

## SECTION II

Time—35 minutes

26 Questions

**Directions:** Each question in this section is based on the reasoning presented in a brief passage. In answering the questions, you should not make assumptions that are by commonsense standards implausible, superfluous, or incompatible with the passage. For some questions, more than one of the choices could conceivably answer the question. However, you are to choose the best answer; that is, choose the response that most accurately and completely answers the question and mark that response on your answer sheet.

1. Ullman: Plato argued that because of the harmful ways in which music can manipulate the emotions, societies need to put restrictions on the music their citizens hear. However, because musicians seek not to manipulate the emotions but to create beauty, this argument is misguided.

Ullman's argument is most vulnerable to criticism on the grounds that it fails to consider the possibility that

- (A) what musicians intend their music to do and what it actually does are different
- (B) those with the power to censor music would not censor other forms of expression
- (C) there are other, more convincing arguments for allowing the censorship of music
- (D) other forms of art have more potential to be harmful to society than music has
- (E) artists who are trying to manipulate people's emotions to control them are not likely to admit it

2. Physician: A tax on saturated fat, which was intended to reduce consumption of unhealthy foods, has been repealed after having been in effect for only seven months. The tax was apparently having some undesirable and unintended consequences, encouraging people to travel to neighboring countries to purchase certain foods, for example. Nonetheless, the tax should not have been repealed so soon.

Which one of the following principles, if valid, most helps to justify the physician's conclusion regarding the tax?

- (A) A tax on unhealthy foods should be implemented only if it can be known with a high degree of certainty that it will actually improve people's health.
- (B) It is not possible to adequately gauge the impact of a tax intended to affect people's health until the tax has been in effect for at least one year.
- (C) Before any law intended to improve people's health is implemented, all foreseeable negative consequences should be carefully considered.
- (D) A law intended to improve people's health should be repealed if it is clear that most people are evading the law.
- (E) A tax on unhealthy foods should be applied only to those foods that are widely believed to be the most unhealthy.

3. Legislator: A foreign company is attempting to buy FerroMetal, a domestic iron-mining company. We should prohibit this sale. Since manufacturing is central to our economy, we need a dependable supply of iron ore. If we allow a foreign company to buy FerroMetal, we will have no grounds to stop foreign companies from buying other iron-mining companies. Soon foreigners will control most of the iron mining here, leaving our manufacturers at their mercy. The end result will be that our manufacturers will no longer be able to rely on a domestic supply of iron ore.

Which one of the following most accurately describes a flaw in the reasoning of the legislator's argument?

- (A) The argument draws a conclusