weekly newspaper restricted to the coverage of local events is published in Town S.
(E) The average newsstand price of newspapers sold in Town S is lower than the average price of newspapers sold in Town T.

68. When hypnotized subjects are told that they are deaf and are then asked whether they can hear the hypnotist, they reply, "No." Some theorists try to explain this result by arguing that the selves of hypnotized subjects are dissociated into separate parts, and that the part that is deaf is dissociated from the part that replies.

Which of the following challenges indicates the most serious weakness in the attempted explanation described above?

(A) Why does the part that replies not answer, "Yes"?
(B) Why are the observed facts in need of any special explanation?
(C) Why do the subjects appear to accept the hypnotist's suggestion that they are deaf?
(D) Why do hypnotized subjects all respond the same way in the situation described?
(E) Why are the separate parts of the self the same for all subjects?

69. Excavation of the ancient city of Kourion on the island of Cyprus revealed a pattern of debris and collapsed buildings typical of towns devastated by earthquakes. Archaeologists have hypothesized that the destruction was due to a major earthquake known to have occurred near the island in AD 365.

Which of the following, if true, most strongly supports the archaeologists' hypothesis?

(A) Bronze ceremonial drinking vessels that are often found in graves dating from years preceding and following AD 365 were also found in several graves near Kourion.
(B) No coins minted after AD 365 were found in Kourion, but coins minted before that year were found in abundance.
(C) Most modern histories of Cyprus mention that an earthquake occurred near the island in AD 365.
(D) Several small statues carved in styles current in Cyprus in the century between AD 300 and 400 were found in Kourion.
(E) Stone inscriptions in a form of the Greek alphabet that was definitely used in Cyprus after AD 365 were found in Kourion.

Questions 70–71 are based on the following:

To protect certain fledgling industries, the government of Country Z banned imports of the types of products those industries were starting to make. As a direct result, the cost of those products to the buyers, several export-dependent industries in Z, went up, sharply limiting the ability of those industries to compete effectively in their export markets.

70. Which of the following can be most properly inferred from the passage about the products whose importation was banned?

(A) Those products had been cheaper to import than they were to make within Country Z's fledgling industries.
(B) Those products were ones that Country Z was hoping to export in its turn, once the fledgling industries matured.
(C) Those products used to be imported from just those countries to which Country Z's exports went.
(D) Those products had become more and more expensive to import, which resulted in a foreign trade deficit just before the ban.
(E) Those products used to be imported in very small quantities, but they were essential to Country Z's economy.

71. Which of the following conclusions about Country Z's adversely affected export-dependent industries is best supported by the passage?

(A) Profit margins in those industries were not high enough to absorb the rise in costs mentioned above.
(B) Those industries had to contend with the fact that other countries banned imports from Country Z.
(C) Those industries succeeded in expanding the domestic market for their products.
(D) Steps to offset rising materials costs by decreasing labor costs were taken in those industries.
(E) Those industries started to move into export markets that they had previously judged unprofitable.

72. Biological functions of many plants and animals vary in cycles that are repeated every 24 hours. It is tempting to suppose that alteration in the intensity of incident light is the stimulus that controls these daily biological rhythms. But there is much evidence to contradict this hypothesis.

Which of the following, if known, is evidence that contradicts the hypothesis stated in lines 2–5 above?

(A) Human body temperature varies throughout the day, with the maximum occurring in the late afternoon and the minimum in the morning.
(B) While some animals, such as the robin, are more active during the day, others, such as mice, show greater activity at night.
(C) When people move from one time zone to another, their daily biological rhythms adjust in a matter of days to the periods of sunlight and darkness in the new zone.

(D) Certain single-cell plants display daily biological rhythms even when the part of the cell containing the nucleus is removed.
(E) Even when exposed to constant light intensity around the clock, some algae display rates of photosynthesis that are much greater during daylight hours than at night.

73. The local board of education found that, because the current physics curriculum has little direct relevance to today's world, physics classes attracted few high school students. So to attract students to physics classes, the board proposed a curriculum that emphasizes principles of physics involved in producing and analyzing visual images.

Which of the following, if true, provides the strongest reason to expect that the proposed curriculum will be successful in attracting students?

(A) Several of the fundamental principles of physics are involved in producing and analyzing visual images.
(B) Knowledge of physics is becoming increasingly important in understanding the technology used in today's world.
(C) Equipment that a large producer of photographic equipment has donated to the high school could be used in the proposed curriculum.
(D) The number of students interested in physics today is much lower than the number of students interested in physics 50 years ago.
(E) In today's world the production and analysis of visual images is of major importance in communications, business, and recreation.

74. Small-business groups are lobbying to defeat proposed federal legislation that would substantially raise the federal minimum wage. This opposition is surprising since the legislation they oppose would, for the first time, exempt all small businesses from paying any minimum wage.

Which of the following, if true, would best explain the opposition of small-business groups to the proposed legislation?

(A) Under the current federal minimum-wage law, most small businesses are required to pay no less than the minimum wage to their employees.
(B) In order to attract workers, small companies must match the wages offered by their larger competitors, and these competitors would not be exempt under the proposed laws.
(C) The exact number of companies that are currently required to pay no less than the minimum wage but that would be exempt under the proposed laws is unknown.
(D) Some states have set their own minimum wages —in some cases, quite a bit above the level of the minimum wage mandated by current federal law—for certain key industries.
(E) Service companies make up the majority of small businesses and they generally employ more employees per dollar of revenues than do retail or manufacturing businesses.

75. Although aspirin has been proven to eliminate moderate fever associated with some illnesses, many doctors no longer routinely recommend its use for this purpose. A moderate fever stimulates the activity of the body's disease-fighting white blood cells and also inhibits the growth of many strains of disease-causing bacteria.

If the statements above are true, which of the following conclusions is most strongly supported by them?

(A) Aspirin, an effective painkiller, alleviates the pain and discomfort of many illnesses.
(B) Aspirin can prolong a patient's illness by eliminating moderate fever helpful in fighting some diseases.
(C) Aspirin inhibits the growth of white blood cells, which are necessary for fighting some illnesses.
(D) The more white blood cells a patient's body produces, the less severe the patient's illness will be.
(E) The focus of modern medicine is on inhibiting the growth of disease-causing bacteria within the body.

Questions 76–77 are based on the following:

Roland: The alarming fact is that 90 percent of the people in this country now report that they know someone who is unemployed.

Sharon: But a normal, moderate level of unemployment is 5 percent, with one out of 20 workers unemployed. So at any given time if a person knows approximately 50 workers, one or more will very likely be unemployed.

76. Sharon's argument is structured to lead to which of the following as a conclusion?

(A) The fact that 90 percent of the people know someone who is unemployed is not an indication that unemployment is abnormally high.
(B) The current level of unemployment is not moderate.
(C) If at least 5 percent of workers are unemployed, the result of questioning a representative group of people cannot be the percentage Roland cites.
(D) It is unlikely that the people whose statements Roland cites are giving accurate reports.
(E) If an unemployment figure is given as a certain percentage, the actual percentage of those without jobs is even higher.

77. Sharon's argument relies on the assumption that ___.

(A) normal levels of unemployment are rarely exceeded
(B) unemployment is not normally concentrated in geographically isolated segments of the population
(C) the number of people who each know someone who is unemployed is always higher than 90 percent of the population
(D) Roland is not consciously distorting the statistics he presents
(E) knowledge that a personal acquaintance is unemployed generates more fear of losing one's job than does knowledge of unemployment statistics

78. In comparison to the standard typewriter keyboard, the EFCO keyboard, which places the most-used keys nearest the typist's strongest fingers, allows faster typing and results in less fatigue. Therefore, replacement of standard keyboards with the EFCO keyboard will result in an immediate reduction of typing costs.

Which of the following, if true, would most weaken the conclusion drawn above?

(A) People who use both standard and EFCO keyboards report greater difficulty in the transition from the EFCO keyboard to the standard keyboard than in the transition from the standard keyboard to the EFCO keyboard.
(B) EFCO keyboards are no more expensive to manufacture than are standard keyboards and require less frequent repair than do standard keyboards.
(C) The number of businesses and government agencies that use EFCO keyboards is increasing each year.
(D) The more training and experience an employee has had with the standard keyboard, the more costly it is to train that employee to use the EFCO keyboard.
(E) Novice typists can learn to use the EFCO keyboard in about the same amount of time that it takes them to learn to use the standard keyboard.

79. An overly centralized economy, not the changes in the climate, is responsible for the poor agricultural production in Country X since its new government came to power. Neighboring Country Y has experienced the same climatic conditions, but while agricultural production has been falling in Country X, it has been rising in Country Y.

Which of the following, if true, would most weaken the argument above?

(A) Industrial production also is declining in Country X.
(B) Whereas Country Y is landlocked, Country X has a major seaport.

(C) Both Country X and Country Y have been experiencing drought conditions.
(D) The crops that have always been grown in Country X are different from those that have always been grown in Country Y.
(E) Country X's new government instituted a centralized economy with the intention of ensuring an equitable distribution of goods.

80. Because no employee wants to be associated with bad news in the eyes of a superior, information about serious problems at lower levels is progressively softened and distorted as it goes up each step in the management hierarchy. The chief executive is, therefore, less well informed about problems at lower levels than are his or her subordinates at those levels.

The conclusion drawn above is based on the assumption that _____.

(A) problems should be solved at the level in the management hierarchy at which they occur
(B) employees should be rewarded for accurately reporting problems to their superiors
(C) problem-solving ability is more important at higher levels than it is at lower levels of the management hierarchy
(D) chief executives obtain information about problems at lower levels from no source other than their subordinates
(E) some employees are more concerned about truth than about the way they are perceived by their superiors

81. A recent report determined that although only 3 percent of drivers on Maryland highways equipped their vehicles with radar detectors, 33 percent of all vehicles ticketed for exceeding the speed limit were equipped with them. Clearly, drivers who equip their vehicles with radar detectors are more likely to exceed the speed limit regularly than are drivers who do not.

The conclusion drawn above depends on which of the following assumptions?

(A) Drivers who equip their vehicles with radar detectors are less likely to be ticketed for exceeding the speed limit than are drivers who do not.
(B) Drivers who are ticketed for exceeding the speed limit are more likely to exceed the speed limit regularly than are drivers who are not ticketed.
(C) The number of vehicles that were ticketed for exceeding the speed limit was greater than the number of vehicles that were equipped with radar detectors.
(D) Many of the vehicles that were ticketed for exceeding the speed limit were ticketed more than once in the time period covered by the report.
(E) Drivers on Maryland highways exceeded the speed limit more often than did drivers on other state highways not covered in the report.

82. Products sold under a brand name used to command premium prices because, in general, they were superior to nonbrand rival products. Technical expertise in product development has become so widespread, however, that special quality advantages are very hard to obtain these days and even harder to maintain. As a consequence, brand-name products generally neither offer higher quality nor sell at higher prices. Paradoxically, brand names are a bigger marketing advantage than ever.

Which of the following, if true, most helps to resolve the paradox outlined above?

(A) Brand names are taken by consumers as a guarantee of getting a product as good as the best rival products.
(B) Consumers recognize that the quality of products sold under invariant brand names can drift over time.
(C) In many acquisitions of one corporation by another, the acquiring corporation is interested more in acquiring the right to use certain brand names than in acquiring existing production facilities.
(D) In the days when special quality advantages were easier to obtain than they are now, it was also easier to get new brand names established.
(E) The advertising of a company's brand-name products is at times transferred to a new advertising agency, especially when sales are declining.

83. Editorial: Regulations recently imposed by the government of Risemia call for unprecedented reductions in the amounts of pollutants manufacturers are allowed to discharge into the environment. It will take costly new pollution control equipment requiring expensive maintenance to comply with these regulations. Resultant price increases for Risemian manufactured goods will lead to the loss of some export markets. Clearly, therefore, annual exports of Risemian manufactured goods will in the future occur at diminished levels.

Which of the following, if true, most seriously weakens the argument in the editorial?

(A) The need to comply with the new regulations will stimulate the development within Risemia of new pollution control equipment for which a strong worldwide demand is likely to emerge.
(B) The proposed regulations include a schedule of fines for noncompliance that escalate steeply in cases of repeated noncompliance.
(C) Savings from utilizing the chemicals captured by the pollution control equipment will remain far below the cost of maintaining the equipment.
(D) By international standards, the levels of pollutants currently emitted by some of Risemia's manufacturing plants are not considered excessive.
(E) The stockholders of most of Risemia's manufacturing corporations exert substantial pressure on the corporations to comply with environmental laws.

84. When demand for a factory's products is high, more money is spent at the factory for safety precautions and machinery maintenance than when demand is low. Thus the average number of on-the-job accidents per employee each month should be lower during periods when demand is high than when demand is low and less money is available for safety precautions and machinery maintenance.

Which of the following, if true about a factory when demand for its products is high, casts the most serious doubt on the conclusion drawn above?

(A) Its employees ask for higher wages than they do at other times.
(B) Its management hires new workers but lacks the time to train them properly.
(C) Its employees are less likely to lose their jobs than they are at other times.
(D) Its management sponsors a monthly safety award for each division in the factory.
(E) Its old machinery is replaced with modern, automated models.

85. An unusually severe winter occurred in Europe after the continent was blanketed by a blue haze resulting from the eruption of the Laki Volcano in the European republic of Iceland in the summer of 1984. Thus, it is evident that major eruptions cause the atmosphere to become cooler than it would be otherwise.

Which of the following statements, if true, most seriously weakens the argument above?

(A) The cooling effect triggered by volcanic eruptions in 1985 was counteracted by an unusual warming of Pacific waters.
(B) There is a strong statistical link between volcanic eruptions and the severity of the rainy season in India.
(C) A few months after El Chichón's large eruption in April 1982, air temperatures throughout the region remained higher than expected, given the long-term weather trends.
(D) The climatic effects of major volcanic eruptions can temporarily mask the general warming trend resulting from an excess of carbon dioxide in the atmosphere.
(E) Three months after an early springtime eruption in South America during the late nineteenth century, sea surface temperatures near the coast began to fall.

86. Journalist: In physics journals, the number of articles reporting the results of experiments involving particle accelerators was lower last year than it had been in previous years. Several of the particle accelerators at major research institutions were out of service the year before last for repairs, so it is likely that the low number of articles was due to the decline in availability of particle accelerators.

Which of the following, if true, most seriously undermines the journalist's argument?

(A) Every article based on experiments with particle accelerators that was submitted for publication last year actually was published.
(B) The average time scientists must wait for access to a particle accelerator has declined over the last several years.
(C) The number of physics journals was the same last year as in previous years.
(D) Particle accelerators can be used for more than one group of experiments in any given year.
(E) Recent changes in the editorial policies of several physics journals have decreased the likelihood that articles concerning particle-accelerator research will be accepted for publication.

Questions 87–89 are based on the following:

Networks of blood vessels in bats' wings serve only to disperse heat generated in flight. This heat is generated only because bats flap their wings. Thus paleontologists' recent discovery that the winged dinosaur Sandactylus had similar networks of blood vessels in the skin of its wings provides evidence for the hypothesis that Sandactylus flew by flapping its wings, not just by gliding.

87. In the passage, the author develops the argument by _____.

(A) forming the hypothesis that best explains several apparently conflicting pieces of evidence
(B) reinterpreting evidence that had been used to support an earlier theory
(C) using an analogy with a known phenomenon to draw a conclusion about an unknown phenomenon
(D) speculating about how structures observed in present-day creatures might have developed from similar structures in creatures now extinct
(E) pointing out differences in the physiological demands that flight makes on large, as opposed to small, creatures

88. Which of the following, if true, most seriously weakens the argument in the passage?

(A) Sandactylus' wings were far more similar to the wings of bats than to the wings of birds.
(B) Paleontologists do not know whether winged dinosaurs other than Sandactylus had similar networks of blood vessels in the skin of their wings.
(C) The mechanism used by bats for dispersing heat in flight could, in principle, work for much larger flying creatures, such as Sandactylus.
(D) Not all the bats that use the mechanism described in the passage for dispersing heat in flight live in climates similar to the climate in which Sandactylus lived.
(E) Other winged dinosaurs that flew only by gliding had networks of blood vessels in the skin of their wings similar to those that Sandactylus had.

89. The argument in the passage relies on which of the following assumptions?

(A) Sandactylus would not have had networks of blood vessels in the skin of its wings if these networks were of no use to Sandactylus.
(B) All creatures that fly by flapping their wings have networks of blood vessels in the skin of their wings.
(C) Winged dinosaurs that flapped their wings in flight would have been able to fly more effectively than winged dinosaurs that could only glide.
(D) If Sandactylus flew by flapping its wings, then paleontologists would certainly be able to find some evidence that it did so.
(E) Heat generated by Sandactylus in flapping its wings in flight could not have been dispersed by anything other than the blood vessels in its wings.

90. Keith: Compliance with new government regulations requiring the installation of smoke alarms and sprinkler systems in all theaters and arenas will cost the entertainment industry $25 billion annually. Consequently, jobs will be lost and profits diminished. Therefore, these regulations will harm the country's economy.

Laura: The $25 billion spent by some businesses will be revenue for others. Jobs and profits will be gained as well as lost.

Laura responds to Keith by _____.

(A) demonstrating that Keith's conclusion is based on evidence that is not relevant to the issue at hand
(B) challenging the plausibility of the evidence that serves as the basis for Keith's argument.
(C) suggesting that Keith's argument overlooks a mitigating consequence
(D) reinforcing Keith's conclusion by supplying a complementary interpretation of the evidence Keith cites
(E) agreeing with the main conclusion of Keith's argument but construing that conclusion as grounds for optimism rather than for pessimism

91. Businesses are suffering because of a lack of money available for development loans. To help businesses, the government plans to modify the income-tax structure in order to induce individual taxpayers to put a larger portion of their incomes into retirement savings accounts, because as more money is deposited in such accounts, more money becomes available to borrowers.

Which of the following, if true, raises the most serious doubt regarding the effectiveness of the government's plan to increase the amount of money available for development loans for businesses?

(A) When levels of personal retirement savings increase, consumer borrowing always increases correspondingly.
(B) The increased tax revenue the government would receive as a result of business expansion would not offset the loss in revenue from personal income taxes during the first year of the plan.
(C) Even with tax incentives, some people will choose not to increase their levels of retirement savings.
(D) Bankers generally will not continue to lend money to businesses whose prospective earnings are insufficient to meet their loan repayment schedules.
(E) The modified tax structure would give all taxpayers, regardless of their incomes, the same tax savings for a given increase in their retirement savings.

92. In order to finance road repairs, the highway commission of a certain state is considering a 50 percent increase in the 10-cents-per-mile toll for vehicles using its toll highway. The highway commissioner claims that the toll increase will increase the annual revenue generated by the toll highway by at least 50 percent per year.

Which of the following is an assumption on which the highway commissioner's claim depends?

(A) The amount of money required annually for road repairs will not increase from its current level.
(B) The total number of trips made on the toll highway per year will not decrease from its current level.
(C) The average length of a trip made on the toll highway will not decrease from its current level.
(D) The number of drivers who consistently avoid the highway tolls by using secondary roads will not increase from its current level.
(E) The total distance traveled by vehicles on the toll highway per year will not decrease from its current level.

93. A new law gives ownership of patents—documents providing exclusive right to make and sell an invention—to universities, not the government, when those patents result from government-sponsored university research. Administrators at Logos University plan to sell any patents they acquire to corporations in order to fund programs to improve undergraduate teaching.

Which of the following, if true, would cast the most doubt on the viability of the college administrators' plan described above?

(A) Profit-making corporations interested in developing products based on patents held by universities are likely to try to serve as exclusive sponsors of ongoing university research projects.
(B) Corporate sponsors of research in university facilities are entitled to tax credits under new federal tax-code guidelines.
(C) Research scientists at Logos University have few or no teaching responsibilities and participate little if at all in the undergraduate programs in their field.
(D) Government-sponsored research conducted at Logos University for the most part duplicates research already completed by several profit-making corporations.
(E) Logos University is unlikely to attract corporate sponsorship of its scientific research.

Questions 94–95 are based on the following:

Environmentalist: The commissioner of the Fish and Game Authority would have the public believe that increases in the number of marine fish caught demonstrate that this resource is no longer endangered. This is a specious argument, as unsound as it would be to assert that the ever-increasing rate at which rain forests are being cut down demonstrates a lack of danger to that resource. The real cause of the increased fish-catch is a greater efficiency in using technologies that deplete resources.

94. Which of the following strategies is used in the presentation of the environmentalist's position?

(A) Questioning the motives of an opponent
(B) Showing that an opposing position is self-contradictory
(C) Attacking an argument through the use of an analogy
(D) Demonstrating the inaccuracy of certain data
(E) Pointing out adverse consequences of a proposal

95. The environmentalist's statements, if true, best support which of the following as a conclusion?

(A) The use of technology is the reason for the increasing encroachment of people on nature.
(B) It is possible to determine how many fish are in the sea by some way other than by catching fish.
(C) The proportion of marine fish that are caught is as high as the proportion of rain forest trees that are cut down each year.
(D) Modern technologies waste resources by catching inedible fish.
(E) Marine fish continue to be an endangered resource.

96. Commentator: The theory of trade retaliation states that countries closed out of any of another country's markets should close some of their own markets to the other country in order to pressure the other country to reopen its markets. If every country acted according to this theory, no country would trade with any other.

The commentator's argument relies on which of the following assumptions?

(A) No country actually acts according to the theory of trade retaliation.
(B) No country should block any of its markets to foreign trade.
(C) Trade disputes should be settled by international tribunal.
(D) For any two countries, at least one has some market closed to the other.
(E) Countries close their markets to foreigners to protect domestic producers.

97. Although parapsychology is often considered a pseudoscience, it is in fact a genuine scientific enterprise, for it uses scientific methods such as controlled experiments and statistical tests of clearly stated hypotheses to examine the questions it raises.

The conclusion above is properly drawn if which of the following is assumed?

(A) If a field of study can conclusively answer the questions it raises, then it is a genuine science.
(B) Since parapsychology uses scientific methods, it will produce credible results.
(C) Any enterprise that does not use controlled experiments and statistical tests is not genuine science.
(D) Any field of study that employs scientific methods is a genuine scientific enterprise.
(E) Since parapsychology raises clearly statable questions, they can be tested in controlled experiments.

98. Hotco oil burners, designed to be used in asphalt plants, are so efficient that Hotco will sell one to the Clifton Asphalt plant for no payment other than the cost savings between the total amount the asphalt plant actually paid for oil using its former burner during the last two years and the total amount it will pay for oil using the Hotco burner during the next two years. On installation, the plant will make an estimated payment, which will be adjusted after two years to equal the actual cost savings.

Which of the following, if it occurred, would constitute a disadvantage for Hotco of the plan described above?

(A) Another manufacturer's introduction to the market of a similarly efficient burner
(B) The Clifton Asphalt plant's need for more than one new burner
(C) Very poor efficiency in the Clifton Asphalt plant's old burner
(D) A decrease in the demand for asphalt
(E) A steady increase in the price of oil beginning soon after the new burner is installed

99. An experiment was done in which human subjects recognize a pattern within a matrix of abstract designs and then select another design that completes that pattern. The results of the experiment were surprising. The lowest expenditure of energy in neurons in the brain was found in those subjects who performed most successfully in the experiments.

Which of the following hypotheses best accounts for the findings of the experiment?

(A) The neurons of the brain react less when a subject is trying to recognize patterns than when the subject is doing other kinds of reasoning.
(B) Those who performed best in the experiment experienced more satisfaction when working with abstract patterns than did those who performed less well.
(C) People who are better at abstract pattern recognition have more energy-efficient neural connections.
(D) The energy expenditure of the subjects' brains increases when a design that completes the initially recognized pattern is determined.
(E) The task of completing a given design is more capably performed by athletes, whose energy expenditure is lower when they are at rest.

100. One way to judge the performance of a company is to compare it with other companies. This technique, commonly called "benchmarking," permits the manager of a company to discover better industrial practices and can provide a justification for the adoption of good practices.

Any of the following, if true, is a valid reason for benchmarking the performance of a company against companies with which it is not in competition rather than against competitors EXCEPT:

(A) Comparisons with competitors are most likely to focus on practices that the manager making the comparisons already employs.
(B) Getting "inside" information about the unique practices of competitors is particularly difficult.

(C) Since companies that compete with each other are likely to have comparable levels of efficiency, only benchmarking against noncompetitors is likely to reveal practices that would aid in beating competitors.

(D) Managers are generally more receptive to new ideas that they find outside their own industry.

(E) Much of the success of good companies is due to their adoption of practices that take advantage of the special circumstances of their products or markets.

101. For a trade embargo against a particular country to succeed, a high degree of both international accord and ability to prevent goods from entering or leaving that country must be sustained. A total blockade of Patria's ports is necessary to an embargo, but such an action would be likely to cause international discord over the embargo.

The claims above, if true, most strongly support which of the following conclusions?

(A) The balance of opinion is likely to favor Patria in the event of a blockade.

(B) As long as international opinion is unanimously against Patria, a trade embargo is likely to succeed.

(C) A naval blockade of Patria's ports would ensure that no goods enter or leave Patria.

(D) Any trade embargo against Patria would be likely to fail at some time.

(E) For a blockade of Patria's ports to be successful, international opinion must be unanimous.

Questions 102–103 are based on the following:

The average life expectancy for the United States population as a whole is 73.9 years, but children born in Hawaii will live an average of 77 years, and those born in Louisiana, 71.7 years. If a newlywed couple from Louisiana were to begin their family in Hawaii, therefore, their children would be expected to live longer than would be the case if the family remained in Louisiana.

102. Which of the following, if true, would most seriously weaken the conclusion drawn in the passage?

(A) Insurance company statisticians do not believe that moving to Hawaii will significantly lengthen the average Louisianan's life.

(B) The governor of Louisiana has falsely alleged that statistics for his state are inaccurate.

(C) The longevity ascribed to Hawaii's current population is attributable mostly to genetically determined factors.

(D) Thirty percent of all Louisianans can expect to live longer than 77 years.

(E) Most of the Hawaiian Islands have levels of air pollution well below the national average for the United States.

103. Which of the following statements, if true, would most significantly strengthen the conclusion drawn in the passage?

(A) As population density increases in Hawaii, life expectancy figures for that state are likely to be revised downward.

(B) Environmental factors tending to favor longevity are abundant in Hawaii and less numerous in Louisiana.

(C) Twenty-five percent of all Louisianans who move to Hawaii live longer than 77 years.

(D) Over the last decade, average life expectancy has risen at a higher rate for Louisianans than for Hawaiians.

(E) Studies show that the average life expectancy for Hawaiians who move permanently to Louisiana is roughly equal to that of Hawaiians who remain in Hawaii.

104. The cost of producing radios in Country Q is 10 percent less than the cost of producing radios in Country Y. Even after transportation fees and tariff charges are added, it is still cheaper for a company to import radios from Country Q to Country Y than to produce radios in Country Y.

The statements above, if true, best support which of the following assertions?

(A) Labor costs in Country Q are 10 percent below those in Country Y.
(B) Importing radios from Country Q to Country Y will eliminate 10 percent of the manufacturing jobs in Country Y.
(C) The tariff on a radio imported from Country Q to Country Y is less than 10 percent of the cost of manufacturing the radio in Country Y.
(D) The fee for transporting a radio from Country Q to Country Y is more than 10 percent of the cost of manufacturing the radio in Country Q.
(E) It takes 10 percent less time to manufacture a radio in Country Q than it does in Country Y.

105. The average normal infant born in the United States weighs between 12 and 14 pounds at the age of three months. Therefore, if a three-month-old child weighs only 10 pounds, its weight gain has been below the United States average.

Which of the following indicates a flaw in the reasoning above?

(A) Weight is only one measure of normal infant development.
(B) Some three-month-old children weigh as much as 17 pounds.
(C) It is possible for a normal child to weigh 10 pounds at birth.
(D) The phrase "below average" does not necessarily mean insufficient.
(E) Average weight gain is not the same as average weight.

106. In the aftermath of a worldwide stock-market crash, Country T claimed that the severity of the stock-market crash it experienced resulted from the accelerated process of denationalization many of its industries underwent shortly before the crash.

Which of the following, if it could be carried out, would be most useful in an evaluation of Country T's assessment of the causes of the severity of its stock-market crash?

(A) Calculating the average loss experienced by individual traders in Country T during the crash
(B) Using economic theory to predict the most likely date of the next crash in Country T
(C) Comparing the total number of shares sold during the worst days of the crash in Country T to the total number of shares sold in Country T just prior to the crash
(D) Comparing the severity of the crash in Country T to the severity of the crash in countries otherwise economically similar to Country T that have not experienced recent denationalization
(E) Comparing the long-term effects of the crash on the purchasing power of the currency of Country T to the immediate, more severe short-term effects of the crash on the purchasing power of the currency of Country T

107. Kale has more nutritional value than spinach. But since collard greens have more nutritional value than lettuce, it follows that kale has more nutritional value than lettuce.

Any of the following, if introduced into the argument as an additional premise, makes the argument above logically correct EXCEPT:

(A) Collard greens have more nutritional value than kale.
(B) Spinach has more nutritional value than lettuce.
(C) Spinach has more nutritional value than collard greens.
(D) Spinach and collard greens have the same nutritional value.
(E) Kale and collard greens have the same nutritional value.

108. Although custom prosthetic bone replacements produced through a new computer-aided design process will cost more than twice as much as ordinary replacements, custom replacements should still be cost-effective. Not only will surgery and recovery time be reduced, but custom replacements should last longer, thereby reducing the need for further hospital stays.

Which of the following must be studied in order to evaluate the argument presented above?

(A) The amount of time a patient spends in surgery versus the amount of time spent recovering from surgery
(B) The amount by which the cost of producing custom replacements has declined with the introduction of the new technique for producing them
(C) The degree to which the use of custom replacements is likely to reduce the need for repeat surgery when compared with the use of ordinary replacements
(D) The degree to which custom replacements produced with the new technique are more carefully manufactured than are ordinary replacements
(E) The amount by which custom replacements produced with the new technique will drop in cost as the production procedures become standardized and applicable on a larger scale

109. Correctly measuring the productivity of service workers is complex. Consider, for example, postal workers: they are often said to be more productive if more letters are delivered per postal worker. But is this really true? What if more letters are lost or delayed per worker at the same time that more are delivered?

The objection implied above to the productivity measure described is based on doubts about the truth of which of the following statements?

(A) Postal workers are representative of service workers in general.
(B) The delivery of letters is the primary activity of the postal service.
(C) Productivity should be ascribed to categories of workers, not to individuals.
(D) The quality of services rendered can appropriately be ignored in computing productivity.
(E) The number of letters delivered is relevant to measuring the productivity of postal workers.

110. "Fast cycle time" is a strategy of designing a manufacturing organization to eliminate bottlenecks and delays in production. Not only does it speed up production, but it also ensures quality. The reason is that the bottlenecks and delays cannot be eliminated unless all work is done right the first time.

The claim about quality made above rests on a questionable presupposition that _____.

(A) any flaw in work on a product would cause a bottleneck or delay and so would be prevented from occurring on a "fast cycle" production line
(B) the strategy of "fast cycle time" would require fundamental rethinking of product design
(C) the primary goal of the organization is to produce a product of unexcelled quality, rather than to generate profits for stockholders
(D) "fast cycle time" could be achieved by shaving time off each of the component processes in a production cycle
(E) "fast cycle time" is a concept in business strategy that has not yet been put into practice in a factory

111. Sales of telephones have increased dramatically over the last year. In order to take advantage of this increase, Mammoth Industries plans to expand production of its own model of telephone, while continuing its already very extensive advertising of this product.

Which of the following, if true, provides most support for the view that Mammoth Industries cannot increase its sales of telephones by adopting the plan outlined above?

(A) Although it sells all the telephones that it produces, Mammoth Industries' share of all telephone sales has declined over the last year.
(B) Mammoth Industries' average inventory of telephones awaiting shipment to retailers has declined slightly over the last year.
(C) Advertising has made the brand name of Mammoth Industries' telephones widely known, but few consumers know that Mammoth Industries owns this brand.
(D) Mammoth Industries' telephone is one of three brands of telephone that have together accounted for the bulk of the last year's increase in sales.
(E) Despite a slight decline in the retail price, sales of Mammoth Industries' telephones have fallen in the last year.

112. In tests for pironoma, a serious disease, a false positive result indicates that people have pironoma when, in fact, they do not; a false negative result indicates that people do not have pironoma when, in fact, they do. To detect pironoma most accurately, physicians should use the laboratory test that has the lowest proportion of false positive results.

Which of the following, if true, gives the most support to the recommendation above?

(A) The accepted treatment for pironoma does not have damaging side effects.
(B) The laboratory test that has the lowest proportion of false positive results causes the same minor side effects as do the other laboratory tests used to detect pironoma.
(C) In treating pironoma patients, it is essential to begin treatment as early as possible, since even a week of delay can result in loss of life.
(D) The proportion of inconclusive test results is equal for all laboratory tests used to detect pironoma.
(E) All laboratory tests to detect pironoma have the same proportion of false negative results.

113. The difficulty with the proposed high-speed train line is that a used plane can be bought for one-third the price of the train line, and the plane, which is just as fast, can fly anywhere. The train would be a fixed linear system, and we live in a world that is spreading out in all directions and in which consumers choose the free-wheel systems (cars, buses, aircraft), which do not have fixed routes. Thus a sufficient market for the train will not exist.

Which of the following, if true, most severely weakens the argument presented above?

(A) Cars, buses, and planes require the efforts of drivers and pilots to guide them, whereas the train will be guided mechanically.
(B) Cars and buses are not nearly as fast as the high-speed train will be.
(C) Planes are not a free-wheel system because they can fly only between airports, which are less convenient for consumers than the high-speed train's stations would be.
(D) The high-speed train line cannot use currently underutilized train stations in large cities.
(E) For long trips, most people prefer to fly rather than to take ground-level transportation.

Questions 114–115 are based on the following:

According to the Tristate Transportation Authority, making certain improvements to the main commuter rail line would increase ridership dramatically. The authority plans to finance these improvements over the course of five years by raising automobile tolls on the two highway bridges along the route the rail line serves. Although the proposed improvements are indeed needed, the authority's plan for securing the necessary funds should be rejected because it would unfairly force drivers to absorb the entire cost of something from which they receive no benefit.

114. Which of the following, if true, would cast the most doubt on the effectiveness of the authority's plan to finance the proposed improvements by increasing bridge tolls?

(A) Before the authority increases tolls on any of the area bridges, it is required by law to hold public hearings at which objections to the proposed increase can be raised.
(B) Whenever bridge tolls are increased, the authority must pay a private contractor to adjust the automated toll-collecting machines.
(C) Between the time a proposed toll increase is announced and the time the increase is actually put into effect, many commuters buy more tokens than usual to postpone the effects of the increase.
(D) When tolls were last increased on the two bridges in question, almost 20 percent of the regular commuter traffic switched to a slightly longer alternative route that has since been improved.
(E) The chairman of the authority is a member of the Tristate Automobile Club, which has registered strong opposition to the proposed toll increase.

115. Which of the following, if true, would provide the authority with the strongest counter to the objection that its plan is unfair?

(A) Even with the proposed toll increase, the average bridge toll in the tristate region would remain less than the tolls charged in neighboring states.
(B) Any attempt to finance the improvements by raising rail fares would result in a decrease in ridership and so would be self-defeating.
(C) Automobile commuters benefit from well-maintained bridges, and in the tristate region bridge maintenance is funded out of general income tax revenues to which both automobile and rail commuters contribute.
(D) The roads along the route served by the rail line are highly congested and drivers benefit when commuters are diverted from congested roadways to mass transit.
(E) The only alternative way of funding the proposed improvements now being considered is through a regional income tax surcharge, which would affect automobile commuters and rail commuters alike.

116. The pharmaceutical industry argues that because new drugs will not be developed unless heavy development costs can be recouped in later sales, the current 20 years of protection provided by patents should be extended in the case of newly developed drugs. However, in other industries new-product development continues despite high development costs, a fact that indicates that the extension is unnecessary.

Which of the following, if true, most strongly supports the pharmaceutical industry's argument against the challenge made above?

(A) No industries other than the pharmaceutical industry have asked for an extension of the 20-year limit on patent protection.
(B) Clinical trials of new drugs, which occur after the patent is granted and before the new drug can be marketed, often now take as long as 10 years to complete.
(C) There are several industries in which the ratio of research and development costs to revenues is higher than it is in the pharmaceutical industry.
(D) An existing patent for a drug does not legally prevent pharmaceutical companies from bringing to market alternative drugs, provided they are sufficiently dissimilar to the patented drug.
(E) Much recent industrial innovation has occurred in products—for example, in the computer and electronics industries—for which patent protection is often very ineffective.

117. Caterpillars of all species produce an identical hormone called "juvenile hormone" that maintains feeding behavior. Only when a caterpillar has grown to the right size for pupation to take place does a special enzyme halt the production of juvenile hormone. This enzyme can be synthesized and will, on being ingested by immature caterpillars, kill them by stopping them from feeding.

Which of the following, if true, most strongly supports the view that it would NOT be advisable to try to eradicate agricultural pests that go through a caterpillar stage by spraying croplands with the enzyme mentioned above?

(A) Most species of caterpillar are subject to some natural predation.
(B) Many agricultural pests do not go through a caterpillar stage.
(C) Many agriculturally beneficial insects go through a caterpillar stage.
(D) Since caterpillars of different species emerge at different times, several sprayings would be necessary.
(E) Although the enzyme has been synthesized in the laboratory, no large-scale production facilities exist as yet.

118. Firms adopting "profit-related-pay" (PRP) contracts pay wages at levels that vary with the firm's profits. In the metalworking industry last year, firms with PRP contracts in place showed productivity per worker on average 13 percent higher than that of their competitors who used more traditional contracts.

If, on the basis of the evidence above, it is argued that PRP contracts increase worker productivity, which of the following, if true, would most seriously weaken that argument?

(A) Results similar to those cited for the metalworking industry have been found in other industries where PRP contracts are used.
(B) Under PRP contracts costs other than labor costs, such as plant, machinery, and energy, make up an increased proportion of the total cost of each unit of output.
(C) Because introducing PRP contracts greatly changes individual workers' relationships to the firm, negotiating the introduction of PRP contracts is complex and time-consuming.
(D) Many firms in the metalworking industry have modernized production equipment in the last five years, and most of these introduced PRP contracts at the same time.
(E) In firms in the metalworking industry where PRP contracts are in place, the average take-home pay is 15 percent higher than it is in those firms where workers have more traditional contracts.

119. Adult female rats who have never before encountered rat pups will start to show maternal behaviors after being confined with a pup for about seven days. This period can be considerably shortened by disabling the female's sense of smell or by removing the scent-producing glands of the pup.

Which of the following hypotheses best explains the contrast described above?

(A) The sense of smell in adult female rats is more acute than that in rat pups.
(B) The amount of scent produced by rat pups increases when they are in the presence of a female rat that did not bear them.
(C) Female rats that have given birth are more affected by olfactory cues than are female rats that have never given birth.
(D) A female rat that has given birth shows maternal behavior toward rat pups that she did not bear more quickly than does a female rat that has never given birth.
(E) The development of a female rat's maternal interest in a rat pup that she did not bear is inhibited by the odor of the pup.

120. The proposal to hire 10 new police officers in Middletown is quite foolish. There is sufficient funding to pay the salaries of the new officers, but not the salaries of additional court and prison employees to process the increased caseload of arrests and convictions that new officers usually generate.

Which of the following, if true, will most seriously weaken the conclusion drawn above?

(A) Studies have shown that an increase in a city's police force does not necessarily reduce crime.
(B) When one major city increased its police force by 19 percent last year, there were 40 percent more arrests and 13 percent more convictions.
(C) If funding for the new police officers' salaries is approved, support for other city services will have to be reduced during the next fiscal year.
(D) In most United States cities, not all arrests result in convictions, and not all convictions result in prison terms.
(E) Middletown's ratio of police officers to citizens has reached a level at which an increase in the number of officers will have a deterrent effect on crime.

121. Northern Air has dozens of flights daily into and out of Belleville Airport, which is highly congested. Northern Air depends for its success on economy and quick turnaround and consequently is planning to replace its large planes with Skybuses, the novel aerodynamic design of which is extremely fuel efficient. The Skybus' fuel efficiency results in both lower fuel costs and reduced time spent refueling.

Which of the following, if true, could present the most serious disadvantage for Northern Air in replacing its large planes with Skybuses?

(A) The Skybus would enable Northern Air to schedule direct flights to destinations that currently require stops for refueling.
(B) Aviation fuel is projected to decline in price over the next several years.
(C) The fuel efficiency of the Skybus would enable Northern Air to eliminate refueling at some of its destinations, but several mechanics would lose their jobs.
(D) None of Northern Air's competitors that use Belleville Airport are considering buying Skybuses.
(E) The aerodynamic design of the Skybus causes turbulence behind it when taking off that forces other planes on the runway to delay their takeoffs.

122. The earliest Mayan pottery found at Colha, in Belize, is about 3,000 years old. Recently, however, 4,500-year-old stone agricultural implements were unearthed at Colha. These implements resemble Mayan stone implements of a much later period, also found at Colha. Moreover, the implements' designs are strikingly different from the designs of stone implements produced by other cultures known to have inhabited the area in prehistoric times. Therefore, there were surely Mayan settlements in Colha 4,500 years ago.

Which of the following, if true, most seriously weakens the argument?

(A) Ceramic ware is not known to have been used by the Mayan people to make agricultural implements.
(B) Carbon dating of corn pollen in Colha indicates that agriculture began there around 4,500 years ago.
(C) Archaeological evidence indicates that some of the oldest stone implements found at Colha were used to cut away vegetation after controlled burning of trees to open areas of swampland for cultivation.
(D) Successor cultures at a given site often adopt the style of agricultural implements used by earlier inhabitants of the same site.
(E) Many religious and social institutions of the Mayan people who inhabited Colha 3,000 years ago relied on a highly developed system of agricultural symbols.

123. Codex Berinensis, a Florentine copy of an ancient Roman medical treatise, is undated but contains clues to when it was produced. Its first 80 pages are by a single copyist, but the remaining 20 pages are by three different copyists, which indicates some significant disruption. Since a letter in handwriting identified as that of the fourth copyist mentions a plague that killed many people in Florence in 1148, Codex Berinensis was probably produced in that year.

Which of the following, if true, most strongly supports the hypothesis that Codex Berinensis was produced in 1148?

(A) Other than Codex Berinensis, there are no known samples of the handwriting of the first three copyists.
(B) According to the account by the fourth copyist, the plague went on for 10 months.
(C) A scribe would be able to copy a page of text the size and style of Codex Berinensis in a day.
(D) There was only one outbreak of plague in Florence in the 1100's.
(E) The number of pages of Codex Berinensis produced by a single scribe becomes smaller with each successive change of copyist.

124. Outsourcing is the practice of obtaining from an independent supplier a product or service that a company has previously provided for itself. Since a company's chief objective is to realize the highest possible year-end profits, any product or service that can be obtained from an independent supplier for less than it would cost the company to provide the product or service on its own should be outsourced.

Which of the following, if true, most seriously weakens the argument?

(A) If a company decides to use independent suppliers for a product, it can generally exploit the vigorous competition arising among several firms that are interested in supplying that product.
(B) Successful outsourcing requires a company to provide its suppliers with information about its products and plans that can fall into the hands of its competitors and give them a business advantage.
(C) Certain tasks, such as processing a company's payroll, are commonly outsourced, whereas others, such as handling the company's core business, are not.
(D) For a company to provide a product or service for itself as efficiently as an independent supplier can provide it, the managers involved need to be as expert in the area of that product or service as the people in charge of that product or service at an independent supplier are.
(E) When a company decides to use an independent supplier for a product or service, the independent supplier sometimes hires members of the company's staff who formerly made the product or provided the service that the independent supplier now supplies.

8.5 Critical Reasoning Answer Key

1. B
2. C
3. B
4. D
5. A
6. C
7. D
8. E
9. B
10. C
11. A
12. D
13. E
14. C
15. A
16. E
17. D
18. B
19. B
20. C
21. B
22. C
23. D
24. E
25. D
26. B
27. D
28. A
29. B
30. A
31. C
32. C
33. E
34. C
35. C
36. C
37. A
38. B
39. B
40. A
41. E
42. D
43. B
44. E
45. D
46. C
47. D
48. A
49. A
50. C
51. B
52. C
53. B
54. B
55. D
56. B
57. A
58. A
59. D
60. C
61. E
62. D
63. E
64. D
65. C
66. A
67. E
68. A
69. B
70. A
71. A
72. E
73. E
74. B
75. B
76. A
77. B
78. D
79. D
80. D
81. B
82. A
83. A
84. B
85. C
86. E
87. C
88. E
89. A
90. C
91. A
92. E
93. D
94. C
95. E
96. D
97. D
98. E
99. C
100. E
101. D
102. C
103. B
104. C
105. E
106. D
107. A
108. C
109. D
110. A
111. E
112. E
113. C
114. D
115. D
116. B
117. C
118. D
119. E
120. E
121. E
122. D
123. D
124. B

8.6 Critical Reasoning Answer Explanations

The following discussion is intended to familiarize you with the most efficient and effective approaches to critical reasoning questions. The particular questions in this chapter are generally representative of the kinds of critical reasoning questions you will encounter on the GMAT®. Remember that it is the problem solving strategy that is important, not the specific details of a particular question.

1. Some economists view the Kennedy–Johnson tax cut of 1964, which radically reduced corporate and individual taxes, as the impetus for the substantial prosperity enjoyed by the United States in the late 1960's and early 1970's.

Which of the following, if true, would most weaken the claim that the tax cut of 1964 was the impetus for economic prosperity?

(A) Modernized, more productive factories were built in the late 1960's as a result of the funds made available by the tax cut.

(B) Improved economic conditions in Western Europe and Japan resulted in substantially increased demand for United States manufactured goods in the late 1960's.

(C) The tax cut of 1964 contained regulations concerning tax shelters that prompted investors to transfer their savings to more economically productive investments.

(D) Personal income after taxes rose in the years following 1964.

(E) In the late 1960's, unemployment was relatively low compared with the early 1960's.

Argument Evaluation

Situation Some economists claim that the Kennedy-Johnson tax cut of 1964 was responsible for the prosperity of the late 1960's and early 1970's.

Reasoning *Which point weakens the conclusion that the 1964 tax cut caused the later prosperity?* When two events occur close together in time, it is possible for one to be mistaken as the cause of the other; this could be the case with the economists' claim. The conclusion of this argument may be weakened by demonstrating another possible cause of the prosperity. If improved economic conditions among the international trading partners of the United States resulted in a significantly increased demand for United States manufactured goods in the late 1960's, the rise in demand would provide an alternative explanation for the prosperity and weaken the argument.

A The modern, more productive factories made possible by the tax cut offer a reason in support of the conclusion, not against it.

B Correct. This statement properly identifies a factor that weakens the argument by providing an alternative explanation.

C The economically productive investments made possible by the tax cut provide an example that supports, rather than weakens, the conclusion.

D The rise in personal income after 1964 suggests that the tax cut of 1964 was responsible for this increase.

E The lower rate of unemployment in the late 1960's could be attributed to the corporate tax cuts of 1964.

The correct answer is B.

2. In order to increase profits during a prolonged slowdown in sales, the largest manufacturers of automobiles in the United States have instituted record-setting price increases on all their models. The manufacturers believe that this strategy will succeed, even though it is inconsistent with the normal relationship between price and demand.

The manufacturers' plan to increase profits relies on which of the following assumptions?

(A) Automobile manufacturers will, of necessity, raise prices whenever they introduce a new model.

(B) The smaller automobile manufacturers will continue to take away a large percentage of business from the largest manufacturers.

(C) The increased profit made on cars sold will more than compensate for any decline in sales caused by the price increases.

(D) New safety restraints that will soon become mandatory for all new cars will not be very costly for manufacturers to install.

(E) Low financing and extended warranties will attract many price-conscious consumers.

Argument Construction

Situation The largest automobile manufacturers plan to increase prices on all models in order to increase profits during a sales slowdown.

Reasoning *What does the manufacturers' plan assume?* The manufacturers' plan reverses expectations: a slowdown in sales more typically results in decreased prices in order to encourage an increased number of sales. What could be the basis of the manufacturers' thinking that they should raise prices instead? The manufacturers have a goal of increased profits. They are not anticipating an increased number of sales from this plan, but rather a greater profit on the sales they do make.

A The manufacturers' plan concerns existing models rather than new ones; price increases when new models are introduced are a different subject.

B The manufacturers' plan does not address the percentage of business taken away from them by smaller manufacturers, so this point cannot be assumed.

C **Correct.** This statement properly identifies the assumption on which the manufacturers' argument is based: the greater profit on the cars that are sold will make up for a lower number of sales.

D New safety restraints are not a part of the manufacturers' plan, so their inexpensive installation is not assumed.

E The manufacturers' plan is concerned only with generating a greater profit, not with attracting price-conscious consumers who are not likely to respond favorably to the price increases.

The correct answer is C.

3. "Life expectancy" is the average age at death of the entire live-born population. In the middle of the nineteenth century, life expectancy in North America was 40 years, whereas now it is nearly 80 years. Thus, in those days, people must have been considered old at an age that we now consider the prime of life.

Which of the following, if true, undermines the argument above?

(A) In the middle of the nineteenth century, the population of North America was significantly smaller than it is today.

(B) Most of the gains in life expectancy in the last 150 years have come from reductions in the number of infants who die in their first year of life.

(C) Many of the people who live to an advanced age today do so only because of medical technology that was unknown in the nineteenth century.

(D) The proportion of people who die in their seventies is significantly smaller today than is the proportion of people who die in their eighties.

(E) More people in the middle of the nineteenth century engaged regularly in vigorous physical activity than do so today.

Argument Evaluation

Situation Life expectancy for mid-nineteenth-century North Americans was 40 years; now it is almost 80. What we think of as the prime of life must have been considered old in that earlier era.

Reasoning *What point weakens this argument?* The argument relies on the logic of having a great many more 80-year-old people in the population now than was the case 150 years ago. What would challenge this logic? The argument is built upon the *average age at death* and uses a definition of life expectancy that embraces the entire population of those born alive. What if, in the nineteenth century, the number of infants born alive but not surviving their first year was far higher than it is today? Then the *average age at time of death* could be significantly reduced by a very large number of infant deaths. On the basis of such information about infant mortality rates, it would not be fair to assume that what today is considered *the prime of life* was in that earlier time considered *old*.

A The size of the population is irrelevant to the argument.

B **Correct.** This statement properly identifies the factor that undermines the argument: it was falsely assumed that age for an entire population was simply extended when actually the average age at time of death was significantly raised when the number of infants dying in their first year was reduced.

C This point supports rather than weakens the argument.

D This point supports the argument.

E The regular exercise of one of the two populations compared does not affect the argument.

The correct answer is B.

4. From June through August 1987, Premiere Airlines had the best on-time service of 10 United States airlines. From January through March 1988, Premiere Airlines had the worst on-time service of the 10 airlines. The on-time performance ranking of the other nine airlines relative to each other remained unchanged.

Which of the following, if true, would most contribute to an explanation of the facts above?

(A) Although Premiere Airlines only revoked its policy of routinely holding flights for late passengers in the fall of 1987, the other nine airlines never had that policy.

(B) Premiere Airlines reduced its business by 10 percent when it raised its rates in the fall of 1987 to compensate for rising gasoline costs.

(C) Premiere Airlines bought five new planes in the fall of 1987 that proved to have fewer mechanical problems than the ones they replaced.

(D) Premiere Airlines serves New England, which has heavy winter snowfalls, whereas the other airlines do most of their business in warmer regions of the country.

(E) Although all 10 airlines strive to keep their flights on schedule, overcrowded airports increased flight delays for all 10 airlines in January 1988 as compared with June 1987.

Argument Construction

Situation Among a group of 10 airlines, one airline experienced the best on-time service in the summer months of one year and the worst on-time service in the winter months of the next year. The ranking of the other nine airlines remained the same during this entire time.

Reasoning *What point explains the change in on-time performance for one airline but not the others?* The two time periods are identified as June–August and January–March. What distinguishes these two periods? It is clear that two seasons are represented and, depending on the routes the airlines cover, two widely varying weather patterns. If Premiere Airlines is the only one of the 10 airlines that flies to parts of the country where heavy winter snowfalls frequently delay flights, then the seasonal change in the weather explains the change in its on-time performance while that of the other airlines remains the same.

A If the airline no longer delayed flights to accommodate its late passengers, the on-time performance would improve rather than decline, and this would contradict the explanation.

B The airline's loss of business is unrelated to its on-time performance.

C Planes with fewer mechanical problems should have helped on-time performance, not hurt it.

D Correct. This statement properly identifies the factor that supports the explanation for the airline's declining on-time performance: the regional weather-related delays specific to the routes it serves.

E The rankings are relative, so factors explaining delays for all 10 airlines do not explain why one airline went from best to worst while the other nine stayed the same.

The correct answer is D.

5. Homeowners aged 40 to 50 are more likely to purchase ice cream and are more likely to purchase it in larger amounts than are members of any other demographic group. The popular belief that teenagers eat more ice cream than adults must, therefore, be false.

The argument is flawed primarily because the author _____.

(A) fails to distinguish between purchasing and consuming
(B) does not supply information about homeowners in age groups other than 40 to 50
(C) depends on popular belief rather than on documented research findings
(D) does not specify the precise amount of ice cream purchased by any demographic group
(E) discusses ice cream rather than more nutritious and healthful foods

Argument Evaluation

Situation Adults must eat more ice cream than teenagers because adults buy more ice cream than teenagers do.

Reasoning *What is the primary flaw in this argument?* This straightforward argument is based on the faulty assumption that the buyers of the ice cream are also the eaters of the ice cream. The demographic group cited in the argument may indeed purchase more ice cream; it cannot be assumed that the members of this group also consume more of it.

A **Correct.** This statement properly recognizes the flaw in the argument.

B The conclusion cannot be reached on the basis of the information in the first sentence; supplying the purchasing habits of other age groups would not change this situation.

C The first sentence appears to be based on documented research findings.

D The conclusion is about who eats more ice cream, not who buys more; precise amounts are not necessary when the argument is based on a simple comparison of more than or less than.

E The subject is ice cream, not nutrition, so this point is irrelevant.

The correct answer is A.

6. Not all life depends on energy from sunlight. Microbial life has been found in bedrock more than five kilometers below the surface of the Earth, and bacteria have been found on the deep ocean floor feeding on hydrogen and other gases rising from the interior of the Earth through vents in the ocean floor.

   The statements above, if true, best support which of the following as a conclusion?

   (A) The location in the bedrock where microbial life was found was not near a system of volcanic vents through which hydrogen and other gases rose from the interior of the Earth.

   (B) Bacteria are able to exist at the molten center of the Earth.

   (C) A thorough survey of a planet's surface is insufficient to establish beyond a doubt that the planet contains no life.

   (D) Life probably exists on Sun-orbiting comets, which are cold agglomerations of space dust and frozen gases.

   (E) Finding bacterial remains in coal and oil would establish that the bacteria had been feeding on substances that had not been produced from the energy of sunlight.

Argument Construction

Situation Microbes found five kilometers below the surface of the Earth and bacteria found on the deep ocean floor are both evidence that not all life depends on sunlight.

Reasoning *What conclusion may be drawn from this statement?* Since the passage includes information about both microbes below Earth's surface and bacteria on the ocean floor, the conclusion must embrace both situations. The conclusion will not be a specific statement about either one or the other, but rather a general statement about both. What is true equally of the microbes and bacteria discussed here? They are both life forms that exist far below the surface of the Earth.

A The conclusion must include both microbes and bacteria, not simply microbes.

B The conclusion must include both microbes and bacteria, not simply bacteria.

C **Correct.** This statement properly uses the existence of the microbes far below the land's surface and of the bacteria far below the ocean's surface to draw a general conclusion about the potential existence of life below the surface of a planet.

D The passage provides no evidence about comets to lead to this conclusion.

E The conclusion must include both microbes and bacteria, not simply bacteria.

The correct answer is C.

7. A company is considering changing its policy concerning daily working hours. Currently, this company requires all employees to arrive at work at 8 a.m. The proposed policy would permit each employee to decide when to arrive—from as early as 6 a.m. to as late as 11 a.m.

The adoption of this policy would be most likely to decrease employees' productivity if the employees' job functions required them to _____.

(A) work without interruption from other employees
(B) consult at least once a day with employees from other companies
(C) submit their work for a supervisor's eventual approval
(D) interact frequently with each other throughout the entire workday
(E) undertake projects that take several days to complete

Evaluation of a Plan

Situation A company considers changing all employees' starting time from 8 a.m. to individually flexible arrival hours, from 6 to 11 a.m.

Reasoning *When could this plan cause employees' productivity to decline?* Consider the job functions defined in the answer choices and determine which entails requirements that would most likely be in conflict with the proposed plan. If employees frequently need to collaborate with each other throughout the workday, then a plan that allows a five-hour range of start times could well decrease productivity. In this case it would be far more difficult for employees to coordinate their schedules so that they could work together as necessary.

A Working without interruption would be likely to mean improved productivity.

B The flexible hours would still leave plenty of time for daily consultations during the regular business hours of the workday.

C *Eventual approval* indicates that the flexibility exists to permit employees' submissions at any time.

D Correct. This statement properly identifies a situation in which the adoption of the policy would be likely to decrease employees' productivity.

E Such projects would be accomplished just as easily on the proposed flexible schedule.

The correct answer is D.

8. The amount of time it takes for most of a worker's occupational knowledge and skills to become obsolete has been declining because of the introduction of advanced manufacturing technology (AMT). Given the rate at which AMT is currently being introduced in manufacturing, the average worker's old skills become obsolete and new skills are required within as little as five years.

Which of the following plans, if feasible, would allow a company to prepare most effectively for the rapid obsolescence of skills described above?

(A) The company will develop a program to offer selected employees the opportunity to receive training six years after they were originally hired.

(B) The company will increase its investment in AMT every year for a period of at least five years.

(C) The company will periodically survey its employees to determine how the introduction of AMT has affected them.

(D) Before the introduction of AMT, the company will institute an educational program to inform its employees of the probable consequences of the introduction of AMT.

(E) The company will ensure that it can offer its employees any training necessary for meeting their job requirements.

Evaluation of a Plan

Situation The introduction of AMT is making workers' occupational skills obsolete within as little as five years.

Reasoning *Which plan will be most effective in the company's preparation for this expected obsolescence?* Consider the ramifications of each of the possible plans, and evaluate that plan's relative effectiveness in managing the negative impacts of having workers' skills go out of date so rapidly. It should be clear that the introduction of AMT must go hand-in-hand with an internal training program that will ensure a workforce that is adequately prepared to meet job requirements.

A Under this plan, training is available only to *selected* employees and only after their skills have already become obsolete and thus problematic.

B This plan only accelerates the problem and does not address the employees' skills.

C Periodic surveys will not prevent employees' skills from becoming obsolete.

D Having a knowledge of the consequences does not prevent those consequences; employees' skills will still become obsolete.

E **Correct.** This statement properly identifies a plan that would effectively address the company's AMT-driven needs for employees trained in the most current occupational knowledge and skills.

The correct answer is E.

9. Mayor: In each of the past five years, the city has cut school funding and each time school officials complained that the cuts would force them to reduce expenditures for essential services. But each time, only expenditures for nonessential services were actually reduced. So school officials can implement further cuts without reducing any expenditures for essential services.

Which of the following, if true, most strongly supports the mayor's conclusion?

(A) The city's schools have always provided essential services as efficiently as they have provided nonessential services.

(B) Sufficient funds are currently available to allow the city's schools to provide some nonessential services.

(C) Price estimates quoted to the city's schools for the provision of nonessential services have not increased substantially since the most recent school-funding cut.

(D) Few influential city administrators support the funding of costly nonessential services in the city's schools.

(E) The city's school officials rarely exaggerate the potential impact of threatened funding cuts.

Argument Evaluation

Situation A mayor contends that schools can absorb more funding cuts without reducing essential services because school officials had previously said that funding cuts would result in reduced expenditures for essential services, but then only expenditures for nonessential services had to be cut.

Reasoning *Which point supports the mayor's conclusion?* The mayor's conclusion seems to be based solely on the belief that history will repeat itself. What fact would substantiate the mayor's position? If funding is currently available for some nonessential services, then further cuts can be made in this kind of expenditure, while leaving expenditures for essential services untouched. The availability of such funds would strengthen the mayor's argument.

A The efficiency of providing services, whether essential or not, is not the issue.

B **Correct.** This statement properly identifies a point that supports the mayor's conclusion.

C These price estimates are irrelevant since the argument is about expenditures for essential services.

D The argument is about possible cuts in essential services, not in nonessential services.

E This point weakens, rather than strengthens, the mayor's conclusion.

The correct answer is B.

10. Advertisement: For sinus pain, three out of four hospitals give their patients Novex. So when you want the most effective painkiller for sinus pain, Novex is the one to choose.

Which of the following, if true, most seriously undermines the advertisement's argument?

(A) Some competing brands of painkillers are intended to reduce other kinds of pain in addition to sinus pain.

(B) Many hospitals that do not usually use Novex will do so for those patients who cannot tolerate the drug the hospitals usually use.

(C) Many drug manufacturers increase sales of their products to hospitals by selling these products to the hospitals at the lowest price the manufacturers can afford.

(D) Unlike some competing brands of painkillers, Novex is available from pharmacies without a doctor's prescription.

(E) In clinical trials Novex has been found to be more effective than competing brands of painkillers that have been on the market longer than Novex.

Argument Evaluation

Situation An advertisement claims that Novex is the most effective painkiller for sinus pain since three out of four hospitals use it for patients.

Reasoning *What point undermines the advertisement's claim?* The argument for Novex's effectiveness as a painkiller is based upon the hospitals' usage. Consider what might be driving the hospitals' choice of medications to administer. Three out of four hospitals might be giving their patients Novex not because it is the most effective painkiller for sinus pain, but because it is inexpensive. If this is the case, the argument is seriously undermined.

A Other kinds of pain are irrelevant to the argument since the claim is only about sinus pain.

B This point does not undermine the advertisement's claim.

C **Correct.** This statement properly identifies a factor that could well undermine the advertisement's claim: the hospitals may be using this medication because it is the most cost effective for them.

D Novex's nonprescription formula is not relevant to the claim.

E This point strengthens, rather than weakens, the claim.

The correct answer is C.

11. A report that many apples contain a cancer-causing preservative called Alar apparently had little effect on consumers. Few consumers planned to change their apple-buying habits as a result of the report. Nonetheless, sales of apples in grocery stores fell sharply in March, a month after the report was issued.

Which of the following, if true, best explains the reason for the apparent discrepancy described above?

(A) In March, many grocers removed apples from their shelves in order to demonstrate concern about their customers' health.

(B) Because of a growing number of food-safety warnings, consumers in March were indifferent to such warnings.

(C) The report was delivered on television and also appeared in newspapers.

(D) The report did not mention that any other fruit contains Alar, although the preservative is used on other fruit.

(E) Public health officials did not believe that apples posed a health threat because only minute traces of Alar were present in affected apples.

Argument Construction

Situation Despite a report on the cancer-causing agent Alar, which is used to preserve many apples, few consumers planned to stop buying apples. However, sales of apples fell sharply a month after the report.

Reasoning *How can this discrepancy be explained?* If consumers did not intentionally change their buying habits, then some other change must responsible for the decline in apple sales. Why could purchases have decreased? If apples were not available to buy, then sales would obviously fall. The decision of many grocers to remove apples from their shelves in the month following the report would explain the discrepancy.

A **Correct.** This statement properly identifies an explanation for the apparent discrepancy.

B This point suggests that there would be no appreciable change in apple sales.

C How consumers may have heard about the report is irrelevant to the discrepancy between their response and the decline in sales.

D Whether or not they contain Alar, other fruits are not a part of the discussion; thus this point cannot explain the discrepancy.

E The health officials' opinion, if indeed known to consumers, would likely lead to stable apple sales.

The correct answer is A.

12. Cable-television spokesperson: Subscriptions to cable television are a bargain in comparison to "free" television. Remember that "free" television is not really free. It is consumers, in the end, who pay for the costly advertising that supports "free" television.

Which of the following, if true, is most damaging to the position of the cable-television spokesperson?

(A) Consumers who do not own television sets are less likely to be influenced in their purchasing decisions by television advertising than are consumers who own television sets.

(B) Subscriptions to cable television include access to some public-television channels, which do not accept advertising.

(C) For locations with poor television reception, cable television provides picture quality superior to that provided by free television.

(D) There is as much advertising on many cable-television channels as there is on "free" television channels.

(E) Cable-television subscribers can choose which channels they wish to receive, and the fees.

Argument Evaluation

Situation A cable-television spokesperson argues that cable fees are a bargain since so-called "free" television is actually paid for by consumers who underwrite the cost of advertising.

Reasoning *Which point weakens the spokesperson's argument?* The spokesperson's argument compares the bargain price of a subscription to cable television with the "price" of the costly advertising on "free" television. Consider what situation would undermine this comparison. What if cable television airs just as much advertising as "free" television in addition to the subscription fee? Then the cable subscriber is paying twice, and the spokesperson's argument that cable television is a bargain in comparison to "free" television is weakened.

A People who do not watch television are irrelevant to the argument.

B The fact that cable television subscriptions include access to advertising-free public-television channels does not weaken the argument that "free" television is not free.

C The picture quality of cable and free television are not at issue in this argument.

D Correct. This statement properly identifies a factor that weakens the spokesperson's argument: since the advertising on "free" television acts as a kind of fee, the presence of similar advertising on many cable channels is necessarily the same kind of hidden cost.

E Consumer choice is not an issue in this argument.

The correct answer is D.

13. Wood smoke contains dangerous toxins that cause changes in human cells. Because wood smoke presents such a high health risk, legislation is needed to regulate the use of open-air fires and wood-burning stoves.

Which of the following, if true, provides the most support for the argument above?

(A) The amount of dangerous toxins contained in wood smoke is much less than the amount contained in an equal volume of automobile exhaust.

(B) Within the jurisdiction covered by the proposed legislation, most heating and cooking is done with oil or natural gas.

(C) Smoke produced by coal-burning stoves is significantly more toxic than smoke from wood-burning stoves.

(D) No significant beneficial effect on air quality would result if open-air fires were banned within the jurisdiction covered by the proposed legislation.

(E) In valleys where wood is used as the primary heating fuel, the concentration of smoke results in poor air quality.

Argument Construction

Situation Wood smoke is hazardous, and restrictive legislation is needed.

Reasoning *Which point supports the need for legislation?* The argument for legislation is based on the position that wood smoke is hazardous to people's health. Any evidence of physical harm resulting from wood smoke supports the argument that legislation is needed. Undoubtedly, poor air quality caused by a high concentration of wood smoke presents just such a health risk.

A This argument is about wood smoke, so comparisons with car exhaust are irrelevant.

B This point suggests that wood smoke presents few dangers to people in the area, and so decreases the need for legislation.

C This argument is about wood smoke, so comparisons with coal-burning stoves are irrelevant.

D The lack of benefit from banning open-air fires is a point against the legislation.

E **Correct.** This statement properly identifies a factor that supports the argument in favor of legislation.

The correct answer is E.

14. Within 20 years it will probably be possible to identify the genetic susceptibility an individual may have toward any particular disease. Eventually, effective strategies will be discovered to counteract each such susceptibility. Once these effective strategies are found, therefore, the people who follow them will never get sick.

The argument above is based on which of the following assumptions?

(A) For every disease there is only one strategy that can prevent its occurrence.

(B) In the future, genetics will be the only medical specialty of any importance.

(C) All human sicknesses are in part the result of individuals' genetic susceptibilities.

(D) All humans are genetically susceptible to some diseases.

(E) People will follow medical advice when they are convinced that it is effective.

Argument Construction

Situation Once genetic susceptibilities to diseases are identified and strategies are developed to counteract these susceptibilities, people who follow the strategies will never get sick.

Reasoning *What assumption is this argument based on?* The argument states that people who follow the appropriate strategies for counteracting their genetic susceptibilities to disease will never get sick. How can it be that they would *never* get sick? The argument requires an assumption about the cause of all sickness. Every known disease of humans must correspond to some genetic susceptibilities. The argument thus follows that individuals get sick from those diseases to which they have genetic susceptibilities and that people will not suffer from any illnesses unless they have such susceptibilities.

A The argument refers to *effective strategies*; the argument does not assume that there is only one strategy for each disease.

B The number of medical specialties needed to discover and apply effective strategies is irrelevant to the argument.

C **Correct.** This statement properly identifies the argument's necessary assumption.

D While this statement may be true, it is not necessary to the argument.

E The argument does not concern the circumstances in which people will follow medical advice.

The correct answer is C.

15. A researcher studying drug addicts found that, on average, they tend to manipulate other people a great deal more than nonaddicts do. The researcher concluded that people who frequently manipulate other people are likely to become addicts.

Which of the following, if true, most seriously weakens the researcher's conclusion?

(A) After becoming addicted to drugs, drug addicts learn to manipulate other people as a way of obtaining drugs.

(B) When they are imprisoned, drug addicts often use their ability to manipulate other people to obtain better living conditions.

(C) Some nonaddicts manipulate other people more than some addicts do.

(D) People who are likely to become addicts exhibit unusual behavior patterns other than frequent manipulation of other people.

(E) The addicts that the researcher studied were often unsuccessful in obtaining what they wanted when they manipulated other people.

Argument Evaluation

Situation A researcher finds that drug addicts manipulate other people more than nonaddicts do and concludes that manipulative people are likely to become drug addicts.

Reasoning *What weakens the conclusion?* Consider how the researcher reached the conclusion. The researcher assumed that being manipulative precedes becoming a drug addict. What justification is given for this progression? What if the sequence is reversed and becoming a drug addict instead leads people to become manipulative? If it could be that being an addict makes people manipulative, the researcher's conclusion would be weakened.

A **Correct.** This statement properly identifies information that weakens the researcher's conclusion.

B Drug addicts' behavior in prison is not relevant to the argument.

C The actions of nonaddicts are not relevant to an argument about addicts.

D The argument concerns manipulative behavior, not other or unusual behavior patterns.

E The success or failure of the subjects' manipulative behavior is not relevant to the conclusion.

The correct answer is A.

16. In Swartkans territory, archaeologists discovered charred bone fragments dating back one million years. Analysis of the fragments, which came from a variety of animals, showed that they had been heated to temperatures no higher than those produced in experimental campfires made from branches of white stinkwood, the most common tree around Swartkans.

Which of the following, if true, would, together with the information above, provide the best basis for the claim that the charred bone fragments are evidence of the use of fire by early hominids?

(A) The white stinkwood tree is used for building material by the present-day inhabitants of Swartkans.

(B) Forest fires can heat wood to a range of temperatures that occur in campfires.

(C) The bone fragments were fitted together by the archaeologists to form the complete skeletons of several animals.

(D) Apart from the Swartkans discovery, there is reliable evidence that early hominids used fire as many as 500,000 years ago.

(E) The bone fragments were found in several distinct layers of limestone that contained primitive cutting tools known to have been used by early hominids.

Argument Evaluation

Situation Archaeologists analyzed charred bone fragments dating back to a million years ago and found that the fragments had been heated to the temperature of a campfire fueled by stinkwood. It is claimed that the fragments show that early hominids used fire.

Reasoning *Which additional piece of information would strengthen the argument?* The information that strengthens this argument will be about the subjects of the argument, not about tangential issues. In this case, the argument is about early hominids' use of fire. Any physical evidence that links the early hominids to the charred bone fragments strengthens the argument. If these bone fragments were found in conjunction with some other evidence of the presence of early hominids, then the evidence from the Swartkans location could be used to support the claim that early hominids used fire.

A The present-day use of stinkwood is irrelevant to the argument that early hominids used fire.

B If forest fires could have been responsible for the charring, the argument is weakened, not strengthened.

C The fact that the charred bone fragments form some complete animal skeletons offers no support to the argument that early hominids used fire.

D The fragments date back one million years, so evidence from 500,000 years ago is irrelevant.

E **Correct.** This statement properly identifies evidence that links early hominids to these bone fragments and so strengthens the argument.

The correct answer is E.

17. A conservation group in the United States is trying to change the long-standing image of bats as frightening creatures. The group contends that bats are feared and persecuted solely because they are shy animals that are active only at night.

Which of the following, if true, would cast the most serious doubt on the accuracy of the group's contention?

(A) Bats are steadily losing natural roosting places such as caves and hollow trees and are thus turning to more developed areas for roosting.

(B) Bats are the chief consumers of nocturnal insects and thus can help make their hunting territory more pleasant for humans.

(C) Bats are regarded as frightening creatures not only in the United States but also in Europe, Africa, and South America.

(D) Raccoons and owls are shy and active only at night, yet they are not generally feared and persecuted.

(E) People know more about the behavior of other greatly feared animal species, such as lions, alligators, and snakes, than they do about the behavior of bats.

Argument Evaluation

Situation A conservation group claims that bats are feared and persecuted only because they are shy, nocturnal animals.

Reasoning *What casts doubt on this claim?* If people fear bats only because these animals are shy and active at night, then other species that share those same attributes should be equally feared. Yet raccoons and owls, similarly shy and nocturnal, do not suffer from the same reputation.

A The location of the bats' nests does not explain the cause of the fear.

B The insect-eating habits of bats might be used in their defense, but this activity does not explain the fear of them.

C Including other parts of the world increases the arena of fear; it does not cast doubt on the cause of it.

D **Correct.** This statement properly identifies the fact that people do not fear shy, nocturnal raccoons and owls and shows that these attributes are not the reason people fear bats.

E The knowledge of other species is irrelevant to the discussion of bats.

The correct answer is D.

18. Opponents of laws that require automobile drivers and passengers to wear seat belts argue that in a free society people have the right to take risks as long as the people do not harm others as a result of taking the risks. As a result, they conclude that it should be each person's decision whether or not to wear a seat belt.

Which of the following, if true, most seriously weakens the conclusion drawn above?

(A) Many new cars are built with seat belts that automatically fasten when someone sits in the front seat.

(B) Automobile insurance rates for all automobile owners are higher because of the need to pay for the increased injuries or deaths of people not wearing seat belts.

(C) Passengers in airplanes are required to wear seat belts during takeoffs and landings.

(D) The rate of automobile fatalities in states that do not have mandatory seat-belt laws is greater than the rate of fatalities in states that do have such laws.

(E) In automobile accidents, a greater number of passengers who do not wear seat belts are injured than are passengers who do wear seat belts.

Argument Evaluation

Situation Opponents of automobile seat-belt laws contend that all citizens of a free society should be able to take risks as long as their behavior does not harm others.

Reasoning *How would refusing to wear a seat belt harm anyone other than the person who does not use it?* Consider what detriments to others might be associated with drivers and passengers who take the risk of not wearing seat belts. If injuries and deaths increase when people do not wear seat belts, the automobile insurance rates for all car owners rise in order to pay for the costs incurred by those who do not wear seat belts.

A The existence of automatic seat belts in some seats of some cars is coincidental; it is not relevant to the opponents' claim of their right to take risks.

B **Correct.** This statement properly identifies a point that weakens the conclusion. All car owners must pay higher insurance premiums because some people refuse to wear seat belts. Thus, this refusal does in fact harm others.

C The argument is about cars, not airplanes.

D The higher number of fatalities does not weaken the conclusion.

E The higher number of injuries does not weaken the conclusion.

The correct answer is B.

19. Which of the following best completes the passage below?

People buy prestige when they buy a premium product. They want to be associated with something special. Mass-marketing techniques and price-reduction strategies should not be used because _____.

(A) affluent purchasers currently represent a shrinking portion of the population of all purchasers
(B) continued sales depend directly on the maintenance of an aura of exclusivity
(C) purchasers of premium products are concerned with the quality as well as with the price of the products
(D) expansion of the market niche to include a broader spectrum of consumers will increase profits
(E) manufacturing a premium brand is not necessarily more costly than manufacturing a standard brand of the same product

Argument Construction

Situation Consumers seek prestige when they buy premium products, that is to say, expensive, top-quality products. Mass-marketing techniques and price-reduction strategies are not appropriate tools to sell these products to consumers seeking to be associated with something special.

Reasoning *Why are these tools NOT appropriate for selling these products to this group of consumers?* Consider that these consumers want to feel that the premium product they are buying is out of the ordinary. Any strategy that makes the premium product seem more common or easier to own reduces that product's appeal to this group. By definition, mass-marketing techniques appeal to a huge number of people, rather than to a small, select group. Further, reducing prices lowers any associated prestige as well because the product becomes more broadly obtainable. These two techniques would not be appropriate because these consumers would lose the feeling that the product is special.

A Mass-marketing strategies are not an appropriate match for a small, and currently dwindling, group of buyers; price reductions are not an appropriate match for consumers attracted to products by their high prices.

B **Correct.** This statement properly identifies the point that continued sales depend on making the product seem special and difficult to obtain; mass-marketing techniques and price-reduction strategies would make the product seem quite ordinary and thus hurt sales.

C It has not been established that these strategies would lower the products' quality, and so this offers no reason for avoiding the strategies.

D This statement provides a reason why broader marketing should be employed, rather than supporting an argument that it should be avoided.

E Manufacturing costs are not discussed and so are irrelevant.

The correct answer is B.

20. The number of people diagnosed as having a certain intestinal disease has dropped significantly in a rural county this year, as compared to last year. Health officials attribute this decrease entirely to improved sanitary conditions at water-treatment plants, which made for cleaner water this year and thus reduced the incidence of the disease.

Which of the following, if true, would most seriously weaken the health officials' explanation for the lower incidence of the disease?

(A) Many new water-treatment plants have been built in the last five years in the rural county.

(B) Bottled spring water has not been consumed in significantly different quantities by people diagnosed as having the intestinal disease, as compared to people who did not contract the disease.

(C) Because of a new diagnostic technique, many people who until this year would have been diagnosed as having the intestinal disease are now correctly diagnosed as suffering from intestinal ulcers.

(D) Because of medical advances this year, far fewer people who contract the intestinal disease will develop severe cases of the disease.

(E) The water in the rural county was brought up to the sanitary standards of the water in neighboring counties 10 years ago.

Argument Evaluation

Situation Health officials claim that improved sanitary conditions at water-treatment plants have reduced the number of diagnosed cases of a specific intestinal disease.

Reasoning *What weakens the health officials' claim?* Any alternate explanation of the reduction in such diagnoses weakens their claim. It is possible that other, perhaps similar, problems had been mistakenly diagnosed, and the misdiagnoses contributed to the number of cases reported during the previous year. If a new diagnostic technique permits doctors to distinguish between two health conditions not recognized previously as distinct problems, then the reduction of cases may be due to more precise diagnoses rather than to better sanitary conditions. If the people with the other condition are now correctly diagnosed, the number mistakenly diagnosed with the intestinal disease goes down.

A The number of plants built within the last five years is irrelevant to the question of the impact of improved sanitary conditions during the most recent one-year period.

B Bottled water is here ruled out as an alternative explanation since almost equal quantities were consumed by those who caught the disease and those who did not.

C **Correct.** This statement properly identifies a factor that weakens the officials' argument.

D The number of cases of the disease is the issue, not the severity of the illness.

E The neighboring counties may have had inadequate sanitary conditions as well, and, if so, the health officials' claim is not refuted.

The correct answer is C.

21. Rural households have more purchasing power than do urban or suburban households at the same income level, since some of the income urban and suburban households use for food and shelter can be used by rural households for other needs.

Which of the following inferences is best supported by the statement made above?

(A) The average rural household includes more people than does the average urban or suburban household.
(B) Rural households have lower food and housing costs than do either urban or suburban households.
(C) Suburban households generally have more purchasing power than do either rural or urban households.
(D) The median income of urban and suburban households is generally higher than that of rural households.
(E) All three types of households spend more of their income on housing than on all other purchases combined.

Argument Construction

Situation Rural households have more purchasing power than urban and suburban households with the same income level. This is because they can put to other uses some of the money that urban and suburban households must spend on food and shelter.

Reasoning *What can be inferred from this information?* The passage attributes the higher purchasing power of rural households to their ability to spend some of the income that those other households must use for food and shelter. Therefore, rural households must have relatively lower food and shelter costs.

A The passage gives no information about the number of people in the household, and so no inference about those numbers can be made.

B **Correct.** This statement properly identifies an inference supported by the given information. Since rural households have more money left over after paying for food and shelter, their costs for these necessities must be less.

C This statement contradicts the first two lines of the passage.

D The passage discusses the three types of households only *at the same income level.*

E No information is given about how expenditures are divided, so no inference can be drawn.

The correct answer is B.

22. In Asia, where palm trees are nonnative, the trees' flowers have traditionally been pollinated by hand, which has kept palm fruit productivity unnaturally low. When weevils known to be efficient pollinators of palm flowers were introduced into Asia in 1980, palm fruit productivity increased—by up to 50 percent in some areas—but then decreased sharply in 1984.

Which of the following statements, if true, would best explain the 1984 decrease in productivity?

(A) Prices for palm fruit fell between 1980 and 1984 following the rise in production and a concurrent fall in demand.

(B) Imported trees are often more productive than native trees because the imported ones have left behind their pests and diseases in their native lands.

(C) Rapid increases in productivity tend to deplete trees of nutrients needed for the development of the fruit-producing female flowers.

(D) The weevil population in Asia remained at approximately the same level between 1980 and 1984.

(E) Prior to 1980 another species of insect pollinated the Asian palm trees, but not as efficiently as the species of weevil that was introduced in 1980.

Argument Construction

Situation In 1980, the introduction of weevils to pollinate palm trees in Asia resulted in increased palm fruit productivity. This productivity decreased sharply in 1984.

Reasoning *What explains the sudden decrease in 1984?* The palm trees had experienced a sudden burst of productivity beginning in 1980. What if an after-effect of that spurt was the cause? If that burst of productivity had used up the trees' nutrients, then the trees would be unable to produce the flowers that are pollinated in order to produce fruit. This sudden exhaustion of the trees' resources is the best explanation for the sudden decrease in productivity.

A Falling prices and falling demand do not explain the falling productivity of the trees.

B The lack of pests and diseases among imported trees does not explain the sharply decreased productivity.

C **Correct.** This statement properly identifies a reason for sharply decreased productivity.

D If the weevil population pollinating the trees remained the same, it is reasonable to think that productivity remained the same, so this does not explain the decrease.

E A change that occurred before 1980 does not explain a change that occurred in 1984.

The correct answer is C.

23. With the emergence of biotechnology companies, it was feared that they would impose silence about proprietary results on their in-house researchers and their academic consultants. This constraint, in turn, would slow the development of biological science and engineering.

Which of the following, if true, would tend to weaken most seriously the prediction of scientific secrecy described above?

(A) Biotechnological research funded by industry has reached some conclusions that are of major scientific importance.

(B) When the results of scientific research are kept secret, independent researchers are unable to build on those results.

(C) Since the research priorities of biotechnology companies are not the same as those of academic institutions, the financial support of research by such companies distorts the research agenda.

(D) To enhance the companies' standing in the scientific community, the biotechnology companies encourage employees to publish their results, especially results that are important.

(E) Biotechnology companies devote some of their research resources to problems that are of fundamental scientific importance and that are not expected to produce immediate practical applications.

Argument Evaluation

Situation Biotechnology companies may slow the development of biological science and engineering by imposing restrictions on what their scientists can say and share with others.

Reasoning *What point weakens the prediction?* If the biotechnology companies do not demand silence of their scientists, then the development of biological science and engineering could proceed as freely as it did before the emergence of the companies. By encouraging their employees to publish their results, the companies are promoting, not impeding, the development of biological science and engineering.

A The importance of the findings does not affect the prediction.

B The loss to independent researchers does not weaken the prediction.

C The companies' priorities for research do not affect the prediction.

D **Correct.** This statement properly identifies a situation that is the reverse of the predicted one.

E The companies' typical policy of conducting some research without a practical application does not weaken the prediction.

The correct answer is D.

24. Guitar strings often go "dead"—become less responsive and bright in tone—after a few weeks of intense use. A researcher whose son is a classical guitarist hypothesized that dirt and oil, rather than changes in the material properties of the string, were responsible.

Which of the following investigations is most likely to yield significant information that would help evaluate the researcher's hypothesis?

(A) Determining whether a metal alloy is used to make the strings used by classical guitarists

(B) Determining whether classical guitarists make their strings go dead faster than do folk guitarists

(C) Determining whether identical lengths of string, of the same gauge, go dead at different rates when strung on various brands of guitars

(D) Determining whether a dead string and a new string produce different qualities of sound

(E) Determining whether smearing various substances on new guitar strings causes them to go dead

Evaluation of a Plan

Situation Dirt and oil are hypothesized to be the cause of lost tone and brightness in guitar strings, rather than changes in the material itself.

Reasoning *Which investigation helps evaluate the hypothesis?* The researcher needs to test the hypothesis directly. Smearing substances (such as dirt and oil) onto new strings and seeing whether they go dead is a direct test. If the strings do not lose their tone, the hypothesis is false. If they do go dead, the hypothesis is a likely explanation of the problem, although not necessarily the only explanation.

A Not enough information is given about the metal alloy to evaluate its effect on the composition of the strings and their loss of tone after intense play.

B The difference in the style of play is outside the scope of the hypothesis.

C The difference in the brands of guitars is outside the scope of the hypothesis.

D The difference between a new string and a dead string has already been established.

E **Correct.** This statement properly identifies a procedure that is a direct test of the hypothesis.

The correct answer is E.

25. In recent years, many cabinetmakers have been winning acclaim as artists. But since furniture must be useful, cabinetmakers must exercise their craft with an eye to the practical utility of their product. For this reason, cabinetmaking is not art.

Which of the following is an assumption that supports drawing the conclusion above from the reason given for that conclusion?

(A) Some furniture is made to be placed in museums, where it will not be used by anyone.

(B) Some cabinetmakers are more concerned than others with the practical utility of the products they produce.

(C) Cabinetmakers should be more concerned with the practical utility of their products than they currently are.

(D) An object is not an art object if its maker pays attention to the object's practical utility.

(E) Artists are not concerned with the monetary value of their products.

Argument Construction

Situation Cabinetmaking cannot be considered an art because furniture is made with an eye to its usefulness.

Reasoning *What assumption is made in the argument?* The argument makes a general statement about all cabinetmakers and all their furniture. The assumption must also be a general statement because it is not logical to reason from a particular statement about *some furniture* or *some cabinetmakers* to a general statement about all cabinetmaking. What excludes pieces of furniture from being considered works of art? The argument states only that their usefulness must be taken into account during their creation. Therefore, the operative assumption must be that an object created with its practical use in mind cannot be a work of art.

A The destination of the object after its creation is not the issue.

B The degree of consideration is not relevant; only the fact of any consideration is relevant.

C The degree of consideration is not relevant; given the conclusion, any consideration of utility means the piece is not a work of art.

D **Correct.** This statement properly identifies the underlying assumption that an object created with any consideration of usefulness is not a work of art.

E Artists' interest or disinterest in the monetary value of their works has nothing to do with what objects are considered works of art.

The correct answer is D.

26. Male bowerbirds construct elaborately decorated nests, or bowers. Basing their judgment on the fact that different local populations of bowerbirds of the same species build bowers that exhibit different building and decorative styles, researchers have concluded that the bowerbirds' building styles are a culturally acquired, rather than a genetically transmitted, trait.

Which of the following, if true, would most strengthen the conclusion drawn by the researchers?

(A) There are more common characteristics than there are differences among the bower-building styles of the local bowerbird population that has been studied most extensively.

(B) Young male bowerbirds are inept at bower building and apparently spend years watching their elders before becoming accomplished in the local bower style.

(C) The bowers of one species of bowerbird lack the towers and ornamentation characteristic of the bowers of most other species of bowerbird.

(D) Bowerbirds are found only in New Guinea and Australia, where local populations of the birds apparently seldom have contact with one another.

(E) It is well known that the song dialects of some songbirds are learned rather than transmitted genetically.

Argument Evaluation

Situation Male bowerbirds that are of the same species but living in different habitats build nests of widely varying styles. Researchers conclude that this nest-building behavior is culturally acquired rather than genetically transmitted.

Reasoning *What evidence strengthens the researchers' conclusion?* The researchers base their conclusion upon the different styles of nests, reasoning that the nests would all be similar if the bower-building behavior was only transmitted through the genes of the species. What would lend support to this reasoning? If young male bowerbirds have no inherent aptitude for nest building and must learn it over a period of years by watching older male bowerbirds, then the argument that bowerbirds acquire their nest-building preferences culturally rather than genetically is strengthened.

A The greater number of similarities than differences in style in one population could be attributed to either cultural acquisition or genetic transmission, so the conclusion is not strengthened.

B **Correct.** This statement properly identifies evidence that supports the researchers' conclusion that nest-building styles are culturally acquired.

C The cited differences are among populations of the same species; differences among species are outside the scope of the conclusion.

D Since no information is given about the nest-building styles of these populations (whether or not they are of the same species), the fact that they have little contact neither strengthens nor weakens the conclusion.

E While this statement does offer an example of learned bird behavior, it does not strengthen the conclusion; the argument is about nest building, not about song dialects.

The correct answer is B.

27. A drug that is highly effective in treating many types of infection can, at present, be obtained only from the bark of the ibora, a tree that is quite rare in the wild. It takes the bark of 5,000 trees to make one kilogram of the drug. It follows, therefore, that continued production of the drug must inevitably lead to the ibora's extinction.

Which of the following, if true, most seriously weakens the argument above?

(A) The drug made from ibora bark is dispensed to doctors from a central authority.

(B) The drug made from ibora bark is expensive to produce.

(C) The leaves of the ibora are used in a number of medical products.

(D) The ibora can be propagated from cuttings and grown under cultivation.

(E) The ibora generally grows in largely inaccessible places.

Argument Evaluation

Situation The extinction of the rare ibora tree is inevitable if production of an effective infection-fighting drug continues.

Reasoning *Which point weakens the argument?* The production of the drug requires such an enormous amount of bark that the continuing existence of the rare tree is in jeopardy. Why is this? The argument assumes that killing the trees in the wild is the only way to obtain the needed bark. Consider from what other sources this tree bark could be harvested. If cuttings from the wild trees could be used to breed and grow the trees as a renewable crop, then the cultivated trees could be used to manufacture the drug, and the majority of the trees in the wild could be left to flourish.

A The method of drug's distribution does not affect the likely extinction of the tree because the bark has already been stripped from the tree for the drug's production.

B The price of the drug does not affect the outcome for the tree because the production of the drug has already taken place.

C Uses for other parts of the tree make its extinction more likely and strengthens the argument.

D Correct. This statement properly identifies a factor that weakens the argument.

E The argument assumes that production of the drug will continue, no matter how inaccessible the tree is.

The correct answer is D.

28. Many breakfast cereals are fortified with vitamin supplements. Some of these cereals provide 100 percent of the recommended daily requirement of vitamins. Nevertheless, a well-balanced breakfast, including a variety of foods, is a better source of those vitamins than are such fortified breakfast cereals alone.

Which of the following, if true, would most strongly support the position above?

(A) In many foods, the natural combination of vitamins with other nutrients makes those vitamins more usable by the body than are vitamins added in vitamin supplements.

(B) People who regularly eat cereals fortified with vitamin supplements sometimes neglect to eat the foods in which the vitamins occur naturally.

(C) Foods often must be fortified with vitamin supplements because naturally occurring vitamins are removed during processing.

(D) Unprocessed cereals are naturally high in several of the vitamins that are usually added to fortified breakfast cereals.

(E) Cereals containing vitamin supplements are no harder to digest than similar cereals without added vitamins.

Argument Evaluation

Situation A well-balanced breakfast with a variety of foods is a better source of vitamins than a breakfast of cereal fortified with vitamin supplements.

Reasoning *What strengthens the argument in favor of a balanced breakfast as a better source of vitamins?* The argument compares the vitamins naturally occurring in foods with those added to cereal. What would make the vitamins in foods superior in nutritional value to the vitamin supplements in fortified cereals? If the combination of vitamins with other nutrients in many foods allowed the body to better use those vitamins, a balanced breakfast would be the preferred source of the vitamins.

A **Correct.** This statement properly identifies a factor that strengthens the argument.

B This statement explains who might benefit from a well-balanced breakfast, but it does not support the conclusion in favor eating a variety of foods.

C This statement shows why foods need to be fortified, but it does not support the conclusion that naturally occurring vitamins in foods are better.

D This statement provides some information about unprocessed cereals, but it does not explain why the vitamins found in a balanced breakfast are superior to the vitamins in fortified cereals.

E The ability of the body to digest fortified or unfortified cereals is outside the scope of the question.

The correct answer is A.

Questions 29–30 are based on the following:

In many corporations, employees are being replaced by automated equipment in order to save money. However, many workers who lose their jobs to automation will need government assistance to survive, and the same corporations that are laying people off will eventually pay for that assistance through increased taxes and unemployment insurance payments.

29. The author is arguing that _____.

(A) higher taxes and unemployment insurance payments will discourage corporations from automating

(B) replacing people through automation to reduce production costs will result in increases of other costs to corporations

(C) many workers who lose their jobs to automation will have to be retrained for new jobs

(D) corporations that are laying people off will eventually rehire many of them

(E) corporations will not save money by automating because people will be needed to run the new machines

Argument Construction

Situation Corporations replace employees with automated equipment to save money, but, through increased taxes and unemployment insurance, those corporations must pay for the government-assistance programs the laid-off employees then need to survive.

Reasoning *What is the author's argument?* To restate the argument, look at the information in the passage. The first sentence says that corporations replace workers with automated equipment in order to save money. The author then states that these same corporations will have other new costs in the form of increased taxes and unemployment insurance payments because the laid-off workers will require government assistance.

A The author says there will be costs to the corporations but does not go so far as to say these costs will discourage the corporations from automating.

B **Correct.** This statement properly identifies the author's argument that, in their efforts to lower costs through automation, corporations will incur increases in other costs.

C The author does not discuss the retraining of employees.

D The author does not discuss the rehiring of employees.

E The corporations would have anticipated the number of employees necessary to run the automated equipment when they initially determined that automation would save money.

The correct answer is B.

30. Which of the following, if true, most strengthens the author's argument?

(A) Many workers who have already lost their jobs to automation have been unable to find new jobs.
(B) Many corporations that have failed to automate have seen their profits decline.
(C) Taxes and unemployment insurance are paid also by corporations that are not automating.
(D) Most of the new jobs created by automation pay less than the jobs eliminated by automation did.
(E) The initial investment in machinery for automation is often greater than the short-term savings in labor costs.

Argument Evaluation

Situation Corporations replace employees with automated equipment to save money, but, through increased taxes and unemployment insurance, those corporations must pay for the government assistance programs the laid-off employees then need to survive. (The same as the previous item.)

Reasoning *What information strengthens the author's argument?* By stating that the need for government-assistance programs will rise, the author clearly assumes that the laid-off employees will not find work and will have to rely on such programs. If other workers who have lost jobs to automation have been unable to find work, then the argument is strengthened because it shows that the author's assumption has proven to be true.

A **Correct.** This statement properly identifies a factor that strengthens the author's argument.

B The argument is about the corporations that do automate, not about those that do not, and thus this statement is irrelevant.

C The fact that such costs are paid and will be paid by all corporations, whether or not they automate, weakens the author's argument by suggesting that the increased costs resulting from automation will be spread over a wider group.

D This statement repeats that the corporations will initially experience lowered costs for employee wages; it does not strengthen the argument.

E The equipment costs that are incurred immediately upon automating are not relevant to the argument. In the passage, the author maintains that corporations *will eventually pay* for the costs of increased government assistance, and it is those long-term costs on which the argument is based.

The correct answer is A.

31. When a polygraph test is judged inconclusive, this is no reflection on the examinee. Rather, such a judgment means that the test has failed to show whether the examinee was truthful or untruthful. Nevertheless, employers will sometimes refuse to hire a job applicant because of an inconclusive polygraph test result.

Which of the following conclusions can most properly be drawn from the information above?

(A) Most examinees with inconclusive polygraph test results are in fact untruthful.

(B) Polygraph tests should not be used by employers in the consideration of job applicants.

(C) An inconclusive polygraph test result is sometimes unfairly held against the examinee.

(D) A polygraph test indicating that an examinee is untruthful can sometimes be mistaken.

(E) Some employers have refused to consider the results of polygraph tests when evaluating job applicants.

Argument Construction

Situation Employers sometimes refuse to hire job applicants because of inconclusive polygraph tests, even though inconclusive tests reveal only the failure of the test itself to determine the truthfulness or untruthfulness of the person tested.

Reasoning *What conclusion can be drawn from this information?* Inconclusive tests do not reveal anything about the person tested; inconclusive tests reveal only the failure of the test. Nevertheless, employers may choose not to hire an applicant whose polygraph test has had an inconclusive result. It is reasonable to conclude that these employers unfairly treat the lack of firm test results as evidence of a flaw—not in the test, but in the applicant.

A This statement makes a judgment that is explicitly contradicted in the passage, which states that an inconclusive test *is no reflection on the examinee.*

B The argument does not support this sweeping conclusion about all uses of polygraph tests; the passage discusses only inconclusive polygraph test results.

C **Correct.** This statement properly identifies a conclusion that can reasonably be drawn from the given information.

D The argument is concerned only with inconclusive tests, not cases when the polygraph test is mistaken.

E Employers who do not consider polygraph tests are irrelevant to the discussion.

The correct answer is C.

32. The technological conservatism of bicycle manufacturers is a reflection of the kinds of demand they are trying to meet. The only cyclists seriously interested in innovation and willing to pay for it are bicycle racers. Therefore, innovation in bicycle technology is limited by what authorities will accept as standard for purposes of competition in bicycle races.

Which of the following is an assumption made in drawing the conclusion on the previous page?

(A) The market for cheap, traditional bicycles cannot expand unless the market for high-performance competition bicycles expands.

(B) High-performance bicycles are likely to be improved more as a result of technological innovations developed in small workshops than as a result of technological innovations developed in major manufacturing concerns.

(C) Bicycle racers do not generate a strong demand for innovations that fall outside what is officially recognized as standard for purposes of competition.

(D) The technological conservatism of bicycle manufacturers results primarily from their desire to manufacture a product that can be sold without being altered to suit different national markets.

(E) The authorities who set standards for high-performance bicycle racing do not keep informed about innovative bicycle design.

Argument Construction

Situation Bicycle racers are the only consumers willing to pay for innovations in bicycle technology. Manufacturers therefore limit innovation to the standards established for competitive bicycle racing.

Reasoning *What is being assumed in this argument?* This argument implies a connection between what bicycle racers want and what bicycle manufacturers make. The passage states that only racers are interested in innovation and willing to pay for it. Bicycle manufacturers have determined it is not worthwhile to produce innovative bicycles that do not meet official standards. What is the implied interaction? It is reasonable to assume that racers must not be interested in buying models that, while innovative, do not meet official standards for racing; they will pay only for those innovations that are acceptable in competition.

A The argument concerns innovation in bicycle technology. It is not about the entire market for all bicycles, so no assumption is made about traditional bicycles.

B The passage does not discuss where the best innovations are likely to be created, so no assumption about small workshops versus large manufacturers is made.

C **Correct.** This statement properly identifies the conclusion's underlying assumption that bicycle racers do not buy bicycles they cannot use for racing.

D The passage does not discuss different national markets; no assumption can be made about them.

E The passage does not indicate what the authorities do or do not know; this statement is extraneous to the passage and cannot be assumed.

The correct answer is C.

33. Robot satellites relay important communications and identify weather patterns. Because the satellites can be repaired only in orbit, astronauts are needed to repair them. Without repairs, the satellites would eventually malfunction. Therefore, space flights carrying astronauts must continue.

Which of the following, if true, would most seriously weaken the argument above?

(A) Satellites falling from orbit because of malfunctions burn up in the atmosphere.

(B) Although satellites are indispensable in the identification of weather patterns, weather forecasters also make some use of computer projections to identify weather patterns.

(C) The government, responding to public pressure, has decided to cut the budget for space flights and put more money into social welfare programs.

(D) Repair of satellites requires heavy equipment, which adds to the amount of fuel needed to lift a spaceship carrying astronauts into orbit.

(E) Technical obsolescence of robot satellites makes repairing them more costly and less practical than sending new, improved satellites into orbit.

Argument Evaluation

Situation Space flights carrying astronauts must continue so that the astronauts can repair robot satellites in orbit.

Reasoning *What information would most weaken the argument?* It is argued that satellite repairs are needed to avoid potential malfunctions and that astronauts are needed to perform the repairs. Information that challenges either of these needs weakens the argument. High-technology equipment may quickly become obsolescent. A less expensive and more practical solution to the problem of repairing obsolescent satellites is to launch new, improved satellites. This suggestion of a better alternative weakens the argument considerably.

A Malfunction can destroy the satellite; this statement lends some support to the argument to continue space flights to avoid satellite malfunctions.

B Since satellites are judged to be *indispensable*, this statement suggests that their repair continues to be necessary.

C While budget cuts for space flights provide a context for the argument in favor of continuing flights, this statement does not weaken the argument.

D Increased fuel costs do not weaken the argument that space flights are needed to maintain the satellites.

E **Correct.** This statement properly identifies a factor that weakens the argument.

The correct answer is E.

34. A company's two divisions performed with remarkable consistency over the past three years: in each of those years, the pharmaceuticals division has accounted for roughly 20 percent of dollar sales and 40 percent of profits, and the chemicals division for the balance.

Regarding the past three years, which of the following can properly be inferred from the statement above?

(A) Total dollar sales for each of the company's divisions have remained roughly constant.

(B) The pharmaceuticals division has faced stiffer competition in its markets than has the chemicals division.

(C) The chemicals division has realized lower profits per dollar of sales than has the pharmaceuticals division.

(D) The product mix offered by each of the company's divisions has remained unchanged.

(E) Highly profitable products accounted for a higher percentage of the chemicals division's sales than of the pharmaceuticals division's.

Argument Construction

Situation For three years, the pharmaceutical division of a company has accounted for 20 percent of the dollar sales and 40 percent of the profits, and the chemicals division for the balance.

Reasoning *What can be inferred from these numbers?* If the pharmaceuticals division made 40 percent of the company's profits on 20 percent of the company's dollar sales, then the chemicals division made 60 percent of the profits on 80 percent of the sales. Comparing these percentages makes it clear that the pharmaceuticals division makes more profit per dollar of sales than the chemicals division does.

A The information is about percentages, not total dollars.

B There is no information about the competition faced by either division; the higher profit margin for the pharmaceuticals division would suggest, if anything, less intense competition in its markets.

C **Correct.** This statement properly identifies an inference that can be drawn from the given information.

D Since there is no information about the product mix, no inference about it is possible.

E The passage does not distinguish between highly profitable products and other products, so this inference cannot be drawn from the information.

The correct answer is C.

35. Advertisement: Today's customers expect high quality. Every advance in the quality of manufactured products raises customer expectations. The company that is satisfied with the current quality of its products will soon find that its customers are not. At MegaCorp, meeting or exceeding customer expectations is our goal.

Which of the following must be true on the basis of the statements in the advertisement above?

(A) MegaCorp's competitors will succeed in attracting customers only if those competitors adopt MegaCorp's goal as their own.

(B) A company that does not correctly anticipate the expectations of its customers is certain to fail in advancing the quality of its products.

(C) MegaCorp's goal is possible to meet only if continuing advances in product quality are possible.

(D) If a company becomes satisfied with the quality of its products, then the quality of its products is sure to decline.

(E) MegaCorp's customers are currently satisfied with the quality of its products.

Argument Construction

Situation An advertisement for MegaCorp observes that every advance in quality raises customer expectations; it is not enough for a company to be satisfied with current quality.

Reasoning *What conclusion can be based on the assertions in the advertisement?* Meeting or exceeding customer expectations is MegaCorp's goal. Since advances in quality are said to increase expectations, those advances must continue. Therefore, the advertisement assumes there exists a continually increasing level of product quality to which the company can aspire.

A The ad provides no information about MegaCorp's competitors so no conclusion about them is possible.

B The ad says that customers' expectations come from the quality of the product itself, not from how MegaCorp anticipates those expectations.

C **Correct.** This statement properly identifies a conclusion that can be drawn from the advertisement's argument.

D While the ad implies that a company should not be satisfied with current quality, it does not go so far as to say that such an attitude causes quality to decline.

E MegaCorp states its goal, but there is no evidence that it currently meets that goal.

The correct answer is C.

36. Many companies now have employee assistance programs that enable employees, free of charge, to improve their physical fitness, reduce stress, and learn ways to stop smoking. These programs increase worker productivity, reduce absenteeism, and lessen insurance costs for employee health care. Therefore, these programs benefit the company as well as the employee.

Which of the following, if true, most significantly strengthens the conclusion above?

(A) Physical fitness programs are often the most popular services offered to employees.

(B) Studies have shown that training in stress management is not effective for many people.

(C) Regular exercise reduces people's risk of heart disease and provides them with increased energy.

(D) Physical injuries sometimes result from entering a strenuous physical fitness program too quickly.

(E) Employee assistance programs require companies to hire people to supervise the various programs offered.

Argument Evaluation

Situation Employee assistance programs benefit the company as well as the employees.

Reasoning *What evidence shows that the programs do benefit both the company and the employees?* The argument already points out several benefits for the company, but the conclusion maintains that there are positive results for the employees as well. The existence of such benefits to employees needs to be substantiated. If regular exercise lowers their risk for some serious diseases, employees can indeed benefit from their participation in these programs. Furthermore, increased employee energy benefits the employees as well as the company.

A The popularity of physical fitness programs does not explain how employee assistance programs benefit both company and employee.

B Evidence that the stress management program is ineffective weakens the argument rather than strengthens it.

C **Correct.** This statement properly identifies evidence that strengthens the conclusion.

D Injuries benefit neither the company nor the employees.

E The need to hire supervisors is an increased cost for the company, not a benefit.

The correct answer is C.

Questions 37–38 are based on the following:

Companies O and P each have the same number of employees who work the same number of hours per week. According to records maintained by each company, the employees of Company O had fewer job-related accidents last year than did the employees of Company P. Therefore, employees of Company O are less likely to have job-related accidents than are employees of Company P.

37. Which of the following, if true, would most strengthen the conclusion above?

(A) Company P manufactures products that are more hazardous for workers to produce than does Company O.

(B) Company P holds more safety inspections than does Company O.

(C) Company P maintains a more modern infirmary than does Company O.

(D) Company O paid more for new job-related medical claims than did Company P.

(E) Company P provides more types of health-care benefits than does Company O.

Argument Evaluation

Situation Two companies have the same number of employees working the same number of hours a week, but one company's employees reportedly had fewer job-related accidents last year and so are likely to have fewer job-related accidents in general.

Reasoning *What point would most strengthen this argument?* The argument generalizes from the number of last year's job-related accidents at the two companies to a continuing reduced likelihood of such accidents at the one company. Specific information that suggests that the one company is inherently a safer place than the other would support the generalized argument. If one company's employees must work on a product that is more hazardous to make, then it is reasonable to conclude that they will continue to suffer more job-related accidents than the employees at the other company. Since the product is not going to change, it is likely that the proportion of accidents will not either.

A **Correct**. This statement properly identifies specific information that strengthens the conclusion.

B A greater attention to safety does not lead to the conclusion that there will be a greater number of accidents.

C Having a modern infirmary does not cause more or fewer accidents; it simply provides a place for accident victims to receive care.

D The greater amount paid for job-related medical claims may indicate that, although the accidents were fewer, they were more serious, but it does not strengthen the argument about the occurrence of the accidents.

E One company's superior health-care benefits are irrelevant to the likelihood of accidents.

The correct answer is A.

38. Which of the following, if true, would most weaken the conclusion above?

(A) The employees of Company P lost more time at work due to job-related accidents than did the employees of Company O.

(B) Company P considered more types of accidents to be job-related than did Company O.

(C) The employees of Company P were sick more often than were the employees of Company O.

(D) Several employees of Company O each had more than one job-related accident.

(E) The majority of job-related accidents at Company O involved a single machine.

Argument Evaluation

Situation Two companies have the same number of employees working the same number of hours a week, but one company's employees reportedly had fewer job-related accidents last year and so are likely to have fewer job-related accidents in general. (The same as the previous item.)

Reasoning *What point would most weaken the argument?* The passage concludes that one company is safer than the other because it reported fewer job-related accidents than the other did. Since the argument relies on the comparison of one company's reported accidents to the other company's reported accidents, any information that suggests their reporting was done differently would undermine both the argument's comparison and the conclusion. Differences in the way the companies reported the accidents would make the accident rates difficult to compare directly. Since the company reporting the greater number of job-related accidents also considers more types of accidents to be job-related, the basis of the comparison is weakened and so is the argument.

A The greater amount of time lost at work by the employees of the company with the greater number of job-related accidents is to be expected; the argument is not affected.

B **Correct.** This statement properly identifies the fact that the company reporting the greater number of accidents used a broader definition. Thus, the basis of the comparison is faulty, and the conclusion is weakened.

C Illness is not the same as a job-related accident, so more reports of illness are irrelevant to a comparison of accidents.

D This statement is consistent with Company O's reporting that fewer of its employees had job-related accidents; it does not undermine the conclusion.

E Identifying one major cause of job-related accidents at Company O does not weaken the conclusion that the company is likely to have fewer accidents than Company P.

The correct answer is B.

39. Last year the rate of inflation was 1.2 percent, but during the current year it has been 4 percent. We can conclude that inflation is on an upward trend and the rate will be still higher next year.

Which of the following, if true, most seriously weakens the conclusion above?

(A) The inflation figures were computed on the basis of a representative sample of economic data rather than all of the available data.

(B) Last year a dip in oil prices brought inflation temporarily below its recent stable annual level of 4 percent.

(C) Increases in the pay of some workers are tied to the level of inflation, and at an inflation rate of 4 percent or above, these pay raises constitute a force causing further inflation.

(D) The 1.2 percent rate of inflation last year represented a 10-year low.

(E) Government intervention cannot affect the rate of inflation to any significant degree.

Argument Evaluation

Situation The rate of inflation was 1.2 percent last year but is 4 percent in the current year. It is therefore expected to rise above 4 percent next year.

Reasoning *What point weakens this conclusion?* The conclusion is based on an *upward trend* that is derived from data for two years. Data from only two years provide rather weak evidence of a *trend*. Additional evidence that provides a context for the annual inflation rates during the most recent two-year period will promote a more solid evaluation of this prediction of next year's inflation rate. If inflation has recently been *stable* at 4 percent, and the temporary drop the previous year is accounted for by lower oil prices, then the basis for the prediction seems quite weak.

A As long as the sample was representative, the figures should be accurate. This point does not weaken the conclusion.

B **Correct.** This statement properly identifies a point that weakens the conclusion.

C This statement explains one process by which inflation increases and tends to support the conclusion that inflation will continue to rise.

D Learning that last year's figure was the lowest rate of inflation in 10 years does not provide enough information to conclude whether the rate of inflation will rise next year.

E The failure of government intervention to affect the rate of inflation could be seen to support, not weaken, the conclusion.

The correct answer is B.

40. Offshore oil-drilling operations entail an unavoidable risk of an oil spill, but importing oil on tankers presently entails an even greater such risk per barrel of oil. Therefore, if we are to reduce the risk of an oil spill without curtailing our use of oil, we must invest more in offshore operations and import less oil on tankers.

Which of the following, if true, most seriously weakens the argument above?

(A) Tankers can easily be redesigned so that their use entails less risk of an oil spill.

(B) Oil spills caused by tankers have generally been more serious than those caused by offshore operations.

(C) The impact of offshore operations on the environment can be controlled by careful management.

(D) Offshore operations usually damage the ocean floor, but tankers rarely cause such damage.

(E) Importing oil on tankers is currently less expensive than drilling for it offshore.

Argument Evaluation

Situation Currently, the risk of an oil spill is greater from oil tankers than it is from offshore oil drilling. In order to reduce the risk of an oil spill, we should expand offshore operations and import less oil on tankers.

Reasoning *What point weakens this argument?* The argument is based on the current situation, but present conditions need not continue in the future if they can be improved. What if oil tankers can be redesigned so that they pose less risk of an oil spill? In that case, the argument is weakened because the lowered risk of oil spills resulting from improved oil tanker design could actually make tankers less problematic than offshore operations.

A **Correct.** This statement properly identifies a weakness in the argument.

B The more serious nature of the oil spills caused by tankers strengthens the argument.

C Careful management controlling the environmental impact of offshore operations supports the argument rather than weakens it.

D While offshore operations may cause other environmental damage, this point does not weaken the argument about oil spills.

E Importing oil on tankers may be an attractive economic alternative, but because this point is unrelated to oil spills, it does not weaken the argument.

The correct answer is A.

41. Manufacturers of mechanical pencils make most of their profit on pencil leads rather than on the pencils themselves. The Write Company, which cannot sell its leads as cheaply as other manufacturers can, plans to alter the design of its mechanical pencil so that it will accept only a newly designed Write Company lead, which will be sold at the same price as the Write Company's current lead.

Which of the following, if true, most strongly supports the Write Company's projection that its plan will lead to an increase in its sales of pencil leads?

(A) First-time buyers of mechanical pencils tend to buy the least expensive mechanical pencils available.

(B) Annual sales of mechanical pencils are expected to triple over the next five years.

(C) A Write Company executive is studying ways to reduce the cost of manufacturing pencil leads.

(D) A rival manufacturer recently announced similar plans to introduce a mechanical pencil that would accept only the leads produced by that manufacturer.

(E) In extensive test marketing, mechanical-pencil users found the new Write Company pencil markedly superior to other mechanical pencils they had used.

Evaluation of a Plan

Situation A manufacturer of mechanical pencils plans to produce a new pencil that accepts only the redesigned pencil leads that the company also intends to make and sell. Despite the fact that its leads are sold for a higher price than competitors' leads, the company anticipates that this approach will generate increased lead sales.

Reasoning *What point supports the plan's success?* It is clear that increased lead sales are directly tied to the sales and ongoing use of the new pencil that can use only that type of lead. If the new pencils sell well and then get used frequently, the buyers will need to purchase leads regularly. If thorough test marketing has shown that potential buyers find the new pencil greatly superior to use, then the pencil buyers will have to purchase the only available leads that fit their pencils, no matter whether the leads are more expensive, and the projection that sales of these pencil leads will increase is strengthened.

A It is not known whether the Write Company's pencil is the least expensive, nor are the lead-buying habits of first-time buyers known. This information thus does not strengthen the projection.

B This expectation applies for all manufacturers and does not show that the Write Company's plan will cause increased sales of its pencil leads.

C Reducing the cost of manufacturing the leads could lead to greater profits but not to greater sales, since the passage states that the price will remain the same.

D A rival manufacturer's announcement to follow the same plan does not affect whether the plan will be successful for the Write Company.

E **Correct.** This statement properly identifies a point that supports the plan's success.

The correct answer is E.

42. Mourdet Winery: Danville Winery's new wine was introduced to compete with our most popular wine, which is sold in a distinctive tall, black bottle. Danville uses a similar bottle. Thus, it is likely that many customers intending to buy our wine will mistakenly buy theirs instead.

Danville Winery: Not so. The two bottles can be readily distinguished: the label on ours, but not on theirs, is gold colored.

Which of the following, if true, most undermines Danville Winery's response?

(A) Gold is the background color on the label of many of the wines produced by Danville Winery.

(B) When the bottles are viewed side by side, Danville Winery's bottle is perceptibly taller than Mourdet Winery's.

(C) Danville Winery, unlike Mourdet Winery, displays its wine's label prominently in advertisements.

(D) It is common for occasional purchasers to buy a bottle of wine on the basis of a general impression of the most obvious feature of the bottle.

(E) Many popular wines are sold in bottles of a standard design.

Argument Evaluation

Situation Mourdet Winery sells its most popular wine in a tall, distinctive black bottle. It complains that its customers may be confused by the similarity of the bottle being used for Danville Winery's new wine and thus may mistakenly buy the competing Danville product. Danville Winery rejects this claim, pointing to Danville's unique gold label.

Reasoning *What point undermines Danville Winery's response?* At issue is the degree of difference between the two wineries' packaging of their products. Danville Winery claims that its use of the gold label distinguishes its bottles. What if some purchasers do not look closely enough to see that difference? If occasional purchasers make their purchases based on a general impression of the most obvious features of the bottle, they might easily confuse the two tall, black bottles. Danville Winery's gold label may make little difference to such purchasers, who could overlook the label as they select the bottle by its seemingly distinctive form.

A If Danville Winery uses gold labels frequently, then consumers probably associate gold with Danville; this supports the response rather than undermining it.

B The difference in the height of the bottles gives consumers another way to distinguish between the wineries' products, so this does not undermine the response.

C The prominent display of the uniquely gold label in advertising should help associate the label with Danville Winery, which supports the response.

D **Correct.** This statement properly identifies a point that undermines Danville Winery's response.

E Other wines in standard bottles are irrelevant to the argument.

The correct answer is D.

43. Which of the following best completes the passage below?

The computer industry's estimate that it loses millions of dollars when users illegally copy programs without paying for them is greatly exaggerated. Most of the illegal copying is done by people with no serious interest in the programs. Thus, the loss to the industry is quite small, because _____.

(A) many users who illegally copy programs never find any use for them

(B) most people who illegally copy programs would not purchase them even if purchasing them were the only way to obtain them

(C) even if the computer industry received all the revenue it claims to be losing, it would still be experiencing financial difficulties

(D) the total market value of all illegal copies is low in comparison to the total revenue of the computer industry

(E) the number of programs that are frequently copied illegally is low in comparison to the number of programs available for sale

Argument Construction

Situation The computer industry's estimate of its losses due to illegally copied programs is exaggerated because most of the illegal copying is done by people who are not greatly interested in the programs.

Reasoning *Why would the loss to the industry be said to be small?* The industry's loss due to illegal copying of programs must be evaluated in terms of the sales lost; the actual loss to the industry is directly related to the legitimate sales opportunities that have been lost. Would the people illegally copying the programs buy them if they could not otherwise obtain them? If it were true that most of them have *no serious interest in the programs*, they would be unlikely to purchase them. In this case, few sales would be lost and the loss to the industry could be considered small.

A What users do (or do not do) with programs once they have them does not explain why the loss to the industry is small.

B **Correct.** This statement properly identifies the fact that if the illegal copiers were unlikely to purchase the same programs, then the industry has not lost potential sales.

C The greater financial difficulties of the industry do not explain why the loss incurred because of the illegally copied programs is small.

D This comparison is faulty: the loss is not being considered in the context of total industry revenues but in the context of total sales of programs.

E This comparison is faulty: the low number of illegal copies would have to be compared with the number of copies sold, not the number *available for sale*.

The correct answer is B.

44. In the last decade there has been a significant decrease in coffee consumption. During this same time, there has been increasing publicity about the caffeine in coffee's adverse long-term effects on health. Therefore, the decrease in coffee consumption must have been caused by consumers' awareness of the harmful effects of caffeine.

Which of the following, if true, most seriously calls into question the explanation above?

(A) On average, people consume 30 percent less coffee today than they did 10 years ago.

(B) Heavy coffee drinkers may have mild withdrawal symptoms, such as headaches, for a day or so after significantly decreasing their coffee consumption.

(C) Sales of specialty types of coffee have held steady as sales of regular brands have declined.

(D) The consumption of fruit juices and caffeine-free herbal teas has increased over the past decade.

(E) Coffee prices increased steadily in the past decade because of unusually severe frosts in coffee-growing nations.

Argument Evaluation

Situation The decrease in coffee consumption in the last decade can be explained by consumers' increased awareness of the detrimental effects of the caffeine in coffee.

Reasoning *What point weakens this explanation?* A conclusion may be weakened when another explanation at least as compelling as the original is offered. Coffee consumption may have decreased over the decade for some reason other than consumers' awareness of the adverse health effects of caffeine. If the price of coffee has increased in the same period that consumption has decreased, then the decrease may well be the result of consumers' attention to price rather than their attention to health. Higher prices would offer a good alternative explanation that would weaken the original explanation.

A This point supports the explanation.

B Withdrawal symptoms would occur only after decreased consumption has occurred.

C This point about differing types of coffee does not weaken the explanation.

D This point could support the explanation if it were the proven result of a switch by former coffee drinkers; it does not weaken the explanation in any event.

E **Correct.** This statement properly identifies an alternative rationale and undermines the given explanation.

The correct answer is E.

45. Fewer families lose their houses because of major disasters such as fire or flood than because of a wage earner's illness that results in death or disability. Yet, whereas most mortgage companies require borrowers to carry insurance to protect against major disasters, they do not require insurance to protect against the death or disability of a wage earner.

Which of the following, if true, would contribute most to an explanation of the difference in insurance requirements?

(A) Some people are less aware of tragedies caused by major disasters than of those caused by the death or disability of a wage earner.

(B) Many people are made uncomfortable by having to consider the possibility of their own death or disability or that of a family member.

(C) Few wage earners are insured by their employers against a temporary loss of income resulting from disability.

(D) The value of a property to a mortgage company is not affected by the death or disability of a wage earner.

(E) Insuring against major disasters can be more costly than insuring against death or disability.

Argument Evaluation

Situation Most mortgage companies require borrowers to carry insurance to protect their homes against major disasters, though not against the death or disability of a wage earner; however, more families lose their homes because of the death or disability of a wage earner than because of a major disaster.

Reasoning *Why do mortgage companies not require homeowners to carry insurance to protect against losing their homes due to lost income?* Consider what is being insured and by whom. The mortgage companies protect their investment in the collateral property when they require homeowners to carry insurance against major disasters. Their investment is not in the people who live in the house, but in the property. Mortgage companies do not require insurance protecting against the death and disability of wage earners because the value of the property is not affected by the death or disability of the people who live there.

A Some people's awareness of tragedies is not relevant to the policies of mortgage companies.

B The uncomfortable feelings many people have about death and disability do not influence of the policies of mortgage companies.

C The lack of disability insurance supplied by employers does not affect the policies of mortgage companies.

D Correct. This statement properly identifies the factor that explains the difference in insurance requirements: mortgage companies invest in property, not people, and a wage earner's loss of income does not affect the value of the property.

E The greater cost of insuring against major disasters does not affect the policies of mortgage companies.

The correct answer is D.

46. Which of the following best completes the passage below?

When the products of several competing suppliers are perceived by consumers to be essentially the same, classical economics predicts that price competition will reduce prices to the same minimal levels and all suppliers' profits to the same minimal levels. Therefore, if classical economics is true, and given suppliers' desire to make as much profit as possible, it should be expected that _____.

(A) in a crowded market widely differing prices will be charged for products that are essentially the same as each other

(B) as a market becomes less crowded as suppliers leave, the profits of the remaining suppliers will tend to decrease

(C) each supplier in a crowded market will try to convince consumers that its product differs significantly from its competitors' products

(D) when consumers are unable to distinguish among the products in a crowded market, consumers will judge that the higher-priced products are of higher quality

(E) suppliers in crowded markets will have more incentive to reduce prices and thus increase sales than to introduce innovations that would distinguish their product from their competitors' products

Argument Construction

Situation Classical economics holds that prices and profits are minimal when consumers perceive the products of competing suppliers to be the same.

Reasoning *According to classical economics, what strategy are suppliers most likely to use to maximize profits in such a situation?* The given information states that the force driving prices and profits down in this case is the consumers' perception that the competing products are *essentially the same*. It is reasonable to assume that, with prices already at *minimal levels*, it is not possible to lower them any more. What can be done? The suppliers' most likely strategy would then be to change the consumers' perception of their products. It can be expected that an individual supplier would try to convince consumers that its product greatly differs from (and is certainly preferable to) the products of its competitors.

A *Prices* will be reduced by competition *to the same minimal levels*; they will not differ widely.

B The passage discusses the conditions of a crowded market, not a market that is becoming less crowded.

C **Correct.** This statement properly suggests that the most likely strategy for any one supplier in a crowded market is convincing consumers that its product is very different from those of its competitors.

D Since *prices* will be reduced to *the same minimal levels*, it would be difficult, if not impossible, to distinguish between higher- and lower-priced products.

E Since *prices* will be reduced to *the same minimal levels*, it would be impossible to reduce them even more.

The correct answer is C.

47. Installing scrubbers in smokestacks and switching to cleaner-burning fuel are the two methods available to Northern Power for reducing harmful emissions from its plants. Scrubbers will reduce harmful emissions more than cleaner-burning fuels will. Therefore, by installing scrubbers, Northern Power will be doing the most that can be done to reduce harmful emissions from its plants.

Which of the following is an assumption on which the argument depends?

(A) Switching to cleaner-burning fuel will not be more expensive than installing scrubbers.

(B) Northern Power can choose from among various kinds of scrubbers, some of which are more effective than others.

(C) Northern Power is not necessarily committed to reducing harmful emissions from its plants.

(D) Harmful emissions from Northern Power's plants cannot be reduced more by using both methods together than by the installation of scrubbers alone.

(E) Aside from harmful emissions from the smokestacks of its plants, the activities of Northern Power do not cause significant air pollution.

Argument Construction

Situation A power plant can reduce emissions by installing scrubbers and by switching to cleaner-burning fuel; installing scrubbers reduces emissions more than switching fuels. By installing scrubbers, the company is doing the most that it can do.

Reasoning *What assumption is this argument based on?* The assumption must come from what is stated in the argument; it cannot be about material not discussed in the argument at all. Here, the conclusion that the company is doing the most that it can do is based on choosing between the two options rather than choosing both options together. This argument assumes, then, that installing the scrubbers alone is just as effective as both installing scrubbers *and* switching to cleaner-burning fuel.

A Since cost is not discussed in the argument, this statement cannot be assumed.

B Different kinds of scrubbers are not mentioned, so this point may not be assumed.

C Nothing in the argument reflects the company's lack of commitment.

D Correct. This statement properly identifies the argument's necessary assumption.

E The company's other activities are not a part of the argument.

The correct answer is D.

48. Some anthropologists study modern-day societies of foragers in an effort to learn about our ancient ancestors who were also foragers. A flaw in this strategy is that forager societies are extremely varied. Indeed, any forager society with which anthropologists are familiar has had considerable contact with modern, non-forager societies.

Which of the following, if true, would most weaken the criticism made above of the anthropologists' strategy?

(A) All forager societies throughout history have had a number of important features in common that are absent from other types of societies.

(B) Most ancient forager societies either dissolved or made a transition to another way of life.

(C) All anthropologists study one kind or another of modern-day society.

(D) Many anthropologists who study modern-day forager societies do not draw inferences about ancient societies on the basis of their studies.

(E) Even those modern-day forager societies that have not had significant contact with modern societies are importantly different from ancient forager societies.

Argument Evaluation

Situation Studying contemporary foraging societies in order to understand ancient foragers is flawed because forager societies are so widely varied and also because the contemporary foragers have had so much contact with modern societies.

Reasoning *Which point weakens this argument?* The argument rejects the comparison of modern-day foraging societies to ancient ones because of the variety of existing forager societies and because the modern-day foragers have been in contact with other modern cultures. What situation would support making this comparison? What if modern-day foragers remain similar to ancient foragers because of non-changing features of foraging societies throughout history? If these are features that are not shared with other cultures, then the argument that anthropologists cannot learn about ancient foragers by studying their modern counterparts is weakened.

A **Correct.** This statement properly identifies the factor that weakens the argument: a comparison could well be a valuable source of understanding if all foraging societies are shown to share common features not found in other societies.

B This point is irrelevant to the comparison and thus does not weaken the argument.

C This point does not address the issue of comparing a modern society to an ancient one.

D That some anthropologists do not compare ancient and modern societies does not weaken the argument that such comparisons should not be made.

E This point strengthens, rather than weakens, the argument.

The correct answer is A.

49. Contrary to earlier predictions, demand for sugarcane has not increased in recent years. Yet, even though prices and production amounts have also been stable during the last three years, sugarcane growers last year increased their profits by more than 10 percent over the previous year's level.

Any of the following statements, if true about last year, helps to explain the rise in profits EXCEPT:

(A) Many countries that are large consumers of sugarcane increased their production of sugarcane-based ethanol, yet their overall consumption of sugarcane decreased.

(B) Sugarcane growers have saved money on wages by switching from paying laborers an hourly wage to paying them by the amount harvested.

(C) The price of oil, the major energy source used by sugarcane growers in harvesting their crops, dropped by more than 20 percent.

(D) Many small sugarcane growers joined together to form an association of sugarcane producers and began to buy supplies at low group rates.

(E) Rainfall in sugarcane-growing regions was higher than it had been during the previous year, allowing the growers to save money on expensive artificial irrigation.

Argument Construction

Situation Even though demand for sugarcane has not increased, and although prices and production amounts have been stable, sugarcane growers experienced a 10 percent rise in profits last year.

Reasoning *Which piece of information does NOT help explain the rise in profits?* All the answer choices will show a reason that profits rose except one. Consider each one to determine which situation would NOT be likely to contribute to increased profits. Any changes that lowered costs for the sugarcane growers WOULD be able to contribute to a rise in their profits. On the other hand, if it is true that many historically large consumers of sugarcane reduced their overall consumption last year, then the lower demand for sugarcane would be unlikely to drive increases in profits. Such a decrease in total consumption would be more likely to drive prices and profits down than up.

A **Correct.** This statement properly identifies a factor that does not explain a rise in profits.

B Saving money on wages would contribute to a rise in profits.

C Saving money on oil would contribute to a rise in profits.

D Saving money on supplies bought at a lower rate would contribute to a rise in profits.

E Saving money on irrigation would contribute to a rise in profits.

The correct answer is A.

50. If the county continues to collect residential trash at current levels, landfills will soon be overflowing and parkland will need to be used in order to create more space. Charging each household a fee for each pound of trash it puts out for collection will induce residents to reduce the amount of trash they create; this charge will therefore protect the remaining county parkland.

Which of the following is an assumption made in drawing the conclusion above?

(A) Residents will reduce the amount of trash they put out for collection by reducing the number of products they buy.

(B) The collection fee will not significantly affect the purchasing power of most residents, even if their households do not reduce the amount of trash they put out.

(C) The collection fee will not induce residents to dump their trash in the parklands illegally.

(D) The beauty of county parkland is an important issue for most of the county's residents.

(E) Landfills outside the county's borders could be used as dumping sites for the county's trash.

Argument Construction

Situation Landfills will overflow and parkland will have to be used instead if current trash collection levels continue. Charging fees per pound of trash collected will inhibit trash growth and protect parkland.

Reasoning *What assumption underlies the conclusion?* The assumption that underlies an argument is always about the specific subjects discussed in the argument; it cannot be about extraneous material. Here, the assumption is about the plan, the parkland, and the fee, all mentioned in the argument. To reach the conclusion that the plan will protect the parkland, the argument must assume that county residents will comply with the new fee, reducing both the trash they generate and the need to convert parkland to landfills. It is assumed that residents will not resort to some illegal means of avoiding the new fee, and it is certainly assumed that they will not contribute to the destruction of parklands by dumping trash in them illegally.

A No mention is made of a change in buying habits in the argument.

B The relation of the fee to residents' purchasing power is not discussed.

C **Correct.** This statement properly identifies the fact that the argument rests on the assumption that the fee will not create illegal dumping.

D The beauty of the parkland and its importance to residents are not discussed.

E Landfills outside the county are not discussed.

The correct answer is C.

51. Biometric access-control systems—those using fingerprints, voiceprints, and so forth, to regulate admittance to restricted areas—work by degrees of similarity, not by identity. After all, even the same finger will rarely leave exactly identical prints. Such systems can be adjusted to minimize refusals of access to legitimate access-seekers. Such adjustments, however, increase the likelihood of admitting impostors.

Which of the following conclusions is most strongly supported by the information above?

(A) If a biometric access-control system were made to work by identity, it would not produce any correct admittance decisions.

(B) If a biometric access-control system reliably prevents impostors from being admitted, it will sometimes turn away legitimate access-seekers.

(C) Biometric access-control systems are appropriate only in situations in which admittance of impostors is less of a problem than is mistaken refusal of access.

(D) No biometric access-control systems—based, for example, on numerical codes—are less likely than biometric ones to admit impostors.

(E) Anyone choosing an access-control system should base the choice solely on the ratio of false refusals to false admittances.

Argument Construction

Situation Biometric access-control systems work by degrees of similarity, not by identity. Adjusting the system to minimize refusals of access to legitimate access-seekers increases the likelihood that impostors will gain access.

Reasoning *What conclusion do these statements support?* A conclusion may be drawn only from what is stated or implied. Here, a conclusion may be drawn by stating the inverse of what has previously been said: just as impostors will gain access if the system is adjusted to lessen the chance of refusal to legitimate access-seekers, so legitimate access-seeker will occasionally be denied access if the system is adjusted to keep out impostors.

A Not enough evidence is given about identity recognition to reach such a conclusion.

B **Correct.** This statement is the inverse of a given statement and so properly identifies a reasonable conclusion.

C The statements do not discuss the appropriate situations for the systems.

D No comparison is made, so no comparative conclusion may be drawn.

E The statements do not indicate the basis on which to choose the system.

The correct answer is B.

52. Although computers can enhance people's ability to communicate, computer games are a cause of underdeveloped communication skills in children. After-school hours spent playing computer games are hours not spent talking with people. Therefore, children who spend all their spare time playing these games have less experience in interpersonal communication than other children have.

The argument depends on which of the following assumptions?

(A) Passive activities such as watching television and listening to music do not hinder the development of communication skills in children.

(B) Most children have other opportunities, in addition to after-school hours, in which they can choose whether to play computer games or to interact with other people.

(C) Children who do not spend all their after-school hours playing computer games spend at least some of that time talking with other people.

(D) Formal instruction contributes little or nothing to children's acquisition of communication skills.

(E) The mental skills developed through playing computer games do not contribute significantly to children's intellectual development.

Argument Construction

Situation Spending after-school hours playing computer games does not enhance communication skills because children are not talking with other people during this time. Children who spend all their spare time playing computer games do not have as much interpersonal communication as other children do.

Reasoning *What assumption does this argument depend on?* The unstated assumption in an argument must be about the subjects discussed in the argument; it cannot be about a subject that is not mentioned. Here, playing computer games is said to replace talking with people. Thus the argument assumes that children who do not spend all their spare time playing computer games instead spend at least some of that time talking with people.

A Other activities, such as watching television, are not discussed in the argument.

B The argument is limited to after-school hours or spare time.

C **Correct.** This statement properly identifies the assumption on which the argument is based.

D Formal instruction is not discussed in the argument.

E Only the underdevelopment of communication skills is blamed on the games.

The correct answer is C.

53. One variety of partially biodegradable plastic beverage container is manufactured from small bits of plastic bound together by a degradable bonding agent such as cornstarch. Since only the bonding agent degrades, leaving the small bits of plastic, no less plastic refuse per container is produced when such containers are discarded than when comparable nonbiodegradable containers are discarded.

Which of the following, if true, most strengthens the argument above?

(A) Both partially biodegradable and nonbiodegradable plastic beverage containers can be crushed completely flat by refuse compactors.

(B) The partially biodegradable plastic beverage containers are made with more plastic than comparable non-biodegradable ones in order to compensate for the weakening effect of the bonding agents.

(C) Many consumers are ecology-minded and prefer to buy a product sold in partially biodegradable plastic beverage containers rather than in nonbiodegradable containers, even if the price is higher.

(D) The manufacturing process for partially biodegradable plastic beverage containers results in less plastic waste than the manufacturing process for nonbiodegradable plastic beverage containers.

(E) Technological problems with recycling currently prevent the reuse as food or beverage containers of the plastic from either type of plastic beverage container.

Argument Evaluation

Situation One kind of partially biodegradable beverage container produces as much plastic refuse per container as a nonbiodegradable container does because only the bonding agent, not the plastic, degrades once the container is discarded.

Reasoning *Which point strengthens the argument?* The information that strengthens the argument will be about the subjects of the argument, not about tangential issues. In this case, discovering that the partially biodegradable containers actually use more plastic than comparable non-biodegradable ones in order to compensate for the weakness of the biodegradable bonding agent would strengthen the argument.

A The container's ability to be crushed flat is irrelevant to the argument.

B Correct. This statement properly identifies a point that strengthens the argument by saying that the container actually produces more plastic refuse.

C Consumers' preferences are not relevant to the argument about residual plastic.

D The argument is not concerned with waste from manufacturing processes, but only with the product itself.

E The reuse of the containers is not a part of the argument.

The correct answer is B.

54. Most employees in the computer industry move from company to company, changing jobs several times in their careers. However, Summit Computers is known throughout the industry for retaining its employees. Summit credits its success in retaining employees to its informal, nonhierarchical work environment.

Which of the following, if true, most strongly supports Summit's explanation of its success in retaining employees?

(A) Some people employed in the computer industry change jobs if they become bored with their current projects.

(B) A hierarchical work environment hinders the cooperative exchange of ideas that computer industry employees consider necessary for their work.

(C) Many of Summit's senior employees had previously worked at only one other computer company.

(D) In a non-hierarchical work environment, people avoid behavior that might threaten group harmony and thus avoid discussing with their colleagues any dissatisfaction they might have with their jobs.

(E) The cost of living near Summit is relatively low compared to areas in which some other computer companies are located.

Argument Evaluation

Situation A computer company attributes its success in retaining employees to its informal, non-hierarchical work environment.

Reasoning *Which point strengthens the company's argument?* The company says that employees stay at the company for one reason: its work environment. The argument can therefore be strengthened only by a point that relates to the specific work environment. If employees feel that a more formal, hierarchical structure would interfere with their ability to do their jobs, the argument is strengthened.

A This point is irrelevant since it does not concern the structure of the work environment.

B **Correct.** This statement properly identifies a point that strengthens the company's argument, relating the work environment to job satisfaction and therefore to employees' remaining at the company.

C The previous work experience of senior employees is irrelevant.

D While this point shows how the work environment might affect employee behavior on the job, it does not show how it would affect whether employees remain at the company.

E This point presents an alternate explanation—employees stay due to low cost of living—and so tends to weaken the company's argument.

The correct answer is B.

55. Low-income families are often unable to afford as much child care as they need. One government program would award low-income families a refund on the income taxes they pay of as much as $1,000 for each child under age four. This program would make it possible for all low-income families with children under age four to obtain more child care than they otherwise would have been able to afford.

Which of the following, if true, most seriously calls into question the claim that the program would make it possible for all low-income families to obtain more child care?

(A) The average family with children under age four spends more than $1,000 a year on child care.

(B) Some low-income families in which one of the parents is usually available to care for children under age four may not want to spend their income tax refund on child care.

(C) The reduction in government revenues stemming from the income tax refund will necessitate cuts in other government programs, such as grants for higher education.

(D) Many low-income families with children under age four do not pay any income taxes because their total income is too low to be subject to such taxes.

(E) Income taxes have increased substantially over the past 20 years, reducing the money that low-income families have available to spend on child care.

Evaluation of a Plan

Situation To help low-income families pay for child care, a government project would provide these families with tax refunds for each young child. The claim is made that the program will allow all low-income families to obtain more child care.

Reasoning *What point undermines the claim?* The claim is that *all* low-income families would receive money to buy more care; the money would be in the form of income tax refunds. The program thus assumes that issuing refunds through the income tax system is an effective mechanism for providing funding to all these families. Does the income tax system indeed provide a satisfactory distribution channel? What if some low-income families have such low incomes that they do not pay income taxes? If they don't pay such taxes, then they cannot receive tax refunds, and the planned process for delivering funding will be unsuccessful.

A The amount that families spend is irrelevant to the claim that they would have more money to buy care.

B Although the money is to be in the form of a refund that could be spent however the family wished, it is the availability of additional money that is the point of the claim.

C The effect of the refund program on other programs is irrelevant to the claim.

D Correct. This statement properly identifies a situation that undermines the program's claim.

E If an increased tax burden has left less money for child care, the need for the program is great; this does not undermine the claim.

The correct answer is D.

56. Social scientists are underrepresented on the advisory councils of the National Institutes of Health (NIH). Since these councils advise NIH directors and recommend policy, the underrepresentation of social scientists results in a relative lack of NIH financial support for research in the social sciences.

If the statements above are correct, they most strongly support which of the following?

(A) A significant increase in the size of NIH advisory councils would be required in order to increase the representation of social scientists on these councils.

(B) A significant increase in the representation of social scientists on NIH advisory councils would result in an increase in NIH funding for social science research.

(C) A significant increase in funding for social science research would result in improved policy recommendations to NIH directors.

(D) A significant increase in funding for the training of social scientists would result in an increase in the number of social scientists on NIH advisory councils.

(E) A significant increase in the representation of social scientists on NIH advisory councils would have to precede any increase in the number of NIH directors who are social scientists.

Argument Construction

Situation There are few social scientists on NIH advisory councils, so there is little NIH financial support for social-science research.

Reasoning *What conclusion can be drawn from these statements?* If the relative lack of social scientists on NIH advisory panels leads to relative lack of funding for social science research, then increasing the representation should increase the funding.

A It does not follow from the given information that the advisory councils would have to be significantly enlarged to increase the representation.

B **Correct.** This statement properly identifies a conclusion that can reasonably be drawn from the given information: since lack of representation leads to lack of money, more representation should lead to more money.

C Since the given statements do not discuss the quality of policy recommendations, no conclusion on this point can be drawn.

D The discussion concerns funds for research, not for training, so this conclusion cannot be drawn.

E Since the statements do not discuss how people become NIH directors, this conclusion is not justified.

The correct answer is B.

57. Among the more effective kinds of publicity that publishers can get for a new book is to have excerpts of it published in a high-circulation magazine soon before the book is published. The benefits of such excerption include not only a sure increase in sales but also a fee paid by the magazine to the book's publisher.

Which of the following conclusions is best supported by the information above?

(A) The number of people for whom seeing an excerpt of a book in a magazine provides an adequate substitute for reading the whole book is smaller than the number for whom the excerpt stimulates a desire to read the book.

(B) Because the financial advantage of excerpting a new book in a magazine usually accrues to the book's publisher, magazine editors are unwilling to publish excerpts from new books.

(C) In calculating the total number of copies that a book has sold, publishers include sales of copies of magazines that featured an excerpt of the book.

(D) The effectiveness of having excerpts of a book published in a magazine, measured in terms of increased sales of a book, is proportional to the circulation of the magazine in which the excerpts are published.

(E) Books that are suitable for excerpting in high-circulation magazines sell more copies than books that are not suitable for excerpting.

Argument Construction

Situation Having an excerpt from a new book published in a high-circulation magazine leads to increased book sales; the magazine also pays a fee to the book's publisher.

Reasoning *What conclusion does this information support?* A conclusion must be based only on the information provided. Since the given information discusses the effect of excerpting on the sale of books, the conclusion should be about book sales. One reasonable conclusion is that reading an excerpt prompts an increased number of people to buy a book instead of merely reading the excerpt.

A **Correct.** This statement properly identifies the conclusion best supported by the given information; if excerpting leads to more book sales, then more people must decide to buy the book than decide to read only the excerpt.

B This conclusion contradicts a statement in the argument; magazine editors do buy excerpts, so this conclusion is not justified.

C Information about how publishers calculate sales is not part of the information provided, so this conclusion is not justified.

D The argument is limited to high-circulation magazines, so a conclusion related to circulation in general is unwarranted.

E The argument is only concerned with books that are suitable for excerpting, so there is no basis for this conclusion.

The correct answer is A.

58. Insurance Company X is considering issuing a new policy to cover services required by elderly people who suffer from diseases that afflict the elderly. Premiums for the policy must be low enough to attract customers. Therefore, Company X is concerned that the income from the policies would not be sufficient to pay for the claims that would be made.

Which of the following strategies would be most likely to minimize Company X's losses on the policies?

(A) Attracting middle-aged customers unlikely to submit claims for benefits for many years

(B) Insuring only those individuals who did not suffer any serious diseases as children

(C) Including a greater number of services in the policy than are included in other policies of lower cost

(D) Insuring only those individuals who were rejected by other companies for similar policies

(E) Insuring only those individuals who are wealthy enough to pay for the medical services

Evaluation of a Plan

Situation An insurance company considers an affordable policy for the elderly but the company's income from the policies must exceed expenditures on claims.

Reasoning *What strategy will minimize the company's losses?* The insurance company's proposed plan would include a high-risk group, the elderly, who are likely to submit claims immediately. By expanding the customer base to include those who are less likely to submit claims for many years, the company will increase its income and thus minimize its losses.

A **Correct.** This statement properly identifies a strategy that minimizes policy losses.

B No connection is made between childhood diseases and geriatric diseases, so this point is irrelevant.

C Offering more services would tend to increase costs, and thus losses.

D Individuals rejected by other companies are more likely to make claims that would increase losses.

E Wealthy people would only buy insurance if they planned to make claims; this point is irrelevant.

The correct answer is A.

59. To prevent some conflicts of interest, Congress could prohibit high-level government officials from accepting positions as lobbyists for three years after such officials leave government service. One such official concluded, however, that such a prohibition would be unfortunate because it would prevent high-level government officials from earning a livelihood for three years.

The official's conclusion logically depends on which of the following assumptions?

(A) Laws should not restrict the behavior of former government officials.

(B) Lobbyists are typically people who have previously been high-level government officials.

(C) Low-level government officials do not often become lobbyists when they leave government service.

(D) High-level government officials who leave government service are capable of earning a livelihood only as lobbyists.

(E) High-level government officials who leave government service are currently permitted to act as lobbyists for only three years.

Argument Construction

Situation Congress might make former officials wait three years before working as lobbyists. An official argues that this rule would keep these people from working.

Reasoning *What assumption must be true for this argument to hold together?* The argument is logical only if it is assumed that the sole possible job opportunity for the ex-officials is lobbying.

A This broad assumption is not needed.

B This statement may be true, but it is not needed as an assumption.

C Low-level officials are irrelevant to the argument.

D **Correct.** This statement properly identifies the argument's necessary assumption.

E The current situation is not relevant to the argument.

The correct answer is D.

Questions 60–61 are based on the following:

The fewer restrictions there are on the advertising of legal services, the more lawyers there are who advertise their services, and the lawyers who advertise a specific service usually charge less for that service than the lawyers who do not advertise. Therefore, if the state removes any of its current restrictions, such as the one against advertisements that do not specify fee arrangements, overall consumer legal costs will be lower than if the state retains its current restrictions.

60. If the statements above are true, which of the following must be true?

(A) Some lawyers who now advertise will charge more for specific services if they do not have to specify fee arrangements in the advertisements.

(B) More consumers will use legal services if there are fewer restrictions on the advertising of legal services.

(C) If the restriction against advertisements that do not specify fee arrangements is removed, more lawyers will advertise their services.

(D) If more lawyers advertise lower prices for specific services, some lawyers who do not advertise will also charge less than they currently charge for those services.

(E) If the only restrictions on the advertising of legal services were those that apply to every type of advertising, most lawyers would advertise their services.

Argument Construction

Situation Consumer legal costs will be reduced if the state removes even one restriction on lawyers' advertisements because the fewer the restrictions, the greater the number of lawyers who advertise, and lawyers who advertise charge less than lawyers who do not advertise.

Reasoning *What conclusion can logically be drawn?* The argument sets up an inverse proportion: the fewer the number of restrictions on ads, the greater the number of lawyers who advertise. This is true of all restrictions and all lawyers. Therefore, removing any one restriction necessarily increases the number of lawyers who advertise.

A The lawyers may charge more, but it is equally possible that no lawyer will charge more.

B No evidence in the passage supports an increased use of legal services.

C **Correct.** This statement properly identifies the conclusion that logically follows, because reducing any restriction will increase the number of lawyers who advertise.

D Lawyers who continue not to advertise are not compelled to lower their fees.

E The argument concerns numbers of advertisers rather than types; it remains possible that few lawyers would advertise.

The correct answer is C.

61. Which of the following, if true, would most seriously weaken the argument concerning overall consumer legal costs?

(A) The state has recently removed some other restrictions that had limited the advertising of legal services.

(B) The state is unlikely to remove all the restrictions that apply solely to the advertising of legal services.

(C) Lawyers who do not advertise generally provide legal services of the same quality as those provided by lawyers who do advertise.

(D) Most lawyers who now specify fee arrangements in their advertisements would continue to do so even if the specification were not required.

(E) Most lawyers who advertise specific services do not lower their fees for those services when they begin to advertise.

Argument Evaluation

Situation Consumer legal costs will be reduced if the state removes even one restriction on lawyers' advertisements because the fewer the restrictions, the greater the number of lawyers who advertise, and lawyers who advertise charge less than lawyers who do not advertise. (The same as the previous item.)

Reasoning *What point weakens the conclusion about lower consumer costs?* The conclusion relies upon the supposition that lawyers who currently advertise charge the consumer less than other lawyers for the same legal services. What if this does not continue to hold true? If more lawyers begin to advertise, they may not charge any less for their services than they did previously, and they are, given the supposition, likely to be more expensive than those who currently advertise. In this case, increasing the number of lawyers who advertise would not lower overall consumer legal costs.

A The removal of other restrictions does not affect consumer legal costs.

B The argument is about lowering consumer costs through increasing the number of lawyers who advertise, not about the likelihood of the state's removing restrictions on such advertising.

C The quality of the legal services is irrelevant to the cost of these services.

D The content of the ad is irrelevant.

E **Correct.** This statement properly identifies a point that weakens the conclusion that less-restricted advertising will result in lower costs. While it may be true that more lawyers will advertise if there are fewer restrictions, the cost paid by consumers will not decrease if most of the newly advertising lawyers do not charge lower fees.

The correct answer is E.

62. During the Second World War, about 375,000 civilians died in the United States and about 408,000 members of the United States armed forces died overseas. On the basis of those figures, it can be concluded that it was not much more dangerous to be overseas in the armed forces during the Second World War than it was to stay at home as a civilian.

Which of the following would reveal most clearly the absurdity of the conclusion drawn above?

(A) Counting deaths among members of the armed forces who served in the United States in addition to deaths among members of the armed forces serving overseas

(B) Expressing the difference between the numbers of deaths among civilians and members of the armed forces as a percentage of the total number of deaths

(C) Separating deaths caused by accidents during service in the armed forces from deaths caused by combat injuries

(D) Comparing death rates per thousand members of each group rather than comparing total numbers of deaths

(E) Comparing deaths caused by accidents in the United States to deaths caused by combat in the armed forces

Argument Evaluation

Situation The relatively small difference in the number of deaths at home and overseas during the war years shows that it was only slightly more dangerous to be a member of the armed forces overseas than a civilian at home.

Reasoning *What point casts the most serious doubt on the conclusion?* This comparison of two different populations treats them as though they are essentially the same, so consider what dissimilarity between the populations might account for the similarity in the number of deaths. One population, the members of the armed forces stationed abroad, is much smaller than the other population, the civilians in the United States. A similar number of total deaths in a far smaller population actually reveals just how dangerous it was to be in the armed forces overseas. Moreover, the military draws its members from a young and fit population while the general American population includes people of all ages and health conditions. Using the death rate per thousand for each population allows for a more accurate comparison; this comparison will show the significantly higher rate for the smaller population.

A Including the members of the military who died in the United States together with those who died overseas increases only slightly the smaller population being compared. The two populations are still enormously different in size.

B Expressing the difference as a percentage of the total number of deaths is beside the point; what matters is the difference in the size of the populations.

C Separating the kinds of deaths within the smaller population does not affect the comparison between two different populations.

D **Correct.** This statement correctly identifies the point that gravely weakens the conclusion.

E Comparing kinds of deaths in the two populations does not lead to a conclusion comparing the numbers of deaths in those populations.

The correct answer is D.

63. Even though most universities retain the royalties from faculty members' inventions, the faculty members retain the royalties from books and articles they write. Therefore, faculty members should retain the royalties from the educational computer software they develop.

The conclusion above would be more reasonably drawn if which of the following were inserted into the argument as an additional premise?

(A) Royalties from inventions are higher than royalties from educational software programs.

(B) Faculty members are more likely to produce educational software programs than inventions.

(C) Inventions bring more prestige to universities than do books and articles.

(D) In the experience of most universities, educational software programs are more marketable than are books and articles.

(E) In terms of the criteria used to award royalties, educational software programs are more nearly comparable to books and articles than to inventions.

Argument Construction

Situation Faculty members get the royalties from their books, but universities get the royalties from faculty inventions. Faculty members should get the royalties from their educational computer software.

Reasoning *What premise should be added to the argument?* This argument needs to state as a premise its underlying assumption regarding the nature of computer programs. If they are like inventions, then universities should retain the royalties. If they are like books and articles, then faculty members should retain the royalties. The conclusion states that faculty members should receive royalties for educational software without stating that software is comparable to books. The missing premise must show the relationship between educational software and either inventions or books and articles.

A The amount of the royalties is not at issue.

B The number of computer programs produced by faculty members is not relevant.

C The prestige of inventions is irrelevant.

D The marketability of educational software is not being compared.

E **Correct.** This statement properly identifies a premise that establishes the relationship required to complete the argument.

The correct answer is E.

64. Red blood cells in which the malarial-fever parasite resides are eliminated from a person's body after 120 days. Because the parasite cannot travel to a new generation of red blood cells, any fever that develops in a person more than 120 days after that person has moved to a malaria-free region is not due to the malarial parasite.

Which of the following, if true, most seriously weakens the conclusion above?

(A) The fever caused by the malarial parasite may resemble the fever caused by flu viruses.

(B) The anopheles mosquito, which is the principal insect carrier of the malarial parasite, has been eradicated in many parts of the world.

(C) Many malarial symptoms other than the fever, which can be suppressed with antimalarial medication, can reappear within 120 days after the medication is discontinued.

(D) In some cases, the parasite that causes malarial fever travels to cells of the spleen, which are less frequently eliminated from a person's body than are red blood cells.

(E) In any region infested with malaria-carrying mosquitoes, there are individuals who appear to be immune to malaria.

Argument Evaluation

Situation The malarial-fever parasite lives in red blood cells, but these cells are eliminated after 120 days. If the infected person moves to a malaria-free region, any new fever that occurs after 120 days cannot be due to the malarial-fever parasite.

Reasoning *What weakens the conclusion?* The passage says that the malarial parasites that reside in red blood cells are eliminated after 120 days. What if malarial parasites can also reside in other places in a person's body? If the parasites can reside in the spleen, from which they are not eliminated as frequently, as well as in red blood cells, they may not be eliminated within 120 days. Therefore, they could cause malarial fever after the 120-day period. In that case, the conclusion ruling out a new generation of malarial parasites as the cause of new fever is unfounded.

A The issue is not about a similarity of symptoms but about where the parasites reside.

B The existence of malaria-free regions is not in question.

C Other malarial symptoms are not discussed; they are irrelevant.

D Correct. This statement properly identifies a point that weakens the conclusion.

E Immunity to malaria is irrelevant to a discussion of the reappearance of the disease.

The correct answer is D.

65. Most consumers do not get much use out of the sports equipment they purchase. For example, 17 percent of the adults in the United States own jogging shoes, but only 45 percent of the owners jog more than once a year, and only 17 percent jog more than once a week.

Which of the following, if true, casts the most doubt on the claim that most consumers get little use out of the sports equipment they purchase?

(A) Joggers are most susceptible to sports injuries during the first six months in which they jog.

(B) In surveys designed to elicit such information, joggers often exaggerate the frequency with which they jog.

(C) Many consumers purchase jogging shoes for use in activities other than jogging.

(D) Consumers who take up jogging often purchase athletic shoes that can be used in other sports.

(E) Joggers who jog more than once a week are often active participants in other sports as well.

Argument Evaluation

Situation To demonstrate that sports equipment gets little use after purchase, the example is given that fewer than half the jogging shoes sold are used for jogging more than once a year.

Reasoning *What point weakens the conclusion?* The conclusion concerns the broad category of "use" while the evidence is related to a specific activity. Jogging shoes are used for jogging, but they may be used for other activities as well. A consumer among the 45 percent of owners jogging only once a year may indeed wear jogging shoes every day, as might the consumer among the 55 percent wearing jogging shoes to jog even less frequently.

A The existence of joggers who are not jogging due to injury only contributes to the original conclusion; it does not cast doubt on it.

B If the frequency of jogging is even less than that cited, the conclusion is strengthened rather than weakened.

C **Correct.** This statement properly identifies a factor that weakens the conclusion that sports equipment purchases get little use.

D These consumers could be among the 45 percent who are conceded by the argument to jog more frequently than once a year.

E The argument concedes that a minority of joggers, the 17 percent who jog more than once a week, do use their jogging shoes regularly.

The correct answer is C.

66. Neither a rising standard of living nor balanced trade, by itself, establishes a country's ability to compete in the international marketplace. Both are required simultaneously since standards of living can rise because of growing trade deficits and trade can be balanced by means of a decline in a country's standard of living.

If the facts stated in the passage above are true, a proper test of a country's ability to be competitive is its ability to _____.

(A) balance its trade while its standard of living rises.

(B) balance its trade while its standard of living falls

(C) increase trade deficits while its standard of living rises.

(D) decrease trade deficits while its standard of living falls

(E) keep its standard of living constant while trade deficits rise

Argument Evaluation

Situation A country's ability to compete in the international marketplace depends on both a rising standard of living and balanced trade.

Reasoning *What must a country do to be considered competitive?* The passage states that there are two conditions that must be met simultaneously. The standard of living must rise, and trade must be balanced. While it is possible for the standard of living to rise when trade is not balanced and for trade to be balanced while the standard of living is falling, neither of these situations allows the country to be considered competitive internationally. The country must both balance trade and have a rising standard of living.

A **Correct.** This statement properly identifies the two requirements the country must meet at the same time.

B One of the two conditions is not met; the standard of living must be rising, not falling.

C One of the two conditions is not met; trade must be balanced.

D Neither of the conditions is met; trade must be balanced, and the standard of living must be rising.

E Neither of the conditions is met; the standard of living must be rising, not constant, and trade must be balanced.

The correct answer is A.

67. A greater number of newspapers are sold in Town S than in Town T. Therefore, the citizens of Town S are better informed about major world events than are the citizens of Town T.

Each of the following, if true, weakens the conclusion above EXCEPT:

(A) Town S has a larger population than Town T.

(B) Most citizens of Town T work in Town S and buy their newspapers there.

(C) The average citizen of Town S spends less time reading newspapers than does the average citizen of Town T.

(D) A weekly newspaper restricted to the coverage of local events is published in Town S.

(E) The average newsstand price of newspapers sold in Town S is lower than the average price of newspapers sold in Town T.

Argument Evaluation

Situation Because more newspapers are sold in Town S than Town T, the citizens of Town S are assumed to be better informed about major world events than the citizens of Town T.

Reasoning *Which statement does NOT weaken the conclusion?* The conclusion is clearly faulty; the degree to which citizens are informed, a qualitative measure, cannot be based merely on the number of newspapers sold locally. All the statements will necessarily expose the weakness of this faulty conclusion, with the exception of one that does NOT. While the lower price of newspapers in Town S may explain why more newspapers are sold there, this fact does not weaken the conclusion that the citizens of Town S are better informed simply because more newspapers are sold there.

A If the population of Town S is larger, the percentage of newspaper buyers in Town S may be no greater than in Town T, and the conclusion is weakened.

B If most citizens of Town T buy their newspapers in Town S, Town S may misleadingly show evidence of an apparently higher per-resident rate of newspaper sales. Since the higher sales in Town S can be attributed to purchases by nonresidents, the conclusion about the citizens of Town S is weakened.

C The amount of time spent reading the newspaper is relevant to being well informed. If Town S's citizens spend less time reading the newspaper than Town T's citizens, then they are likely to be less well informed, and the conclusion is weakened.

D If the citizens of Town S are buying and reading newspapers about local events, rather than world events, they may be less informed about world events than citizens in Town T, and the conclusion is weakened.

E **Correct.** This statement properly identifies a statement that does NOT weaken the conclusion.

The correct answer is E.

68. When hypnotized subjects are told that they are deaf and are then asked whether they can hear the hypnotist, they reply, "No." Some theorists try to explain this result by arguing that the selves of hypnotized subjects are dissociated into separate parts, and that the part that is deaf is dissociated from the part that replies.

Which of the following challenges indicates the most serious weakness in the attempted explanation described above?

(A) Why does the part that replies not answer, "Yes"?

(B) Why are the observed facts in need of any special explanation?

(C) Why do the subjects appear to accept the hypnotist's suggestion that they are deaf?

(D) Why do hypnotized subjects all respond the same way in the situation described?

(E) Why are the separate parts of the self the same for all subjects?

Argument Evaluation

Situation People under hypnosis are told they are deaf. When asked by the hypnotist whether they can hear, they hear the question and respond, "No." A theory explains this puzzling result by stating that the hypnotized subjects dissociate the part of themselves that is deaf from the part that replies to the question.

Reasoning *Which question points to a weakness in the theory?* According to the theory, hypnotized people dissociate themselves into separate parts: the hearing part and the deaf part. Then, they must be using the hearing part of themselves when they respond to the hypnotist's question; obviously, if they were using the deaf part of themselves at that point, they would not hear or thus respond at all. So, if they are using the hearing part of themselves, as the theorists maintain, why would they respond, "No," to the question, "Can you hear me?" The hearing part would more logically answer, "Yes."

A **Correct.** This statement properly identifies a challenge that demonstrates the weakness in the theory.

B This question does not address the weakness in the explanation; instead it asks why there needs to be an explanation at all.

C The fact that the subjects accept the hypnotic suggestion that they are deaf is assumed as part of the argument.

D The theorists do not attempt to explain why all subjects behave similarly, so this question is irrelevant to pinpointing the weakness of the theorists' explanation.

E The theorists' explanation does not address why the parts of the self are the same for all subjects, so this question does not get to the center—and the weakness—of their argument.

The correct answer is A.

69. Excavation of the ancient city of Kourion on the island of Cyprus revealed a pattern of debris and collapsed buildings typical of towns devastated by earthquakes. Archaeologists have hypothesized that the destruction was due to a major earthquake known to have occurred near the island in AD 365.

Which of the following, if true, most strongly supports the archaeologists' hypothesis?

(A) Bronze ceremonial drinking vessels that are often found in graves dating from years preceding and following AD 365 were also found in several graves near Kourion.

(B) No coins minted after AD 365 were found in Kourion, but coins minted before that year were found in abundance.

(C) Most modern histories of Cyprus mention that an earthquake occurred near the island in AD 365.

(D) Several small statues carved in styles current in Cyprus in the century between AD 300 and 400 were found in Kourion.

(E) Stone inscriptions in a form of the Greek alphabet that was definitely used in Cyprus after AD 365 were found in Kourion.

Argument Evaluation

Situation The excavation of Kourion reveals a pattern of destruction typical in towns destroyed by earthquakes. Archaeologists suggest Kourion was destroyed when an earthquake hit nearby in AD 365.

Reasoning *Which statement best supports the archaeologists' hypothesis?* An earthquake struck near Cyprus in AD 365; this fact is not disputed. If this earthquake is the one responsible for the devastation of Kourion, then there should be evidence of active occupation before AD 365, but no evidence of activity after that date. The dates on the coins found on the site suggest that life in Kourion was flourishing before AD 365; the total lack of coins after the year of the earthquake supports the idea that the city had been destroyed.

A The existence of vessels made both before and after AD 365 suggests that Kourion was not destroyed by the earthquake.

B **Correct.** This statement properly identifies evidence that supports the archaeologists' hypothesis.

C The occurrence of the earthquake is not in question; this statement simply confirms a fact already assumed in the argument.

D The existence of statues carved in styles current after the date of the earthquake (AD 365–AD 400) argues against the town's destruction in AD 365.

E The existence of inscriptions using an alphabet common only after the earthquake argues against the theory that the earthquake destroyed Kourion.

The correct answer is B.

Questions 70–71 are based on the following:

To protect certain fledgling industries, the government of Country Z banned imports of the types of products those industries were starting to make. As a direct result, the cost of those products to the buyers, several export-dependent industries in Z, went up, sharply limiting the ability of those industries to compete effectively in their export markets.

70. Which of the following can be most properly inferred from the passage about the products whose importation was banned?

(A) Those products had been cheaper to import than they were to make within Country Z's fledgling industries.

(B) Those products were ones that Country Z was hoping to export in its turn, once the fledgling industries matured.

(C) Those products used to be imported from just those countries to which Country Z's exports went.

(D) Those products had become more and more expensive to import, which resulted in a foreign trade deficit just before the ban.

(E) Those products used to be imported in very small quantities, but they were essential to Country Z's economy.

Argument Construction

Situation Country Z bans the importation of products that would compete with those that some of its new industries are beginning to make. Consequently, the export-dependent local industries that buy these products must pay more for them, and these exporters are now less competitive in their markets.

Reasoning *What inference can be made about the banned imports?* A proper inference requires careful analysis of the information given. Export-dependent industries must now buy the products they need from the fledgling industries. The fact that these domestically produced products are more expensive is *a direct result* of the ban. It is reasonable to infer that the imported products were less expensive than the same products made by Country Z's fledgling industries.

A **Correct.** This statement properly identifies the reasonable inference that these products were less expensive as imports.

B No information in the passage indicates future plans, so no inference about the future can be drawn.

C The passage provides no information to support the inference that the import markets and export markets are the same.

D The passage provides no information to support an inference about the rising price of the imported products and consequent trade deficit.

E The necessity of the imported products to Country Z's economy cannot be inferred from the information given.

The correct answer is A.

71. Which of the following conclusions about Country Z's adversely affected export-dependent industries is best supported by the passage?

(A) Profit margins in those industries were not high enough to absorb the rise in costs mentioned above.

(B) Those industries had to contend with the fact that other countries banned imports from Country Z.

(C) Those industries succeeded in expanding the domestic market for their products.

(D) Steps to offset rising materials costs by decreasing labor costs were taken in those industries.

(E) Those industries started to move into export markets that they had previously judged unprofitable.

Argument Construction

Situation Country Z bans the importation of products that would compete with those that some of its new industries are beginning to make. Consequently, the export-dependent local industries that buy these products must pay more for them, and these exporters are now less competitive in their markets. (The same as the previous item.)

Reasoning *What conclusion can be drawn about the export-dependent industries?* Any conclusion must be supported by the facts in the passage. The export-dependent industries could no longer compete effectively when they had to purchase necessary products at greater expense from local industries. The export-dependent industries' inability to adjust successfully to the rise in costs suggests that staying competitive in their markets required tight cost control to maintain their profit margins. It is reasonable to conclude then that their profit margins were not high enough for them to be able to absorb the increased costs caused by their new need to purchase domestically made products.

A **Correct.** This statement properly identifies the conclusion that the export-dependent industries were low-margin businesses that could not successfully accommodate the higher prices of the domestically made products.

B The passage provides no information about other countries' ban of imports from Country Z, so no conclusion may be drawn.

C Not enough information is given in the passage to support this conclusion, nor is it likely that *export-dependent* industries could successfully expand their domestic markets.

D No information about cutting labor costs is given in the passage, so no conclusion may be drawn.

E The passage has no information to support the conclusion that the industries moved into different markets.

The correct answer is A.

72. Biological functions of many plants and animals vary in cycles that are repeated every 24 hours. It is tempting to suppose that alteration in the intensity of incident light is the stimulus that controls these daily biological rhythms. But there is much evidence to contradict this hypothesis.

Which of the following, if known, is evidence that contradicts the hypothesis stated in the lines above?

(A) Human body temperature varies throughout the day, with the maximum occurring in the late afternoon and the minimum in the morning.

(B) While some animals, such as the robin, are more active during the day, others, such as mice, show greater activity at night.

(C) When people move from one time zone to another, their daily biological rhythms adjust in a matter of days to the periods of sunlight and darkness in the new zone.

(D) Certain single-cell plants display daily biological rhythms even when the part of the cell containing the nucleus is removed.

(E) Even when exposed to constant light intensity around the clock, some algae display rates of photosynthesis that are much greater during daylight hours than at night.

Argument Evaluation

Situation Biological rhythms of many plants and animals work in 24-hour cycles. The alteration of the intensity of light is thought to control these cycles.

Reasoning *What evidence contradicts the hypothesis that light is the controlling stimulus?* Look for an example demonstrating that intensity of light cannot be the controlling stimulus of the 24-hour cycle. Algae exposed to a constant intensity of light throughout the 24-hour cycle nevertheless exhibit a far greater activity of biological functions during daylight hours than at night. The example of the algae thus contradicts the hypothesis.

A No reason is given to explain the variation of human body temperature throughout the day; this statement is irrelevant to the hypothesis.

B No cause is given for the varied activity cycles of different animals; this statement is irrelevant to the hypothesis.

C The ability to adapt to daylight and darkness in a different time zone lends support to the hypothesis.

D The ability of single-cell plants to continue functioning in the 24-hour cycle despite lacking a nucleus is irrelevant to the hypothesis.

E **Correct.** This statement properly identifies evidence that contradicts the hypothesis.

The correct answer is E.

73. The local board of education found that, because the current physics curriculum has little direct relevance to today's world, physics classes attracted few high school students. So to attract students to physics classes, the board proposed a curriculum that emphasizes principles of physics involved in producing and analyzing visual images.

Which of the following, if true, provides the strongest reason to expect that the proposed curriculum will be successful in attracting students?

(A) Several of the fundamental principles of physics are involved in producing and analyzing visual images.

(B) Knowledge of physics is becoming increasingly important in understanding the technology used in today's world.

(C) Equipment that a large producer of photographic equipment has donated to the high school could be used in the proposed curriculum.

(D) The number of students interested in physics today is much lower than the number of students interested in physics 50 years ago.

(E) In today's world the production and analysis of visual images is of major importance in communications, business, and recreation.

Evaluation of a Plan

Situation Low enrollment in physics classes is blamed on the lack of relevance of the current curriculum to the current world. To attract more students, the board proposes a new curriculum emphasizing the principles of physics involved in producing and analyzing visual images.

Reasoning *What is the best reason for the success of this plan?* To attract more students, the class must be relevant to today's world. Evidence that the proposed content of the curriculum is indeed relevant would provide strong support for the plan. If producing and analyzing visual images is of major importance in communications, business, and recreation, the curriculum has clear relevance to today's world and should therefore attract students.

A This statement does not explain why students would be attracted to the class.

B This statement explains why students should take physics, but not why they would be attracted to the class.

C The availability of appropriate equipment is important once students are registered for the class, but it does not explain why they would be attracted to the class in the first place.

D The downward trend in enrollment does not suggest much success for the new class.

E **Correct.** This statement properly identifies a factor that contributes to the success of the proposed plan to increase enrollment.

The correct answer is E.

74. Small-business groups are lobbying to defeat proposed federal legislation that would substantially raise the federal minimum wage. This opposition is surprising since the legislation they oppose would, for the first time, exempt all small businesses from paying any minimum wage.

Which of the following, if true, would best explain the opposition of small-business groups to the proposed legislation?

(A) Under the current federal minimum-wage law, most small businesses are required to pay no less than the minimum wage to their employees.

(B) In order to attract workers, small companies must match the wages offered by their larger competitors, and these competitors would not be exempt under the proposed laws.

(C) The exact number of companies that are currently required to pay no less than the minimum wage but that would be exempt under the proposed laws is unknown.

(D) Some states have set their own minimum wages—in some cases, quite a bit above the level of the minimum wage mandated by current federal law—for certain key industries.

(E) Service companies make up the majority of small businesses and they generally employ more employees per dollar of revenues than do retail or manufacturing businesses.

Evaluation of a Plan

Situation Small businesses oppose proposed legislation raising the federal minimum wage, even though they would be exempt from paying the minimum wage.

Reasoning *Why would small businesses oppose legislation that apparently favors them?* The argument finds it *surprising* that the small businesses oppose a plan that exempts them. The perspective of the small businesses must be that there is little value in the exemption. What could be their reasoning? Even though they are exempt, small businesses must compete for workers by offering wages similar to those offered by larger businesses. The larger businesses, not being exempt, would have to increase wages to the federal minimum, forcing the small businesses to do the same in order to attract workers.

A The current law does not exempt small businesses; this does not explain why small businesses are opposed to a new law under which they would be exempt from paying the federal minimum wage.

B Correct. This statement properly identifies a factor that explains small businesses' opposition to the legislation.

C The unknown number of exempt companies is irrelevant to why the small businesses oppose the legislation.

D This statement about state minimum wage levels does not explain why small businesses are opposed to the proposed law.

E The relative importance of payroll costs for small businesses suggests that they would be in favor of the law; it does not explain their opposition to it.

The correct answer is B.

75. Although aspirin has been proven to eliminate moderate fever associated with some illnesses, many doctors no longer routinely recommend its use for this purpose. A moderate fever stimulates the activity of the body's disease-fighting white blood cells and also inhibits the growth of many strains of disease-causing bacteria.

If the statements above are true, which of the following conclusions is most strongly supported by them?

(A) Aspirin, an effective painkiller, alleviates the pain and discomfort of many illnesses.

(B) Aspirin can prolong a patient's illness by eliminating moderate fever helpful in fighting some diseases.

(C) Aspirin inhibits the growth of white blood cells, which are necessary for fighting some illnesses.

(D) The more white blood cells a patient's body produces, the less severe the patient's illness will be.

(E) The focus of modern medicine is on inhibiting the growth of disease-causing bacteria within the body.

Argument Construction

Situation Many doctors do not recommend taking aspirin for moderate fever associated with illness because moderate fever activates the immune system and hinders the growth of disease-carrying bacteria.

Reasoning *What is the best conclusion from this information?* This passage maintains that moderate fever can help fight some diseases by activating the immune system and inhibiting the growth of some bacteria that cause disease. Aspirin suppresses moderate fever. By doing so, aspirin can be viewed as hindering a beneficial process and prolonging an illness.

A The passage says nothing about aspirin's role as a painkiller, so no conclusion can be drawn about aspirin's painkilling properties.

B **Correct.** This statement properly identifies the conclusion that can be drawn from the information.

C Since moderate fever promotes the *activity* of the white blood cells, it is fair to conclude that suppressing the fever with aspirin affects the *activity* of the white blood cells. Since nothing is said about the effect of aspirin on the *growth* of white blood cells, no conclusion can be made about such growth.

D The passage does not provide enough information to conclude that the greater the number of white blood cells, the less severe the illness.

E The passage is about aspirin and moderate fever, not about the focus of modern medicine, so this statement is irrelevant to the material in the passage.

The correct answer is B.

Questions 76–77 are based on the following:

Roland: The alarming fact is that 90 percent of the people in this country now report that they know someone who is unemployed.

Sharon: But a normal, moderate level of unemployment is 5 percent, with one out of 20 workers unemployed. So at any given time if a person knows approximately 50 workers, one or more will very likely be unemployed.

76. Sharon's argument is structured to lead to which of the following as a conclusion?

(A) The fact that 90 percent of the people know someone who is unemployed is not an indication that unemployment is abnormally high.

(B) The current level of unemployment is not moderate.

(C) If at least 5 percent of workers are unemployed, the result of questioning a representative group of people cannot be the percentage Roland cites.

(D) It is unlikely that the people whose statements Roland cites are giving accurate reports.

(E) If an unemployment figure is given as a certain percentage, the actual percentage of those without jobs is even higher.

Argument Construction

Situation Roland is alarmed that 90 percent of the population knows someone who is out of work. Sharon replies that a normal level of unemployment is 5 percent, illustrating her point by saying that if a person knows 50 workers, at least one of them is likely to be unemployed.

Reasoning *Sharon's reply leads to what conclusion about unemployment?* Sharon begins her reply with "but," indicating that she is about to counter either Roland's statistic or his alarm; she accepts the statistic and addresses the alarm. If the normal unemployment rate is 5 percent and if the average person knows 50 workers, then knowing one person out of work is within the normal and expected range, not a cause for alarm. Sharon shows that it is possible for 90 percent of the population to know someone unemployed and for unemployment to be a normal rate of 5 percent at the same time.

A **Correct.** This statement properly identifies the conclusion to which the argument is leading.

B Sharon's argument is made in the abstract. No information is provided about the current level of unemployment.

C Sharon does not challenge Roland's statistics, and her argument is designed to make a conclusion not about their accuracy, but only about their interpretation.

D There is no information about the accuracy of Roland's reports, so no conclusion can be made about how likely or unlikely they are to be accurate.

E No information in Sharon's argument supports this conclusion.

The correct answer is A.

77. Sharon's argument relies on the assumption that _____.

(A) normal levels of unemployment are rarely exceeded

(B) unemployment is not normally concentrated in geographically isolated segments of the population

(C) the number of people who each know someone who is unemployed is always higher than 90 percent of the population

(D) Roland is not consciously distorting the statistics he presents

(E) knowledge that a personal acquaintance is unemployed generates more fear of losing one's job than does knowledge of unemployment statistics

Argument Construction

Situation Roland is alarmed that 90 percent of the population knows someone who is out of work. Sharon replies that a normal level of unemployment is 5 percent, illustrating her point by saying that if a person knows 50 workers, at least one of them is likely to be unemployed. (The same as the previous item.)

Reasoning *What assumption does Sharon make in putting together her argument?* Sharon makes an equalizing statement about people and their acquaintance when she posits that, if an average person knows 50 workers, at least one of them is likely to be unemployed. Sharon's generalization must assume that this is the case equally throughout the country and that unemployment is not concentrated in some geographically isolated areas.

A Sharon's argument is about a normal level of unemployment; how rarely or frequently that level is exceeded is outside the scope of her argument.

B **Correct.** This statement properly identifies an assumption that underlies Sharon's argument about the average person and how many unemployed people that average person knows.

C Sharon's argument is based on a given normal rate of unemployment and a given normal circle of acquaintance, not on this assumption.

D Sharon's argument is not based on the figure Roland cites and does not assume its accuracy or inaccuracy; her argument merely points out that his figure is not inconsistent with a normal rate of unemployment.

E The fear of losing a job is not part of Sharon's argument; this statement is irrelevant.

The correct answer is B.

78. In comparison to the standard typewriter keyboard, the EFCO keyboard, which places the most-used keys nearest the typist's strongest fingers, allows faster typing and results in less fatigue. Therefore, replacement of standard keyboards with the EFCO keyboard will result in an immediate reduction of typing costs.

Which of the following, if true, would most weaken the conclusion drawn above?

(A) People who use both standard and EFCO keyboards report greater difficulty in the transition from the EFCO keyboard to the standard keyboard than in the transition from the standard keyboard to the EFCO keyboard.

(B) EFCO keyboards are no more expensive to manufacture than are standard keyboards and require less frequent repair than do standard keyboards.

(C) The number of businesses and government agencies that use EFCO keyboards is increasing each year.

(D) The more training and experience an employee has had with the standard keyboard, the more costly it is to train that employee to use the EFCO keyboard.

(E) Novice typists can learn to use the EFCO keyboard in about the same amount of time that it takes them to learn to use the standard keyboard.

Argument Evaluation

Situation Compared to the standard typewriter keyboard, the EFCO keyboard promotes faster typing while producing less fatigue. Replacing standard keyboards with EFCO keyboards promises immediate reduction of typing costs.

Reasoning *What point would weaken the conclusion about reduced typing costs?* Whenever a word such as *immediate* is part of an argument, it is wise to be alert. Given the comparison with the standard keyboard, it is logical that over the longer term the EFCO keyboard will save money. What problems might there be initially that would counteract the possibility of *immediate* savings? Personnel must first be retrained on the new EFCO keyboard, and it is possible that the costs of the training could offset any short-term savings. If the more experience employees have had with the standard keyboard, the more costly the initial training, then adopting the new keyboard could have high short-term costs that preclude *immediate* savings.

A The greater ease of changing from the standard keyboard to the EFCO keyboard for typists experienced in both would support, not weaken, the conclusion.

B The fewer repairs required by EFCO keyboards should save money in the long run; immediate costs will not go up since the price of both keyboards is the same. The conclusion is not weakened.

C The increasing use of EFCO keyboards supports the conclusion, suggesting that other offices have found the switch advantageous.

D **Correct.** This statement properly identifies information that weakens the conclusion that savings will be immediate.

E For new typists, training time is the same for both keyboards; this statement does not weaken the conclusion.

The correct answer is D.

79. An overly centralized economy, not the changes in the climate, is responsible for the poor agricultural production in Country X since its new government came to power. Neighboring Country Y has experienced the same climatic conditions, but while agricultural production has been falling in Country X, it has been rising in Country Y.

Which of the following, if true, would most weaken the argument above?

(A) Industrial production also is declining in Country X.

(B) Whereas Country Y is landlocked, Country X has a major seaport.

(C) Both Country X and Country Y have been experiencing drought conditions.

(D) The crops that have always been grown in Country X are different from those that have always been grown in Country Y.

(E) Country X's new government instituted a centralized economy with the intention of ensuring an equitable distribution of goods.

Argument Evaluation

Situation Two countries sharing similar climatic conditions differ widely in agricultural production, one experiencing a rise and the other a decline. The decline is blamed on an overly centralized economy.

Reasoning *What point most weakens the argument that the economy is to blame?* If a factor other than the economy could account for the differences in agricultural production, then the argument is weakened. If the two countries grow different kinds of crops that may react differently to the same climatic conditions, then the types of crops, rather than the economy, could be responsible for the differences in production.

A The economy might indeed be to blame for declining industrial production, which would strengthen the argument, but not enough information is given about the country's industry to allow that evaluation of blame to be made.

B The availability of a seaport does not explain the differences in agricultural production.

C Similar climatic conditions have already been established in the argument.

D Correct. This statement properly identifies a factor that weakens the argument.

E The government's intention when instituting the economy does not have any bearing on whether the economy is responsible for the decline or not.

The correct answer is D.

80. Because no employee wants to be associated with bad news in the eyes of a superior, information about serious problems at lower levels is progressively softened and distorted as it goes up each step in the management hierarchy. The chief executive is, therefore, less well informed about problems at lower levels than are his or her subordinates at those levels.

The conclusion drawn above is based on the assumption that _____.

(A) problems should be solved at the level in the management hierarchy at which they occur

(B) employees should be rewarded for accurately reporting problems to their superiors

(C) problem-solving ability is more important at higher levels than it is at lower levels of the management hierarchy

(D) chief executives obtain information about problems at lower levels from no source other than their subordinates

(E) some employees are more concerned about truth than about the way they are perceived by their superiors

Argument Construction

Situation No employee wants to report bad news to a superior, so information about problems is softened and distorted as it goes up the ranks of management. As a result, chief executives know less about problems at lower levels than their subordinates do.

Reasoning *What assumption is being made in this argument?* This passage contends that information travels step by step upward through an organization, and that information becomes increasingly distorted along the route with each additional individual's reluctance to be candid with a superior about problems. What must be true about this information flow to support the conclusion? In order to conclude that chief executives are *less well informed* about problems than their subordinates, the argument must logically assume that they have no source of information except their subordinates.

A This argument is not about how problems should be solved, only about how chief executives learn of them.

B No recommendation for solving the problem is assumed; only the method of discovering the problem is assumed.

C The passage does not discuss problem solving ability and where it is best served, so this statement cannot be assumed.

D **Correct.** This statement properly identifies an assumption that underlies the argument.

E This statement contradicts the first sentence of the passage and so cannot possibly be assumed.

The correct answer is D.

81. A recent report determined that although only 3 percent of drivers on Maryland highways equipped their vehicles with radar detectors, 33 percent of all vehicles ticketed for exceeding the speed limit were equipped with them. Clearly, drivers who equip their vehicles with radar detectors are more likely to exceed the speed limit regularly than are drivers who do not.

The conclusion drawn above depends on which of the following assumptions?

(A) Drivers who equip their vehicles with radar detectors are less likely to be ticketed for exceeding the speed limit than are drivers who do not.

(B) Drivers who are ticketed for exceeding the speed limit are more likely to exceed the speed limit regularly than are drivers who are not ticketed.

(C) The number of vehicles that were ticketed for exceeding the speed limit was greater than the number of vehicles that were equipped with radar detectors.

(D) Many of the vehicles that were ticketed for exceeding the speed limit were ticketed more than once in the time period covered by the report.

(E) Drivers on Maryland highways exceeded the speed limit more often than did drivers on other state highways not covered in the report.

Argument Construction

Situation Although only 3 percent of drivers on Maryland's highways have radar detectors in their vehicles, 33 percent of vehicles recently ticketed for driving over the speed limit on Maryland highways have had radar detectors. Drivers who have radar detectors are thus more likely to exceed the speed limit regularly than drivers who do not.

Reasoning *What assumption must be true for the conclusion to be drawn?* The argument moves from a particular sample, that is, the percentage of vehicles ticketed for exceeding the speed limit that were equipped with radar detectors, to a generalization about the regular driving behaviors of all drivers who have radar detectors in their vehicles. Between the example and the generalization must stand an assumption. What can the assumption be? Only if the drivers ticketed in this instance are assumed to make a regular habit of exceeding the speed limit can the conclusion be drawn that drivers with radar detectors are more likely to do so *regularly* than drivers who are not ticketed.

A While this statement about being ticketed may be true, the conclusion pertains to the recurrent exceeding of the speed limit, so this statement is not relevant.

B **Correct.** This statement properly identifies the conclusion's necessary assumption about ticketed drivers' being more likely to drive in excess of the speed limit than nonticketed drivers.

C From the original passage it is already known that 67 percent of all ticketed vehicles did not have radar detectors. This statement is about the number of vehicles ticketed, not about the regular habits of drivers, so it is not assumed for the conclusion.

D While this additional information could help support the conclusion, it is not a necessary assumption in the conclusion because it is about the particular example of the drivers in Maryland, not about drivers' habits in general.

E Learning that Maryland drivers are not representative of other drivers undermines the conclusion about all drivers, so it is clearly not assumed.

The correct answer is B.

82. Products sold under a brand name used to command premium prices because, in general, they were superior to nonbrand rival products. Technical expertise in product development has become so widespread, however, that special quality advantages are very hard to obtain these days and even harder to maintain. As a consequence, brand-name products generally neither offer higher quality nor sell at higher prices. Paradoxically, brand names are a bigger marketing advantage than ever.

Which of the following, if true, most helps to resolve the paradox outlined above?

(A) Brand names are taken by consumers as a guarantee of getting a product as good as the best rival products.

(B) Consumers recognize that the quality of products sold under invariant brand names can drift over time.

(C) In many acquisitions of one corporation by another, the acquiring corporation is interested more in acquiring the right to use certain brand names than in acquiring existing production facilities.

(D) In the days when special quality advantages were easier to obtain than they are now, it was also easier to get new brand names established.

(E) The advertising of a company's brand-name products is at times transferred to a new advertising agency, especially when sales are declining.

Argument Evaluation

Situation In both quality and price, brand-name and nonbrand products have now become similar. Yet brand names offer a bigger marketing advantage than ever.

Reasoning *How can this paradox be explained?* It is given that a brand-name product's only distinction from its rival products is a recognizable name. What must be true to give brand-name products a bigger marketing advantage? Could consumers be relying on their outdated knowledge and believing that brand names continue to guarantee that a product's quality is at least as good as, and possibly higher than, that of the rival products at the same price? If so, they would choose to purchase the brand-name product trusting they would, at a minimum, get comparable quality for the same price.

A **Correct.** This statement correctly identifies the consumer behavior that explains the marketing advantage of brand names.

B Consumers would be less likely to buy brand-name products if they were unsure of their quality, so this statement does not resolve the paradox.

C Corporations value brand names, but this statement does not say why, nor does it explain the marketing advantage of brand names.

D The relative ease or difficulty of establishing brand names does not explain why they are a marketing advantage.

E The shift from one advertising agency to another to counteract falling sales does not account for the general marketing advantage brand names enjoy.

The correct answer is A.

83. Editorial: Regulations recently imposed by the government of Risemia call for unprecedented reductions in the amounts of pollutants manufacturers are allowed to discharge into the environment. It will take costly new pollution control equipment requiring expensive maintenance to comply with these regulations. Resultant price increases for Risemian manufactured goods will lead to the loss of some export markets. Clearly, therefore, annual exports of Risemian manufactured goods will in the future occur at diminished levels.

Which of the following, if true, most seriously weakens the argument in the editorial?

(A) The need to comply with the new regulations will stimulate the development within Risemia of new pollution control equipment for which a strong worldwide demand is likely to emerge.

(B) The proposed regulations include a schedule of fines for noncompliance that escalate steeply in cases of repeated noncompliance.

(C) Savings from utilizing the chemicals captured by the pollution control equipment will remain far below the cost of maintaining the equipment.

(D) By international standards, the levels of pollutants currently emitted by some of Risemia's manufacturing plants are not considered excessive.

(E) The stockholders of most of Risemia's manufacturing corporations exert substantial pressure on the corporations to comply with environmental laws.

Argument Evaluation

Situation An editorial states that manufacturers in Risemia must pay for expensive new pollution control equipment in order to comply with recent regulations. Increased costs will lead to increased prices and consequently to the loss of some export markets. Exports will thus go down.

Reasoning *What point weakens the argument?* First, recognize the underlying assumptions regarding the exports of manufactured goods. While the kinds of goods previously exported may be priced out of their markets and experience a loss, it is apparently assumed that the existing goods are the only ones that Risemia is able to manufacture for export. What if new products were exported in their place? If so, the total annual exports would not necessarily fall. The new regulations call for new, expensive pollution control equipment. If this equipment were manufactured in Risemia, it would be likely to find an international market anywhere similar environmental restrictions were applied.

A **Correct.** This statement properly identifies a weakness in the editorial's argument since it is possible that the potential loss of some exports will be compensated for by the addition of a new export, the pollution control equipment, for which there could be strong international demand.

B Fines for noncompliance increase the cost to manufacturers and thus their prices, so this statement tends to support the argument.

C Since the new equipment will cost more to maintain than it will save, the manufacturers' costs will again go up. This statement supports the argument.

D The comparative level of pollutants is irrelevant because manufacturers must comply with the new regulations in Risemia and pay the resultant costs, no matter how their level of pollutant emission compares with that of other countries.

E The stockholders' determination that manufacturers comply with the new regulations supports the argument rather than weakening it.

The correct answer is A.

84. When demand for a factory's products is high, more money is spent at the factory for safety precautions and machinery maintenance than when demand is low. Thus the average number of on-the-job accidents per employee each month should be lower during periods when demand is high than when demand is low and less money is available for safety precautions and machinery maintenance.

Which of the following, if true about a factory when demand for its products is high, casts the most serious doubt on the conclusion drawn above?

(A) Its employees ask for higher wages than they do at other times.

(B) Its management hires new workers but lacks the time to train them properly.

(C) Its employees are less likely to lose their jobs than they are at other times.

(D) Its management sponsors a monthly safety award for each division in the factory.

(E) Its old machinery is replaced with modern, automated models.

Argument Evaluation

Situation Because more money is spent on safety precautions and machinery maintenance at a factory when demand for its product is high, the average number of job-related accidents per employee at the factory should be lower when demand is high.

Reasoning *What point casts doubt on the conclusion?* Consider what other conditions can result from high demand for a factory's products. What if, when demand is high, more employees are hired to meet the demand? If, in the effort to increase production, there is not enough time for proper training, then it is likely that the new, poorly trained employees will have more job-related accidents than experienced, well-trained workers.

A The conclusion is about safety rather than wages, so the employees' demand for higher wages is irrelevant.

B **Correct.** This statement properly identifies a point that undermines the conclusion.

C The conclusion is about safety, not about job security, so this point is irrelevant.

D Actively promoting safety with an award would tend to support the argument, not weaken it.

E Replacing outdated machinery with more modern machinery should result in a safer workplace; this point strengthens the conclusion.

The correct answer is B.

85. An unusually severe winter occurred in Europe after the continent was blanketed by a blue haze resulting from the eruption of the Laki Volcano in the European republic of Iceland in the summer of 1984. Thus, it is evident that major eruptions cause the atmosphere to become cooler than it would be otherwise.

Which of the following statements, if true, most seriously weakens the argument above?

(A) The cooling effect triggered by volcanic eruptions in 1985 was counteracted by an unusual warming of Pacific waters.

(B) There is a strong statistical link between volcanic eruptions and the severity of the rainy season in India.

(C) A few months after El Chichón's large eruption in April 1982, air temperatures throughout the region remained higher than expected, given the long-term weather trends.

(D) The climatic effects of major volcanic eruptions can temporarily mask the general warming trend resulting from an excess of carbon dioxide in the atmosphere.

(E) Three months after an early springtime eruption in South America during the late nineteenth century, sea surface temperatures near the coast began to fall.

Argument Evaluation

Situation Europe experienced an exceptionally cold winter after a volcanic eruption in the summer of 1984 covered the continent in a blue haze. Major eruptions must cause the atmosphere to become cooler.

Reasoning *Which statement weakens this argument?* The argument is weak because it makes a generalization on the basis of only one example. Any example of a volcanic eruption that was not followed by a cooling of the atmosphere weakens this argument. The example of the eruption of El Chichón in 1982, which resulted in higher than normal air temperatures, contradicts the generalization of cooler temperatures following volcanic eruptions.

A This statement supports the argument by establishing that other volcanic eruptions triggered a cooling effect, even though another event counteracted it.

B The argument is about the relationship between volcanic eruption and a cooler atmosphere, not between volcanic eruption and increased rain.

C **Correct.** This statement properly identifies a weakness in the argument.

D This statement supports the argument because it implies that volcanic eruptions cool the atmosphere, given that their effects *mask the general warming trend.*

E The argument is about a cooling in the atmosphere, which could in turn lower sea surface temperatures, so this example tends to support the argument.

The correct answer is C.

86. Journalist: In physics journals, the number of articles reporting the results of experiments involving particle accelerators was lower last year than it had been in previous years. Several of the particle accelerators at major research institutions were out of service the year before last for repairs, so it is likely that the low number of articles was due to the decline in availability of particle accelerators.

Which of the following, if true, most seriously undermines the journalist's argument?

(A) Every article based on experiments with particle accelerators that was submitted for publication last year actually was published.

(B) The average time scientists must wait for access to a particle accelerator has declined over the last several years.

(C) The number of physics journals was the same last year as in previous years.

(D) Particle accelerators can be used for more than one group of experiments in any given year.

(E) Recent changes in the editorial policies of several physics journals have decreased the likelihood that articles concerning particle-accelerator research will be accepted for publication.

Argument Evaluation

Situation A journalist attributes the low number of articles about particle accelerators in physics journals to the fact that several accelerators at major research institutions had been out of service the previous year.

Reasoning *What point undermines the journalist's argument?* The journalist assumes that the researchers' lack of access to the accelerators is responsible for the decline in the number of articles. What else could explain fewer articles? What if the decline is due, not to the availability of the accelerators for experiments, but to policies regarding publishing articles related to such experiments? An alternate explanation is that changes in the editorial policies of physics journals, rather than the effect of the out-of-service accelerators, could well be responsible for the lower number of published articles about particle-accelerator research.

A This statement rules out the possibility that submitted articles were not published, and eliminating this alternate explanation tends to support the argument.

B A decline in waiting time would seem to promote more articles about accelerator research being written and published, not fewer.

C While the decline in articles could be explained by a decline in the number of journals, this statement eliminates that alternate explanation.

D If the accelerators can be used for multiple experiments, then it is reasonable to expect more articles related to them, not fewer.

E **Correct.** This statement properly identifies a point that undermines the journalist's reasoning.

The correct answer is E.

Questions 87–89 are based on the following:

Networks of blood vessels in bats' wings serve only to disperse heat generated in flight. This heat is generated only because bats flap their wings. Thus paleontologists' recent discovery that the winged dinosaur Sandactylus had similar networks of blood vessels in the skin of its wings provides evidence for the hypothesis that Sandactylus flew by flapping its wings, not just by gliding.

87. In the passage, the author develops the argument by _____.

(A) forming the hypothesis that best explains several apparently conflicting pieces of evidence

(B) reinterpreting evidence that had been used to support an earlier theory

(C) using an analogy with a known phenomenon to draw a conclusion about an unknown phenomenon

(D) speculating about how structures observed in present-day creatures might have developed from similar structures in creatures now extinct

(E) pointing out differences in the physiological demands that flight makes on large, as opposed to small, creatures

Argument Evaluation

Situation The network of blood vessels in bats' wings is compared with a similar structure in the wings of the dinosaur Sandactylus to explain how the dinosaur flew.

Reasoning *How is this argument developed?* The author first shows that a physical characteristic of bats' wings is directly related to their style of flight. The author then argues that the similar structure found in the wings of Sandactylus is evidence that the dinosaur had a style of flight similar to that of bats. The structure of this argument is a comparison, or analogy, between a known phenomenon (bats) and an unknown one (Sandactylus).

A The evidence of the blood vessels in the wings does not conflict with other evidence.

B Only one theory—that Sandactylus flew by flapping its wings as well as by gliding—is proposed; no earlier theory is discussed.

C **Correct.** This statement properly identifies how the argument compares the wings of bats and of Sandactylus in order to draw a conclusion about how the dinosaur flew.

D The theory is not about how the structures in the bats developed from the structures in the dinosaurs, but rather about how Sandactylus flew.

E The comparison between bats and Sandactylus points out similarities, not differences.

The correct answer is C.

88. Which of the following, if true, most seriously weakens the argument in the passage?

(A) Sandactylus' wings were far more similar to the wings of bats than to the wings of birds.

(B) Paleontologists do not know whether winged dinosaurs other than Sandactylus had similar networks of blood vessels in the skin of their wings.

(C) The mechanism used by bats for dispersing heat in flight could, in principle, work for much larger flying creatures, such as Sandactylus.

(D) Not all the bats that use the mechanism described in the passage for dispersing heat in flight live in climates similar to the climate in which Sandactylus lived.

(E) Other winged dinosaurs that flew only by gliding had networks of blood vessels in the skin of their wings similar to those that Sandactylus had.

Argument Evaluation

Situation The network of blood vessels in bats' wings is compared with a similar structure in the wings of the dinosaur Sandactylus to explain how the dinosaur flew. (The same as the previous item.)

Reasoning *Which point weakens the argument?* Based on the evidence of similar structures found in the wings of bats and of Sandactylus, the conclusion suggests that Sandactylus flew not only by gliding, but also by flapping its wings as bats do. What if the wing structures shared by bats and Sandactylus are also found in other dinosaurs that are known to have flown only by gliding? The author's argument would be weakened by evidence that other dinosaurs that did not flap their wings in flight nonetheless had similar blood-vessel networks in their wings.

A This point supports the argument.

B Since the argument concerns only Sandactylus, lack of knowledge about other dinosaurs does not affect the hypothesis about flight.

C This point supports the argument.

D Some of the bats do live in climates similar to the one in which Sandactylus lived; not enough information is provided to determine whether climate is relevant to the argument.

E **Correct.** This statement properly identifies a factor that weakens the argument: having similar wing structures does not necessitate similar wing-flapping flight styles.

The correct answer is E.

89. The argument in the passage relies on which of the following assumptions?

(A) Sandactylus would not have had networks of blood vessels in the skin of its wings if these networks were of no use to Sandactylus.

(B) All creatures that fly by flapping their wings have networks of blood vessels in the skin of their wings.

(C) Winged dinosaurs that flapped their wings in flight would have been able to fly more effectively than winged dinosaurs that could only glide.

(D) If Sandactylus flew by flapping its wings, then paleontologists would certainly be able to find some evidence that it did so.

(E) Heat generated by Sandactylus in flapping its wings in flight could not have been dispersed by anything other than the blood vessels in its wings.

Argument Construction

Situation The network of blood vessels in bats' wings is compared with a similar structure in the wings of the dinosaur Sandactylus to explain how the dinosaur flew. (The same as the previous item.)

Reasoning *What assumption does this argument make?* The networks of blood vessels in the wings of bats are shown to have a purpose: to disperse the heat generated by wing-flapping flight. In proposing that a similar structure had a similar purpose in Sandactylus, the argument assumes that the network of blood vessels found in the dinosaur wings had a purpose.

A **Correct.** This statement properly identifies the assumption that underlies the argument: there was a purpose for the network of blood vessels found in the wings of Sandactylus.

B This statement is too broad to be assumed; the comparison between bats and Sandactylus cannot be extended to all flying creatures.

C No conclusion is drawn about the efficiency of flight, so this point is not assumed.

D The argument does not assume that evidence is certain to be found.

E Since this point is not addressed in the argument, it cannot be assumed.

The correct answer is A.

90. Keith: Compliance with new government regulations requiring the installation of smoke alarms and sprinkler systems in all theaters and arenas will cost the entertainment industry $25 billion annually. Consequently, jobs will be lost and profits diminished. Therefore, these regulations will harm the country's economy.

Laura: The $25 billion spent by some businesses will be revenue for others. Jobs and profits will be gained as well as lost.

Laura responds to Keith by _____.

(A) demonstrating that Keith's conclusion is based on evidence that is not relevant to the issue at hand

(B) challenging the plausibility of the evidence that serves as the basis for Keith's argument

(C) suggesting that Keith's argument overlooks a mitigating consequence

(D) reinforcing Keith's conclusion by supplying a complementary interpretation of the evidence Keith cites

(E) agreeing with the main conclusion of Keith's argument but construing that conclusion as grounds for optimism rather than for pessimism

Argument Construction

Situation Keith argues that the cost of new regulations will result in a loss of jobs and profits, hurting the national economy. Laura points out that while one industry will suffer, others will gain by supplying the goods and services required by the regulations.

Reasoning *What is the strategy Laura uses in the counterargument?* Laura uses the same evidence, the $25 billion spent on meeting new regulations, but comes to a different conclusion. While Keith focuses on the losses to one industry, Laura looks at the gains to other industries. By suggesting a consequence that Keith did not mention, she places the outcome in a more positive light.

A Laura accepts the relevance of Keith's evidence and uses it herself when she replies that *the $25 billion spent by some businesses will be revenue for others.*

B Laura does not challenge Keith's evidence; she uses the same evidence as the basis of her own argument.

C **Correct.** This statement properly identifies the strategy Laura employs in her counterargument. Laura points out that Keith did not consider that, in this case, losses for one industry mean gains for others.

D Laura rejects rather than reinforces Keith's conclusion; while he notes the losses in jobs and profits that will harm the economy, she points out that *jobs and profits will be gained as well as lost.*

E Laura does not agree with Keith that the regulations will harm the national economy; she argues instead that gains in other industries will compensate for the losses in one industry.

The correct answer is C.

91. Businesses are suffering because of a lack of money available for development loans. To help businesses, the government plans to modify the income-tax structure in order to induce individual taxpayers to put a larger portion of their incomes into retirement savings accounts, because as more money is deposited in such accounts, more money becomes available to borrowers.

Which of the following, if true, raises the most serious doubt regarding the effectiveness of the government's plan to increase the amount of money available for development loans for businesses?

(A) When levels of personal retirement savings increase, consumer borrowing always increases correspondingly.

(B) The increased tax revenue the government would receive as a result of business expansion would not offset the loss in revenue from personal income taxes during the first year of the plan.

(C) Even with tax incentives, some people will choose not to increase their levels of retirement savings.

(D) Bankers generally will not continue to lend money to businesses whose prospective earnings are insufficient to meet their loan repayment schedules.

(E) The modified tax structure would give all taxpayers, regardless of their incomes, the same tax savings for a given increase in their retirement savings.

Evaluation of a Plan

Situation Because the lack of available money for development loans is harming businesses, the government plans to modify the income-tax structure, encouraging taxpayers to put more money into retirement accounts. This plan is intended to ensure that with more money put into these accounts, more money will in turn be available to business borrowers.

Reasoning *What potential flaw in this plan might prevent it from being effective?* What is the expectation behind the plan? The government's plan supposes that the money invested in retirement accounts will be readily available to business borrowers in the form of development loans. Consider what circumstances might hinder that availability. What if consumer borrowers compete with businesses? If it is known that, historically, increased savings in personal retirement accounts results in increased consumer borrowing, then the government's effort to target businesses as the sole beneficiaries of this plan could well fail.

A **Correct.** This statement properly identifies a reason that the government's plan could be less effective in meeting its goal.

B The goal of the plan is to increase the amount of money available as development loans for businesses, so this point is irrelevant to the effectiveness of the plan.

C The effectiveness of the plan would be determined not by what *some people* do, but by what most people do.

D The plan would increase the money available specifically for development loans, not existing loans.

E The universal tax savings does not affect the effectiveness of the plan.

The correct answer is A.

92. In order to finance road repairs, the highway commission of a certain state is considering a 50 percent increase in the 10-cents-per-mile toll for vehicles using its toll highway. The highway commissioner claims that the toll increase will increase the annual revenue generated by the toll highway by at least 50 percent per year.

Which of the following is an assumption on which the highway commissioner's claim depends?

(A) The amount of money required annually for road repairs will not increase from its current level.

(B) The total number of trips made on the toll highway per year will not decrease from its current level.

(C) The average length of a trip made on the toll highway will not decrease from its current level.

(D) The number of drivers who consistently avoid the highway tolls by using secondary roads will not increase from its current level.

(E) The total distance traveled by vehicles on the toll highway per year will not decrease from its current level.

Argument Construction

Situation A state highway commission considers a 50 percent increase in the 10-cents-a-mile toll on its toll highway; this increase promises at least a 50 percent increase in the revenue generated by the toll highway.

Reasoning *On what assumption does this argument depend?* The toll is charged on a per-mile basis. A 50 percent increase in the toll will bring a 50 percent increase in revenue only if the total number of miles traveled on the toll highway per year does not decrease.

A Road repairs are not included in the argument about the increase in the annual *revenue*, so this assumption is not made.

B The toll highway generates revenue based on the number of miles traveled, not the number of trips, so this assumption is not part of the argument.

C The average length of a trip does not determine the annual revenue that the toll highway brings in; since the toll is charged per mile, it is the total distance per year that determines the amount of annual revenue.

D The revenue is determined by the number of miles traveled on the toll highway, not the number of drivers who either take it or avoid it.

E **Correct.** This statement properly recognizes the assumption underlying the commissioner's claim: with the revenue generated on a per-mile basis, a 50 percent increase in the toll will result in a 50 percent increase in the revenue as long as the total number of miles traveled on the toll highway remains the same.

The correct answer is E.

93. A new law gives ownership of patents—documents providing exclusive right to make and sell an invention—to universities, not the government, when those patents result from government-sponsored university research. Administrators at Logos University plan to sell any patents they acquire to corporations in order to fund programs to improve undergraduate teaching.

Which of the following, if true, would cast the most doubt on the viability of the college administrators' plan described above?

(A) Profit-making corporations interested in developing products based on patents held by universities are likely to try to serve as exclusive sponsors of ongoing university research projects.

(B) Corporate sponsors of research in university facilities are entitled to tax credits under new federal tax-code guidelines.

(C) Research scientists at Logos University have few or no teaching responsibilities and participate little if at all in the undergraduate programs in their field.

(D) Government-sponsored research conducted at Logos University for the most part duplicates research already completed by several profit-making corporations.

(E) Logos University is unlikely to attract corporate sponsorship of its scientific research.

Evaluation of a Plan

Situation Universities own the patents resulting from government-sponsored research at their institutions. One university plans to sell its patents to corporations to fund a program to improve teaching.

Reasoning *Which point casts doubt on the university's plan?* The university's plan assumes there will be a market for its patents, and that the corporations will want to buy them. What might make this untrue? If some of the corporations have already done the same or similar research, they will not be prospective buyers of the university's patents.

A This point is irrelevant to the plan to sell patents in order to fund a program.

B The university plans to sell the patents to the corporations, not to invite the corporations to sponsor research.

C This point is irrelevant to the university's plan to sell off patents.

D **Correct.** This statement properly identifies a factor that casts doubt on the university's plan to sell its patents to corporations.

E The plan concerns selling patents, not attracting corporate sponsorship for research.

The correct answer is D.

Questions 94–95 are based on the following:

Environmentalist: The commissioner of the Fish and Game Authority would have the public believe that increases in the number of marine fish caught demonstrate that this resource is no longer endangered. This is a specious argument, as unsound as it would be to assert that the ever-increasing rate at which rain forests are being cut down demonstrates a lack of danger to that resource. The real cause of the increased fish-catch is a greater efficiency in using technologies that deplete resources.

94. Which of the following strategies is used in the presentation of the environmentalist's position?

(A) Questioning the motives of an opponent

(B) Showing that an opposing position is self-contradictory

(C) Attacking an argument through the use of an analogy

(D) Demonstrating the inaccuracy of certain data

(E) Pointing out adverse consequences of a proposal

Argument Construction

Situation A public official argues that increased catches show that marine fish are no longer endangered. An environmentalist attacks the position and cites technology as the cause of the increased catch.

Reasoning *What strategy does the environmentalist use to state a position?* Consider how the environmentalist structures the argument. The environmentalist describes the commissioner's argument as *specious*, or deceptive, and then uses an analogy to rain forests to demonstrate that the commissioner's argument is built on false premises.

A The position, but not the motives, of the commissioner is questioned.

B The environmentalist says that the official's position is *specious* but does not claim that is self-contradictory.

C **Correct.** This statement properly identifies the strategy used in the argument: the environmentalist attacks the commissioner's position by comparing it to an absurd argument about the rain forests.

D The environmentalist does not use any data.

E No proposal is offered; thus no adverse consequences are examined.

The correct answer is C.

95. The environmentalist's statements, if true, best support which of the following as a conclusion?

(A) The use of technology is the reason for the increasing encroachment of people on nature.

(B) It is possible to determine how many fish are in the sea by some way other than by catching fish.

(C) The proportion of marine fish that are caught is as high as the proportion of rain forest trees that are cut down each year.

(D) Modern technologies waste resources by catching inedible fish.

(E) Marine fish continue to be an endangered resource.

Argument Construction

Situation A public official argues that increased catches show that marine fish are no longer endangered. An environmentalist attacks the position and cites technology as the cause of the increased catch. (The same as the previous item.)

Reasoning *What conclusion do the environmentalist's statements support?* The environmentalist casts doubt by saying the commissioner *would have the public believe* that the increased catch shows that the fish are no longer endangered; the phrasing indicates that environmentalist believes just the reverse. The environmentalist does believe the marine fish are endangered, and, after attacking the commissioner's argument as *specious*, or false, and offering an analogy to make that argument look ridiculous, the environmentalist gives an alternate explanation for the increased catch that is consistent with that belief.

A *The encroachment of people on nature* is not examined.

B No methods to determine the number are discussed in the statements.

C The environmentalist compares the two arguments, not the two proportions.

D The fish are not said to be inedible.

E **Correct.** This statement properly identifies a conclusion supported by the environmentalist's statements: the marine fish are endangered.

The correct answer is E.

96. Commentator: The theory of trade retaliation states that countries closed out of any of another country's markets should close some of their own markets to the other country in order to pressure the other country to reopen its markets. If every country acted according to this theory, no country would trade with any other.

The commentator's argument relies on which of the following assumptions?

(A) No country actually acts according to the theory of trade retaliation.

(B) No country should block any of its markets to foreign trade.

(C) Trade disputes should be settled by international tribunal.

(D) For any two countries, at least one has some market closed to the other.

(E) Countries close their markets to foreigners to protect domestic producers.

Argument Construction

Situation The theory of trade retaliation is explained as the action and reaction of closing markets between trading nations; no country would ever trade with another, the observation is offered, if every country acted according to the theory.

Reasoning *What assumption underlies this argument?* What makes the commentator conclude that no country would be trading if the theory were operative? The commentator must perceive of some condition as a given here. The argument assumes an initial action, a country's closing of a market to a trading partner, that is followed by a reaction, the retaliatory closing of a market by that partner. In this unending pattern of action-reaction, at least one of the two countries must have a market closed to the other.

A Any one country may act according to the theory, but not *every* country.

B The argument assumes that countries do block markets to foreign trade.

C An international tribunal is not mentioned in the argument.

D Correct. This statement properly identifies the assumption required to create the never-ending action-reaction pattern.

E The argument does not discuss the protection of domestic trade.

The correct answer is D.

97. Although parapsychology is often considered a pseudoscience, it is in fact a genuine scientific enterprise, for it uses scientific methods such as controlled experiments and statistical tests of clearly stated hypotheses to examine the questions it raises.

The conclusion above is properly drawn if which of the following is assumed?

(A) If a field of study can conclusively answer the questions it raises, then it is a genuine science.

(B) Since parapsychology uses scientific methods, it will produce credible results.

(C) Any enterprise that does not use controlled experiments and statistical tests is not genuine science.

(D) Any field of study that employs scientific methods is a genuine scientific enterprise.

(E) Since parapsychology raises clearly statable questions, they can be tested in controlled experiments.

Argument construction

Situation The argument states that parapsychology is a genuine science because it uses scientific methods.

Reasoning *What assumption does the argument make?* The argument asserts that parapsychology is a science *for it uses scientific methods*. The argument thus assumes that the use of scientific methods proves that a field of study is a genuine science.

A The argument is based on an assumption about how the questions are investigated rather than on how well they are answered.

B The argument is not about whether the results are credible, so this assumption is irrelevant.

C The argument does not concern what is *not* genuine science, so there is no need for this assumption.

D **Correct.** This statement properly identifies the argument's assumption that the use of scientific methods is sufficient to make an enterprise genuine science.

E This assumption about the relation between statable hypotheses and controlled experiments is not necessary to the argument.

The correct answer is D.

98. Hotco oil burners, designed to be used in asphalt plants, are so efficient that Hotco will sell one to the Clifton Asphalt plant for no payment other than the cost savings between the total amount the asphalt plant actually paid for oil using its former burner during the last two years and the total amount it will pay for oil using the Hotco burner during the next two years. On installation, the plant will make an estimated payment, which will be adjusted after two years to equal the actual cost savings.

Which of the following, if it occurred, would constitute a disadvantage for Hotco of the plan described above?

(A) Another manufacturer's introduction to the market of a similarly efficient burner

(B) The Clifton Asphalt plant's need for more than one new burner

(C) Very poor efficiency in the Clifton Asphalt plant's old burner

(D) A decrease in the demand for asphalt

(E) A steady increase in the price of oil beginning soon after the new burner is installed

Evaluation of a Plan

Situation Hotco produces a very efficient oil burner. It sells a burner to an asphalt plant, stating that the price of the burner is how much money the plant saves on oil using the new burner.

Reasoning *Hotco will be at a disadvantage if which of the following occurs?* Hotco is to be paid based on how much money the plant saves on oil over a two-year period. There is an assumption that a number of factors will remain relatively stable from the previous two years to the next two years. What is a factor that could cause a disadvantage for Hotco? If the price of oil goes up, then the plant will experience smaller savings than Hotco anticipated, despite the plant's using less oil than previously because of its new, more efficient burners. If the plant's savings go down, Hotco will not get the payment it is expecting.

A The burner is already installed, so a competitor is not a problem.

B The plant's need for multiple burners should be an opportunity for Hotco, not a disadvantage.

C If the old burner was very inefficient, the new burner should save a great deal of money that would ultimately go to Hotco.

D If demand decreases, less oil would need to be purchased, and Hotco would get more money.

E **Correct.** This statement properly identifies a factor that would constitute a disadvantage for the plan: since the payment for the burner is based on savings in oil purchases, any increases in the price of oil will decrease savings and thus decrease payments to Hotco.

The correct answer is E.

99. An experiment was done in which human subjects recognize a pattern within a matrix of abstract designs and then select another design that completes that pattern. The results of the experiment were surprising. The lowest expenditure of energy in neurons in the brain was found in those subjects who performed most successfully in the experiments.

Which of the following hypotheses best accounts for the findings of the experiment?

(A) The neurons of the brain react less when a subject is trying to recognize patterns than when the subject is doing other kinds of reasoning.

(B) Those who performed best in the experiment experienced more satisfaction when working with abstract patterns than did those who performed less well.

(C) People who are better at abstract pattern recognition have more energy-efficient neural connections.

(D) The energy expenditure of the subjects' brains increases when a design that completes the initially recognized pattern is determined.

(E) The task of completing a given design is more capably performed by athletes, whose energy expenditure is lower when they are at rest.

Argument Construction

Situation Experimental subjects worked with pattern recognition and completion. The subjects who performed best showed the lowest expenditure of energy in neurons in the brain.

Reasoning *Which hypothesis best accounts for the findings?* In order to account for the findings, the hypothesis must suggest a plausible link between successful performance and the energy expenditure of neurons in the brain. Consider each answer choice, and evaluate its plausibility and logic. Where is there a reasonably direct relationship between the given factors and the conclusion that is drawn? Understand that hypotheses based on factors not included in the experiment cannot be used to account for the findings.

A The experiment did not compare types of reasoning so this hypothesis does not account for the results.

B Subjects' satisfaction is not in question in this experiment.

C **Correct.** This statement properly identifies a hypothesis that connects subjects' performance with their energy expenditure and so could account for the experiment's results.

D The experiment did not compare energy expenditure in different phases of the experiment.

E No information is offered on the subjects, so no hypothesis about athletes is warranted.

The correct answer is C.

100. One way to judge the performance of a company is to compare it with other companies. This technique, commonly called "benchmarking," permits the manager of a company to discover better industrial practices and can provide a justification for the adoption of good practices.

Any of the following, if true, is a valid reason for benchmarking the performance of a company against companies with which it is not in competition rather than against competitors EXCEPT:

(A) Comparisons with competitors are most likely to focus on practices that the manager making the comparisons already employs.

(B) Getting "inside" information about the unique practices of competitors is particularly difficult.

(C) Since companies that compete with each other are likely to have comparable levels of efficiency, only benchmarking against noncompetitors is likely to reveal practices that would aid in beating competitors.

(D) Managers are generally more receptive to new ideas that they find outside their own industry.

(E) Much of the success of good companies is due to their adoption of practices that take advantage of the special circumstances of their products or markets.

Argument Construction

Situation "Benchmarking" is a technique for judging the performance of a company by comparing it with other companies. The goal is to find and adopt better industrial practices.

Reasoning *Which one condition does NOT recommend benchmarking against noncompetitors? Which one condition IS a well-founded reason to benchmark against competitors?* First, sort through the given information and the answer choices for the question to gain an understanding of the potential advantages or disadvantages of comparing a company to its competitors or to noncompetitors. What are the reasons in favor of benchmarking against noncompetitors? Information about noncompeting companies is easier to obtain; it can offer new insights; and it may be easier to put into practice. Why then might a manager choose to benchmark against competitors? Competing companies do share special circumstances involving products and markets. If companies are often successful because of practices related to these special circumstances within their industry, then benchmarking against competitors will reveal these practices and so be more fruitful than benchmarking against noncompetitors.

A Since benchmarking against competitors would yield few new practices, it would be better to benchmark against noncompetitors.

B If information about competitors is hard to obtain, benchmarking against noncompetitors is preferable.

C Since benchmarking against noncompetitors would yield practices useful in beating competitors, benchmarking against noncompetitors is preferable.

D If managers are more likely to adopt new practices learned from benchmarking against noncompetitors, then this technique is preferable.

E **Correct.** This statement properly identifies the rationale that supports a company's benchmarking against its competitors.

The correct answer is E.

101. For a trade embargo against a particular country to succeed, a high degree of both international accord and ability to prevent goods from entering or leaving that country must be sustained. A total blockade of Patria's ports is necessary to an embargo, but such an action would be likely to cause international discord over the embargo.

The claims above, if true, most strongly support which of the following conclusions?

(A) The balance of opinion is likely to favor Patria in the event of a blockade.

(B) As long as international opinion is unanimously against Patria, a trade embargo is likely to succeed.

(C) A naval blockade of Patria's ports would ensure that no goods enter or leave Patria.

(D) Any trade embargo against Patria would be likely to fail at some time.

(E) For a blockade of Patria's ports to be successful, international opinion must be unanimous.

Argument Construction

Situation The success of a trade embargo requires both international accord and the ability to enforce the embargo. In the case of Patria, an embargo would require a total blockade of the ports, but the blockade itself would likely lead to international discord.

Reasoning *What conclusion can be drawn from this information?* A conclusion must be based only on the information provided. Since the given information discusses the general conditions for a successful trade embargo and the conditions specific to the possible embargo in Patria, the conclusion should be about the likelihood of success for a trade embargo against Patria. Since international accord is necessary for the success of an embargo but the blockade required in this case would create international discord, the contradictions of this paradoxical situation make any embargo unlikely to succeed.

A Since no information is given about the balance of opinion, no conclusion about it is justified.

B This conclusion contradicts the given information, and so it is not justified.

C This statement simply defines the purpose of a blockade; it is not a conclusion from the information given.

D Correct. This statement properly identifies a conclusion supported by the claims.

E This statement contradicts the given information and cannot be a justifiable conclusion.

The correct answer is D.

Questions 102–103 are based on the following:

The average life expectancy for the United States population as a whole is 73.9 years, but children born in Hawaii will live an average of 77 years, and those born in Louisiana, 71.7 years. If a newlywed couple from Louisiana were to begin their family in Hawaii, therefore, their children would be expected to live longer than would be the case if the family remained in Louisiana.

102. Which of the following, if true, would most seriously weaken the conclusion drawn in the passage?

(A) Insurance company statisticians do not believe that moving to Hawaii will significantly lengthen the average Louisianan's life.

(B) The governor of Louisiana has falsely alleged that statistics for his state are inaccurate.

(C) The longevity ascribed to Hawaii's current population is attributable mostly to genetically determined factors.

(D) Thirty percent of all Louisianans can expect to live longer than 77 years.

(E) Most of the Hawaiian Islands have levels of air pollution well below the national average for the United States.

Argument Evaluation

Situation Because average life expectancy is greater in Hawaii than in Louisiana, it is said that the prospective children of a newlywed Louisiana couple who moved to Hawaii would live longer.

Reasoning *What point weakens the conclusion?* The passage says that people in Hawaii live longer but does not say why they do. If the cause lies largely in the genetic endowment of native Hawaiians, then the couple's hopes for their children are unfounded because their children will inherit their parents' genetic makeup.

A The argument concerns only people born in Hawaii, not people like the newlywed couple who move there.

B Since the governor's statement is false, the statistics showing Louisiana's shorter life span remain true; the conclusion is not weakened.

C **Correct.** This statement properly identifies a point that would weaken the conclusion.

D The conclusion concerns the average life span of all Louisianans, not 30 percent of them. This 30 percent would be included in the statistical average.

E The lower levels of pollution may contribute to the longer life span Hawaiians enjoy; thus, this strengthens rather than weakens the conclusion.

The correct answer is C.

103. Which of the following statements, if true, would most significantly strengthen the conclusion drawn in the passage?

(A) As population density increases in Hawaii, life expectancy figures for that state are likely to be revised downward.

(B) Environmental factors tending to favor longevity are abundant in Hawaii and less numerous in Louisiana.

(C) Twenty-five percent of all Louisianans who move to Hawaii live longer than 77 years.

(D) Over the last decade, average life expectancy has risen at a higher rate for Louisianans than for Hawaiians.

(E) Studies show that the average life expectancy for Hawaiians who move permanently to Louisiana is roughly equal to that of Hawaiians who remain in Hawaii.

Argument Evaluation

Situation Because average life expectancy is greater in Hawaii than in Louisiana, it is said that the prospective children of a newlywed Louisiana couple who moved to Hawaii would live longer. (The same as the previous item.)

Reasoning *What point strengthens the conclusion?* If the reason that people born in Hawaii live longer may be explained by favorable environmental factors that are absent or infrequent in Louisiana, then the couple's hopes for their children are well founded. All children born in Hawaii benefit from environmental factors that favor longevity, so the children of the Louisiana couple would have a longer life expectancy.

A The downward trend of life expectancy weakens the conclusion.

B **Correct.** This statement properly identifies a factor that strengthens the conclusion.

C The argument is about the average life span; the 25 percent of Louisianans who live longer are irrelevant. This percentage would be included in the statistical average.

D The rise in life expectancy would be included in the statistics, so that rise still brings the average to 71.7 years.

E The reverse move—of Hawaiians to Louisiana—is irrelevant to the conclusion.

The correct answer is B.

104. The cost of producing radios in Country Q is 10 percent less than the cost of producing radios in Country Y. Even after transportation fees and tariff charges are added, it is still cheaper for a company to import radios from Country Q to Country Y than to produce radios in Country Y.

The statements above, if true, best support which of the following assertions?

(A) Labor costs in Country Q are 10 percent below those in Country Y.

(B) Importing radios from Country Q to Country Y will eliminate 10 percent of the manufacturing jobs in Country Y.

(C) The tariff on a radio imported from Country Q to Country Y is less than 10 percent of the cost of manufacturing the radio in Country Y.

(D) The fee for transporting a radio from Country Q to Country Y is more than 10 percent of the cost of manufacturing the radio in Country Q.

(E) It takes 10 percent less time to manufacture a radio in Country Q than it does in Country Y.

Argument Construction

Situation One country's manufacturing costs for a product are 10 percent higher than another country's. Even with tariffs and transportation costs, importing is a less expensive option than local production.

Reasoning *What conclusion can be drawn from this information?* Because production costs are 10 percent higher in Country Y than in Country Q, importing radios is less expensive only if the combined costs of tariffs and transportation are less than 10 percent of the manufacturing costs.

A Lower labor costs may explain the lower production costs in Country Q, but there may be a variety of other reasons as well.

B It is possible that manufacturing jobs would be decreased, but no evidence in the passage leads to that conclusion.

C **Correct.** This statement properly identifies the point that, for importing to be less expensive, tariffs and transportation costs together must be less than 10 percent of manufacturing costs. Therefore, tariffs alone must be less than 10 percent

D If transportation costs were more than 10 percent, importing would be more expensive, not less.

E Less production time may explain the lower costs in Country Q, but there may be a variety of other reasons as well.

The correct answer is C.

105. The average normal infant born in the United States weighs between 12 and 14 pounds at the age of three months. Therefore, if a three-month-old child weighs only 10 pounds, its weight gain has been below the United States average.

Which of the following indicates a flaw in the reasoning above?

(A) Weight is only one measure of normal infant development.

(B) Some three-month-old children weigh as much as 17 pounds.

(C) It is possible for a normal child to weigh 10 pounds at birth.

(D) The phrase "below average" does not necessarily mean insufficient.

(E) Average weight gain is not the same as average weight.

Argument Evaluation

Situation An infant's low weight at three months, compared with the national average, shows that the child's weight gain has not been average.

Reasoning *How is this reasoning flawed?* The conclusion relies on a direct connection between average weight and average weight gain. While the infant's weight is known to be below average for a three-month-old child, no conclusion can be drawn about this infant's weight gain. No information is given about average birth weights or average weight gains.

A The passage does not say that weight is the sole measure of development; this statement fails to point out any error in the reasoning.

B The greater weight of some infants would be calculated in reaching the average.

C This birth weight may be consistent with the weight range at three months; not enough information is provided to make a judgment.

D The passage does not claim that *below average* is the same as *insufficient*, so pointing out the distinction does not show an error in the reasoning.

E **Correct.** This statement properly identifies the logical flaw in the reasoning, which takes evidence about average weight to draw a conclusion about average weight gain. The two measures are not the same.

The correct answer is E.

106. In the aftermath of a worldwide stock-market crash, Country T claimed that the severity of the stock-market crash it experienced resulted from the accelerated process of denationalization many of its industries underwent shortly before the crash.

Which of the following, if it could be carried out, would be most useful in an evaluation of Country T's assessment of the causes of the severity of its stock-market crash?

(A) Calculating the average loss experienced by individual traders in Country T during the crash

(B) Using economic theory to predict the most likely date of the next crash in Country T

(C) Comparing the total number of shares sold during the worst days of the crash in Country T to the total number of shares sold in Country T just prior to the crash

(D) Comparing the severity of the crash in Country T to the severity of the crash in countries otherwise economically similar to Country T that have not experienced recent denationalization

(E) Comparing the long-term effects of the crash on the purchasing power of the currency of Country T to the immediate, more severe short-term effects of the crash on the purchasing power of the currency of Country T

Argument Evaluation

Situation A country attributes the severity of its stock-market crash to the denationalization of its industries shortly before the crash.

Reasoning *How could the country determine whether denationalization caused the severity of the crash?* Country T concludes that there is one reason for the severity of its crash, denationalization. If Country T can find countries similar economically to itself that also suffered a stock market crash, but that had not denationalized, then it has the basis for a sound comparison. If these countries' crashes were not as severe, then the conclusion is justified. If the countries had crashes as severe or more severe, then the conclusion is not justified. The comparison with economically similar countries that have experienced crashes but had not denationalized should thus provide evidence showing whether denationalization was to blame or not.

A This method shows only the severity of the loss in Country T; it does nothing to show the cause of the loss.

B Predicting the date of the next crash does not explain the cause of the current one.

C Comparing the number of shares sold before and during the crash may show how bad the crash was, but it does not reveal its cause.

D Correct. This statement properly identifies an action that would help assess the cause of the crash.

E Comparing long- and short-term effects will reveal the severity of the crash rather than the cause of that severity.

The correct answer is D.

107. Kale has more nutritional value than spinach. But since collard greens have more nutritional value than lettuce, it follows that kale has more nutritional value than lettuce.

Any of the following, if introduced into the argument as an additional premise, makes the argument above logically correct EXCEPT:

(A) Collard greens have more nutritional value than kale.
(B) Spinach has more nutritional value than lettuce.
(C) Spinach has more nutritional value than collard greens.
(D) Spinach and collard greens have the same nutritional value.
(E) Kale and collard greens have the same nutritional value.

Argument Construction

Situation Using the symbol > to mean "has (or have) more nutritional value than," this statement can be expressed as kale > spinach, and collard greens > lettuce. The conclusion that kale > lettuce remains valid if all but one of the premises is added.

Reasoning *Which premise makes the conclusion incorrect?* The information given in the passage is that kale > spinach and that collard greens > lettuce. This is not enough to conclude that kale > lettuce; another premise is needed to establish the relative nutritional value of kale and lettuce. Look at each premise offered in the answers to see whether the conclusion kale > lettuce remains valid. The ranking of vegetables may change with the additional premises; the conclusion, kale > lettuce, must not change. Find the one answer that does NOT support the conclusion.

A **Correct.** This statement properly identifies an additional premise that would invalidate the argument. If collard greens > kale, then it is possible that lettuce > kale, because the ranking could be collard greens > lettuce > kale > spinach.

B If spinach > lettuce, then kale > lettuce because kale > spinach.

C If spinach > collard greens, then kale > lettuce because the ranking would then be kale > spinach > collard greens > lettuce.

D If spinach = collard greens, then kale > lettuce because the ranking would be kale > spinach = collard greens > lettuce.

E If kale = collard greens, then kale > lettuce because kale = collard greens > lettuce.

The correct answer is A.

108. Although custom prosthetic bone replacements produced through a new computer-aided design process will cost more than twice as much as ordinary replacements, custom replacements should still be cost-effective. Not only will surgery and recovery time be reduced, but custom replacements should last longer, thereby reducing the need for further hospital stays.

Which of the following must be studied in order to evaluate the argument presented above?

(A) The amount of time a patient spends in surgery *versus* the amount of time spent recovering from surgery

(B) The amount by which the cost of producing custom replacements has declined with the introduction of the new technique for producing them

(C) The degree to which the use of custom replacements is likely to reduce the need for repeat surgery when compared with the use of ordinary replacements

(D) The degree to which custom replacements produced with the new technique are more carefully manufactured than are ordinary replacements

(E) The amount by which custom replacements produced with the new technique will drop in cost as the production procedures become standardized and applicable on a larger scale

Argument Evaluation

Situation Custom prosthetic bone replacements, although twice as expensive as ordinary replacements, should be cost effective because they reduce the time of surgery, recovery, and potential future hospitalizations.

Reasoning *What research study would help in evaluating this argument?* The custom replacements must be compared with the ordinary replacements on the basis of the costs of surgery, recovery, and potential repeat hospitalizations. Repeat surgery involves all three kinds of costs; the extent to which such repeat surgery can be avoided is a sound measure of the cost effectiveness of the two types of replacements.

A Comparing time in surgery with time in recovery does not lead to a conclusion about the two kinds of replacements and their cost effectiveness.

B The cost effectiveness of the custom replacements is being projected in the current moment; a previous decline in production costs would already have been taken into account.

C **Correct.** This statement properly identifies evidence of cost effectiveness that would assist in evaluating the argument.

D The analysis is about cost effectiveness; it is not about the level of care taken in manufacture.

E Anticipating a future drop in production costs is outside the scope of the analysis, which should be based on current conditions.

The correct answer is C.

108. Although custom prosthetic bone replacements produced through a new computer-aided design process will cost more than twice as much as ordinary replacements, custom replacements should still be cost-effective. Not only will surgery and recovery time be reduced, but custom replacements should last longer, thereby reducing the need for further hospital stays.

Which of the following must be studied in order to evaluate the argument presented above?

(A) The amount of time a patient spends in surgery *versus* the amount of time spent recovering from surgery

(B) The amount by which the cost of producing custom replacements has declined with the introduction of the new technique for producing them

(C) The degree to which the use of custom replacements is likely to reduce the need for repeat surgery when compared with the use of ordinary replacements

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Argument Evaluation

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D The analysis is about cost effectiveness; it is not about the level of care taken in manufacture.

E Anticipating a future drop in production costs is outside the scope of the analysis, which should be based on current conditions.

The correct answer is C.

110. "Fast cycle time" is a strategy of designing a manufacturing organization to eliminate bottlenecks and delays in production. Not only does it speed up production, but it also ensures quality. The reason is that the bottlenecks and delays cannot be eliminated unless all work is done right the first time.

The claim about quality made above rests on a questionable presupposition that _____.

(A) any flaw in work on a product would cause a bottleneck or delay and so would be prevented from occurring on a "fast cycle" production line

(B) the strategy of "fast cycle time" would require fundamental rethinking of product design

(C) the primary goal of the organization is to produce a product of unexcelled quality, rather than to generate profits for stockholders

(D) "fast cycle time" could be achieved by shaving time off each of the component processes in a production cycle

(E) "fast cycle time" is a concept in business strategy that has not yet been put into practice in a factory

Argument Construction

Situation Eliminating production bottlenecks and delays is a strategy that ensures higher quality because all work must be done right the first time.

Reasoning *What questionable assumption is the basis for the claim about ensured quality?* The argument assumes that any problem with a product would cause a bottleneck or a delay in production. It is entirely possible that there might be flaws that might not cause such problems; thus, the assumption is questionable.

A **Correct.** This statement properly identifies the questionable assumption that all flaws must cause bottlenecks or delays. The assumption is questionable since flaws might well exist without causing such problems.

B The claim is about the quality of the product, so the assumption must relate to the production of the product; rethinking product design is an unrelated issue.

C The primary goal of the organization is outside the scope of the claim.

D The assumption is about the product that is the result of "fast cycle time"; it is not about a specific method for implementing "fast cycle time."

E The assumption is about the product; it is not concerned with whether the method has previously been put into practice.

The correct answer is A.

111. Sales of telephones have increased dramatically over the last year. In order to take advantage of this increase, Mammoth Industries plans to expand production of its own model of telephone, while continuing its already very extensive advertising of this product.

Which of the following, if true, provides most support for the view that Mammoth Industries *cannot* increase its sales of telephones by adopting the plan outlined above?

(A) Although it sells all the telephones that it produces, Mammoth Industries' share of all telephone sales has declined over the last year.

(B) Mammoth Industries' average inventory of telephones awaiting shipment to retailers has declined slightly over the last year.

(C) Advertising has made the brand name of Mammoth Industries' telephones widely known, but few consumers know that Mammoth Industries owns this brand.

(D) Mammoth Industries' telephone is one of three brands of telephone that have together accounted for the bulk of the last year's increase in sales.

(E) Despite a slight decline in the retail price, sales of Mammoth Industries' telephones have fallen in the last year.

Evaluation of a Plan

Situation A company wants to take advantage of the rising sales of telephones to produce more of its current telephone model and to continue its extensive advertising of the product.

Reasoning *What point suggests that the plan will fail?* The company plans to increase production of its current model. If that product has been successful so far, then expanded production and continued advertising should lead to continued success. Any evidence that the company's product has been failing—at a time when overall product sales are generally increasing—would undermine the anticipated success of a plan to increase sales. Expanding the production of an unsuccessful product will not lead to more of its being sold.

A If the company is successfully selling all its phones, then a plan to produce more is likely to increase sales. This statement argues for rather than against the plan.

B The decline in inventory suggests that demand is outpacing production, so producing more telephones is again likely to increase sales.

C It is irrelevant to the argument that consumers do not know the owner of the brand name.

D If the sales of its telephone have been successful, then the company's plan to produce more is likely to increase sales. This statement argues for rather than against the plan.

E **Correct.** This statement properly identifies evidence supporting the view that the plan will NOT succeed.

The correct answer is E.

112. In tests for pironoma, a serious disease, a false positive result indicates that people have pironoma when, in fact, they do not; a false negative result indicates that people do not have pironoma when, in fact, they do. To detect pironoma most accurately, physicians should use the laboratory test that has the lowest proportion of false positive results.

Which of the following, if true, gives the most support to the recommendation above?

(A) The accepted treatment for pironoma does not have damaging side effects.

(B) The laboratory test that has the lowest proportion of false positive results causes the same minor side effects as do the other laboratory tests used to detect pironoma.

(C) In treating pironoma patients, it is essential to begin treatment as early as possible, since even a week of delay can result in loss of life.

(D) The proportion of inconclusive test results is equal for all laboratory tests used to detect pironoma.

(E) All laboratory tests to detect pironoma have the same proportion of false negative results.

Argument Construction

Situation Laboratory tests for a serious disease may give false results: either a false positive, which wrongly indicates the presence of the disease when it is absent, or a false negative, which wrongly indicates the absence of the disease when it is present. Accurate testing for the disease should use the one test (of all the laboratory tests) that has the lowest proportion of false positives.

Reasoning *What is the most accurate way to detect the disease?* The given recommendation is to use the test that least often indicates a false positive. What therefore needs to be true about the accuracy of all the laboratory tests? If the proportion of false positives is the determining variable in the choice of the most accurate test, then the different tests for the disease must have the same proportion of false negative results. Thus, the test that leads to the lowest proportion of false positive results must have the fewest false results overall and must give the most accurate results of all the tests.

A The treatment of the disease is outside the scope of this question about accurate testing.

B Possible side effects are irrelevant to determining which test is most accurate.

C The treatment plan is irrelevant to an evaluation of the diagnostic tests.

D The existence of an equal number of inconclusive results for all tests leaves unanswered the question of which test is most accurate, that is, which test has the fewest false results.

E **Correct.** This statement properly identifies the fact supporting the recommendation.

The correct answer is E.

113. The difficulty with the proposed high-speed train line is that a used plane can be bought for one-third the price of the train line, and the plane, which is just as fast, can fly anywhere. The train would be a fixed linear system, and we live in a world that is spreading out in all directions and in which consumers choose the free-wheel systems (cars, buses, aircraft), which do not have fixed routes. Thus a sufficient market for the train will not exist.

Which of the following, if true, most severely weakens the argument presented above?

(A) Cars, buses, and planes require the efforts of drivers and pilots to guide them, whereas the train will be guided mechanically.

(B) Cars and buses are not nearly as fast as the high-speed train will be.

(C) Planes are not a free-wheel system because they can fly only between airports, which are less convenient for consumers than the high-speed train's stations would be.

(D) The high-speed train line cannot use currently underutilized train stations in large cities.

(E) For long trips, most people prefer to fly rather than to take ground-level transportation.

Argument Evaluation

Situation A free-wheel system of transportation, the airplane, is as fast as a fixed linear system, the high-speed train. Because people prefer free-wheel systems that do not have fixed routes, the high-speed train will never find a sufficient market.

Reasoning *What is the potential weakness in this argument?* The passage argues that consumers will choose to fly rather than use the high-speed train. The argument is based upon a consumer preference for free-wheel systems over fixed linear systems. The definition of a free-wheel system is one that does *not have fixed routes*. The argument is weakened by any challenge to the definition of flying as a free-wheel transportation system. It is true that airplanes may be able to go almost anywhere, but commercial airlines do establish fixed routes and necessarily must travel to and from airports. Furthermore, if airports are less conveniently located for consumers than are train terminals, consumers might well prefer the more convenient of the two fixed-route alternatives.

A The method of guidance is irrelevant to the argument.

B The passage compares the speed and system models of airplanes and high-speed trains. The argument does not incorporate buses and cars, which are included only to give examples of free-wheel systems, and so this statement is irrelevant.

C **Correct.** This statement properly identifies the weakness in the argument: airplanes are not truly a free-wheel system because they are restricted to traveling between airports. Additionally, airports tend to be less conveniently located than are train terminals, which has further potential to weaken the argument in favor of airplanes.

D The inability of high-speed trains to use some convenient train stations strengthens, rather than weakens, the argument in favor of airplanes.

E Consumer preference for air travel over ground travel on long trips strengthens, rather than weakens, the argument in favor of airplanes.

The correct answer is C.

Questions 114–115 are based on the following:

114. According to the Tristate Transportation Authority, making certain improvements to the main commuter rail line would increase ridership dramatically. The authority plans to finance these improvements over the course of five years by raising automobile tolls on the two highway bridges along the route the rail line serves. Although the proposed improvements are indeed needed, the authority's plan for securing the necessary funds should be rejected because it would unfairly force drivers to absorb the entire cost of something from which they receive no benefit.

Which of the following, if true, would cast the most doubt on the effectiveness of the authority's plan to finance the proposed improvements by increasing bridge tolls?

(A) Before the authority increases tolls on any of the area bridges, it is required by law to hold public hearings at which objections to the proposed increase can be raised.

(B) Whenever bridge tolls are increased, the authority must pay a private contractor to adjust the automated toll-collecting machines.

(C) Between the time a proposed toll increase is announced and the time the increase is actually put into effect, many commuters buy more tokens than usual to postpone the effects of the increase.

(D) When tolls were last increased on the two bridges in question, almost 20 percent of the regular commuter traffic switched to a slightly longer alternative route that has since been improved.

(E) The chairman of the authority is a member of the Tristate Automobile Club, which has registered strong opposition to the proposed toll increase.

Evaluation of a Plan

Situation A transportation authority plans to pay for improvements to a commuter rail line by raising automobile tolls on the two highway bridges along the route the rail line serves. One objection to this plan is that drivers will have to pay for something from which they will not benefit.

Reasoning *What casts doubt on how well the financing plan would work?* Any financing plan is based on estimates of costs and revenues, and any factor that significantly increases costs or lowers revenues threatens the effectiveness of that plan. The authority's plan makes a revenue projection based on the current number of drivers who use the bridges and thus will pay the increased tolls. If there is a precedent that a significant percentage of regular commuters had previously used an alternate route in order to avoid the increased tolls on these specific bridges, then the revenue basis for the financing plan is considerably undermined. If that substitute route has since become an even more appealing alternative, the effectiveness of the plan is further threatened.

A Objections to the plan at public hearings do not affect how well the financing plan will work.

B The one-time costs of changing the automatic toll-collectors would not be significant given the five years of revenue from the increased tolls.

C Revenue lost to token hoarding is insignificant compared to the revenue gained from five years of increased tolls.

D Correct. This statement properly identifies a factor that weakens the authority's financing plan.

E Opposition to the increased toll can be expected; it does not mean that the plan will be less effective.

The correct answer is D.

115. Which of the following, if true, would provide the authority with the strongest counter to the objection that its plan is unfair?

(A) Even with the proposed toll increase, the average bridge toll in the tristate region would remain less than the tolls charged in neighboring states.

(B) Any attempt to finance the improvements by raising rail fares would result in a decrease in ridership and so would be self-defeating.

(C) Automobile commuters benefit from well-maintained bridges, and in the tristate region bridge maintenance is funded out of general income tax revenues to which both automobile and rail commuters contribute.

(D) The roads along the route served by the rail line are highly congested and drivers benefit when commuters are diverted from congested roadways to mass transit.

(E) The only alternative way of funding the proposed improvements now being considered is through a regional income tax surcharge, which would affect automobile commuters and rail commuters alike.

Evaluation of a Plan

Situation A transportation authority plans to pay for improvements to a commuter rail line by raising automobile tolls on the two highway bridges along the route the rail line serves. One objection to this plan is that drivers will have to pay for something from which they will not benefit. (The same as the previous item.)

Reasoning *What is the best rebuttal to the charge of unfairness?* It is objected that the drivers pay the increased toll but receive no benefit. The best way for the authority to answer this objection is to point out a way that drivers do benefit. Because some people will choose the train instead of the car, traffic congestion will decrease.

A The relatively low toll shows merely that these drivers are not paying as much as their counterparts in neighboring states.

B Showing that this particular alternative approach would not work does not counter the argument that the drivers receive no benefit.

C This alternate plan does not show that the bridge toll is fair.

D **Correct.** This statement properly identifies the rebuttal to the allegations of unfairness: improving traffic congestion is a significant benefit for drivers.

E This alternative plan distributes the cost among a wider group of people, but it does not answer the objection that the bridge toll is unfair to drivers.

The correct answer is D.

116. The pharmaceutical industry argues that because new drugs will not be developed unless heavy development costs can be recouped in later sales, the current 20 years of protection provided by patents should be extended in the case of newly developed drugs. However, in other industries new-product development continues despite high development costs, a fact that indicates that the extension is unnecessary.

Which of the following, if true, most strongly supports the pharmaceutical industry's argument against the challenge made above?

(A) No industries other than the pharmaceutical industry have asked for an extension of the 20-year limit on patent protection.

(B) Clinical trials of new drugs, which occur after the patent is granted and before the new drug can be marketed, often now take as long as 10 years to complete.

(C) There are several industries in which the ratio of research and development costs to revenues is higher than it is in the pharmaceutical industry.

(D) An existing patent for a drug does not legally prevent pharmaceutical companies from bringing to market alternative drugs, provided they are sufficiently dissimilar to the patented drug.

(E) Much recent industrial innovation has occurred in products—for example, in the computer and electronics industries—for which patent protection is often very ineffective.

Argument Evaluation

Situation The pharmaceutical industry argues for longer patents for new drugs to offset high development costs, claiming that no new drugs can be developed profitably otherwise. Its critics argue that the patent extension is unnecessary because other industries with high development costs keep developing new products.

Reasoning *How can the pharmaceutical industry best answer the challenge concerning other industries?* The pharmaceutical industry must explain how it differs from other industries. Unlike other industries, it must wait for clinical trials of new drugs before those drugs can be marketed. The clinical trials may take half the patent period, so the pharmaceutical industry may have only half the time allowed to other industries to market new products and recover development costs.

A Other industries' failure to ask for the same extension does not justify the pharmaceutical industry request.

B **Correct.** This statement properly identifies evidence that supports the pharmaceutical industry's argument.

C Pointing out that other industries may have even higher ratios of costs to revenues weakens the pharmaceutical industry's argument.

D If alternative drugs can rival a patented drug, then the extended patent protection the pharmaceutical industry seeks would appear to be useless.

E Innovation's effects on patent protection in other industries do not explain why the pharmaceutical industry needs longer patent protection.

The correct answer is B.

117. Caterpillars of all species produce an identical hormone called "juvenile hormone" that maintains feeding behavior. Only when a caterpillar has grown to the right size for pupation to take place does a special enzyme halt the production of juvenile hormone. This enzyme can be synthesized and will, on being ingested by immature caterpillars, kill them by stopping them from feeding.

Which of the following, if true, most strongly supports the view that it would NOT be advisable to try to eradicate agricultural pests that go through a caterpillar stage by spraying croplands with the enzyme mentioned above?

(A) Most species of caterpillar are subject to some natural predation.

(B) Many agricultural pests do not go through a caterpillar stage.

(C) Many agriculturally beneficial insects go through a caterpillar stage.

(D) Since caterpillars of different species emerge at different times, several sprayings would be necessary.

(E) Although the enzyme has been synthesized in the laboratory, no large-scale production facilities exist as yet.

Argument Evaluation

Situation The feeding behavior of immature caterpillars of all species is regulated by the "juvenile hormone"; an enzyme stops the production of this hormone when the caterpillars have reached an appropriate level of growth. At any earlier stage, ingesting this enzyme, which can be produced synthetically, kills the immature caterpillars because they stop feeding. It can then be argued that it is unwise to spray croplands with this enzyme to eradicate agricultural pests that undergo a caterpillar stage.

Reasoning *What evidence strengthens the argument that the synthetic enzyme should NOT be sprayed on croplands?* Spraying the enzyme will kill all insects that go through a caterpillar stage. If the goal is to eradicate insect pests by killing them at the caterpillar stage, why is this spraying inadvisable? The relationship between crops and insects is complicated; while some insects harm crops, others benefit them. If the spraying kills all susceptible insects, regardless of whether they harm or help the crops, it can also destroy agriculturally beneficial insects. This is a good reason to conclude that spraying is not advisable.

A Spraying would eradicate all pests that go through a caterpillar stage and so is more effective than natural predators would be. This statement provides no reason not to spray.

B Spraying affects only those agricultural pests that do go through a caterpillar stage, so this statement is irrelevant.

C **Correct.** This statement properly identifies evidence that strengthens the argument against doing such spraying.

D The need to spray repeatedly does not mean that spraying is inadvisable, but simply that the process will be more complicated.

E The lack of production facilities for the synthetic hormone does not mean that the spraying is inadvisable.

The correct answer is C.

118. Firms adopting "profit-related-pay" (PRP) contracts pay wages at levels that vary with the firm's profits. In the metalworking industry last year, firms with PRP contracts in place showed productivity per worker on average 13 percent higher than that of their competitors who used more traditional contracts.

If, on the basis of the evidence above, it is argued that PRP contracts increase worker productivity, which of the following, if true, would most seriously weaken that argument?

(A) Results similar to those cited for the metalworking industry have been found in other industries where PRP contracts are used.

(B) Under PRP contracts costs other than labor costs, such as plant, machinery, and energy, make up an increased proportion of the total cost of each unit of output.

(C) Because introducing PRP contracts greatly changes individual workers' relationships to the firm, negotiating the introduction of PRP contracts is complex and time-consuming.

(D) Many firms in the metalworking industry have modernized production equipment in the last five years, and most of these introduced PRP contracts at the same time.

(E) In firms in the metalworking industry where PRP contracts are in place, the average take-home pay is 15 percent higher than it is in those firms where workers have more traditional contracts.

Argument Evaluation

Situation Last year, firms using profit-related-pay (PRP) contracts found that productivity per worker increased significantly as compared to firms that used traditional wage contracts.

Reasoning *What point weakens the argument that PRP contracts increase productivity?* The argument directly attributes increased productivity to the existence of PRP contracts. Any information that other factors might have contributed to the increase in productivity would weaken the argument. If production equipment was modernized during the same period that the new contracts took effect, then it is possible that the modernized equipment was responsible for the higher level of productivity.

A Similar findings in other industries strengthen rather than weaken the argument.

B If workers are more productive, labor costs are a smaller proportion of total costs and nonlabor costs are a greater proportion. This point does not weaken the argument.

C The difficulty of negotiating the contracts is irrelevant to a conclusion about what happens once the contracts are in place.

D Correct. This statement properly identifies information that weakens the argument.

E The higher pay of workers on PRP contracts is consistent with their higher productivity. This statement does not weaken the argument.

The correct answer is D.

119. Adult female rats who have never before encountered rat pups will start to show maternal behaviors after being confined with a pup for about seven days. This period can be considerably shortened by disabling the female's sense of smell or by removing the scent-producing glands of the pup.

Which of the following hypotheses best explains the contrast described above?

(A) The sense of smell in adult female rats is more acute than that in rat pups.

(B) The amount of scent produced by rat pups increases when they are in the presence of a female rat that did not bear them.

(C) Female rats that have given birth are more affected by olfactory cues than are female rats that have never given birth.

(D) A female rat that has given birth shows maternal behavior toward rat pups that she did not bear more quickly than does a female rat that has never given birth.

(E) The development of a female rat's maternal interest in a rat pup that she did not bear is inhibited by the odor of the pup.

Argument Construction

Situation Adult female rats having no previous familiarity with rat pups, that is, those that have never given birth to pups, display maternal behavior after seven days. Disabling the female's sense of smell or removing the scent-producing glands of the pups shortens this time period considerably.

Reasoning *What might explain the shorter time period after this intervention?* The scent of the pups is clearly the issue. When this scent is absent from the interaction, either by making the females unable to smell it or making the pups unable to produce it, the females display maternal behavior more quickly.

A Pointing to the difference between the sense of smell in the adult females and in the pups does not explain why the females without a sense of smell accept pups more quickly.

B The greater amount of scent the pups produce does not reveal why removing the scent glands allows the females to display maternal behaviors more quickly.

C The experiment concerns only those females that have not given birth, so the contrast with those that have is irrelevant.

D The speed with which adult females that have given birth accept pups that are not their own is irrelevant to an experiment involving only females that have not given birth.

E **Correct.** This statement properly identifies a hypothesis that explains the shorter time period for the female's acceptance of the pup.

The correct answer is E.

120. The proposal to hire 10 new police officers in Middletown is quite foolish. There is sufficient funding to pay the salaries of the new officers, but not the salaries of additional court and prison employees to process the increased caseload of arrests and convictions that new officers usually generate.

Which of the following, if true, will most seriously weaken the conclusion drawn above?

(A) Studies have shown that an increase in a city's police force does not necessarily reduce crime.

(B) When one major city increased its police force by 19 percent last year, there were 40 percent more arrests and 13 percent more convictions.

(C) If funding for the new police officers' salaries is approved, support for other city services will have to be reduced during the next fiscal year.

(D) In most United States cities, not all arrests result in convictions, and not all convictions result in prison terms.

(E) Middletown's ratio of police officers to citizens has reached a level at which an increase in the number of officers will have a deterrent effect on crime.

Evaluation of a Plan

Situation A proposal to hire new police officers is dismissed as foolish because there is not enough funding to cover the salaries of the increased support staff necessary when arrests and convictions go up.

Reasoning *What evidence weakens the conclusion that hiring new officers will increase costs for support staff?* The conclusion is based on the argument that hiring new officers usually increases the caseload, which in turn increases the need for court and prison support staff. Under what circumstances might this not be true? What if an increase in the number of officers will bring the ratio of police officers to citizens to the level known to *deter* crime from occurring in the first place? Less crime means fewer arrests and convictions overall, and so no additional funding for court and prison support staff should be necessary.

A If crime is not reduced, then arrests and convictions will remain the same or possibly go up; this statement does not weaken the conclusion.

B The example supports the argument rather than weakening its conclusion.

C Tight funding supports the argument's claim that it will be difficult or impossible to fund salaries of support staff.

D This generalization is as true of Middletown as it is of any other American city, but it only states the obvious and does not weaken the conclusion about increased caseloads for the courts.

E **Correct.** This statement properly identifies a point that weakens the conclusion.

The correct answer is E.

121. Northern Air has dozens of flights daily into and out of Belleville Airport, which is highly congested. Northern Air depends for its success on economy and quick turnaround and consequently is planning to replace its large planes with Skybuses, the novel aerodynamic design of which is extremely fuel efficient. The Skybus' fuel efficiency results in both lower fuel costs and reduced time spent refueling.

Which of the following, if true, could present the most serious disadvantage for Northern Air in replacing their large planes with Skybuses?

(A) The Skybus would enable Northern Air to schedule direct flights to destinations that currently require stops for refueling.

(B) Aviation fuel is projected to decline in price over the next several years.

(C) The fuel efficiency of the Skybus would enable Northern Air to eliminate refueling at some of its destinations, but several mechanics would lose their jobs.

(D) None of Northern Air's competitors that use Belleville Airport are considering buying Skybuses.

(E) The aerodynamic design of the Skybus causes turbulence behind it when taking off that forces other planes on the runway to delay their takeoffs.

Evaluation of a Plan

Situation An airline flies in and out of a highly congested airport many times a day. Because the airline's success depends on low costs and quick turnaround, it plans to replace its current planes with Skybuses, the more fuel-efficient design of which will reduce both fuel costs and the time spent refueling.

Reasoning *What could be the plan's most serious disadvantage?* Since it is given that the Skybuses provide fuel economy and quicker refueling, what could be a disadvantage of the proposed plan? What if the use of the particular aircraft somehow contributed to the congestion at the busy airport or caused slower turnaround? While the Skybus' design promotes fuel economy, if it also creates turbulence on takeoff, the turbulence would then delay the takeoffs of any other planes. Since the airport is congested and the airline flies through it many times a day, such takeoff delays would ultimately impede Northern Air's turnaround time, as well as its success.

A The ability to schedule direct flights would be an advantage, not a disadvantage.

B The decline in aviation fuel might make the plan seem less pressing, but lower fuel costs would not diminish the advantage of fuel-efficient planes.

C The ability to eliminate refueling is an advantage to the airline, and the loss of jobs is a disadvantage to the mechanics rather than to the airline.

D The decisions made by other airlines are irrelevant to the plan.

E **Correct.** This statement properly identifies a potentially serious disadvantage to the plan.

The correct answer is E.

122. The earliest Mayan pottery found at Colha, in Belize, is about 3,000 years old. Recently, however, 4,500-year-old stone agricultural implements were unearthed at Colha. These implements resemble Mayan stone implements of a much later period, also found at Colha. Moreover, the implements' designs are strikingly different from the designs of stone implements produced by other cultures known to have inhabited the area in prehistoric times. Therefore, there were surely Mayan settlements in Colha 4,500 years ago.

Which of the following, if true, most seriously weakens the argument?

(A) Ceramic ware is not known to have been used by the Mayan people to make agricultural implements.

(B) Carbon dating of corn pollen in Colha indicates that agriculture began there around 4,500 years ago.

(C) Archaeological evidence indicates that some of the oldest stone implements found at Colha were used to cut away vegetation after controlled burning of trees to open areas of swampland for cultivation.

(D) Successor cultures at a given site often adopt the style of agricultural implements used by earlier inhabitants of the same site.

(E) Many religious and social institutions of the Mayan people who inhabited Colha 3,000 years ago relied on a highly developed system of agricultural symbols.

Argument Evaluation

Situation Recently, 4,500-year-old stone agricultural implements have been found in Colha, a location where 3,000-year old Mayan pottery had previously been found. The implements resemble other Mayan implements of a much later time that were also found in Colha, and they are unlike the implements used by other local cultures in prehistoric times. These recently discovered implements thus prove that Mayan culture was established in Colha 4,500 years ago.

Reasoning *Which point weakens the argument?* First, identify the underlying assumption. The argument assumes the distinctive 4,500-year-old implements must be Mayan because they are similar to implements the Mayans are known to have used there much later. What if there is another reason for the similarity? What if a culture that comes to an occupied site tends to adapt its implements to the style of the resident culture's implements? In that case, the Mayans could have come to the occupied community of Colha at some later point, and the later Mayan agricultural tools could be copies of the earlier culture's tools.

A The argument does not suggest that the Mayans used ceramics for implements, so this point does not weaken the argument; it is irrelevant to it.

B Since the point of the argument is who, specifically, established a settlement in Colha 4,500 years ago, merely pointing out the settlement's existence does not weaken or strengthen the argument.

C Discovering how the implements were used does not explain who was using them, so this information is not relevant to the conclusion and thus does not weaken the argument.

D **Correct.** This statement properly identifies the weakness in the argument that the similarity between the 4,500-year-old implements and the later Mayan implements may be attributed to the Mayans' adopting the style of implements used earlier by another culture.

E The Mayans' *highly developed* system of agricultural symbols 3,000 years ago suggests the culture is even older, which tends to support, rather than weaken, the argument.

The correct answer is D.

123. Codex Berinensis, a Florentine copy of an ancient Roman medical treatise, is undated but contains clues to when it was produced. Its first 80 pages are by a single copyist, but the remaining 20 pages are by three different copyists, which indicates some significant disruption. Since a letter in handwriting identified as that of the fourth copyist mentions a plague that killed many people in Florence in 1148, Codex Berinensis was probably produced in that year.

Which of the following, if true, most strongly supports the hypothesis that Codex Berinensis was produced in 1148?

(A) Other than Codex Berinensis, there are no known samples of the handwriting of the first three copyists.

(B) According to the account by the fourth copyist, the plague went on for 10 months.

(C) A scribe would be able to copy a page of text the size and style of Codex Berinensis in a day.

(D) There was only one outbreak of plague in Florence in the 1100's.

(E) The number of pages of Codex Berinensis produced by a single scribe becomes smaller with each successive change of copyist.

Argument Evaluation

Situation The Florentine copy of an ancient Roman work is undated but provides clues as to the time it was produced. The first 80 pages of Codex Berinenis are the work of one copyist. The fact that the last 20 pages are the work of a succession of three different copyists is an indication of serious turmoil at the time the copying was done. Since a letter in the fourth copyist's handwriting reveals that a plague killed many people there in 1148, Codex Berinenis was probably produced in that year.

Reasoning *Which information supports the hypothesis dating the Codex to 1148?* Consider the basis of the hypothesis: the succession of copyists indicating the work was significantly disrupted, and the fourth copyist's letter indicating the plague of 1148 caused serious loss of life. From this it is argued that the plague of 1148 was the reason for the multiple copyists and that the work can thus be dated to that year. What if there were multiple plagues? In that case, Codex Berinensis could have been produced at another time. If instead only one plague occurred in the 1100's, the elimination of that possibility supports the hypothesis that the work was done in 1148.

A Examples of the copyists' handwriting might help date Codex Berinensis; the absence of handwriting samples does not help support 1148 as the date.

B The length of the plague, while it may account for the succession of copyists, does not help support the particular year the work was done.

C The amount of work a copyist could achieve each day does not provide any information about the year the work appeared.

D Correct. This statement properly identifies a circumstance that supports the hypothesis.

E The productivity or tenure of the various copyists is irrelevant to establishing the date.

The correct answer is D.

124. Outsourcing is the practice of obtaining from an independent supplier a product or service that a company has previously provided for itself. Since a company's chief objective is to realize the highest possible year-end profits, any product or service that can be obtained from an independent supplier for less than it would cost the company to provide the product or service on its own should be outsourced.

Which of the following, if true, most seriously weakens the argument?

(A) If a company decides to use independent suppliers for a product, it can generally exploit the vigorous competition arising among several firms that are interested in supplying that product.

(B) Successful outsourcing requires a company to provide its suppliers with information about its products and plans that can fall into the hands of its competitors and give them a business advantage.

(C) Certain tasks, such as processing a company's payroll, are commonly outsourced, whereas others, such as handling the company's core business, are not.

(D) For a company to provide a product or service for itself as efficiently as an independent supplier can provide it, the managers involved need to be as expert in the area of that product or service as the people in charge of that product or service at an independent supplier are.

(E) When a company decides to use an independent supplier for a product or service, the independent supplier sometimes hires members of the company's staff who formerly made the product or provided the service that the independent supplier now supplies.

Argument Evaluation

Situation In order to realize the highest year-end profits, a company should outsource any service or product that can be obtained from an independent supplier for less than it would cost the company to provide that service or product itself.

Reasoning *What weakens this argument?* When could outsourcing a service or product result in a business disadvantage or lower profits? It is clear that the company must give independent suppliers enough information to enable them to provide the contracted products and services, but this means that the company can lose control over who has possession of such critical information. If the information becomes known to the company's competitors and gives them a business advantage, the company's profitability may be harmed rather than helped by outsourcing. This possibility weakens the argument.

A This would strengthen the argument since the pricing competition among independent suppliers is an advantage for the company.

B **Correct.** This statement properly identifies one disadvantage of outsourcing: the company no longer controls access to its information and plans. With the increased possibility of competitors' gaining access to its proprietary information, the company's business is put at risk.

C Providing examples of the tasks typically outsourced or handled internally does not affect the argument.

D Expertise in a particular area is an advantage of outsourcing and thus a strength of the argument.

E The supplier's hiring of members of the company's staff to handle work no longer performed within the company is not shown to be a disadvantage.

The correct answer is B.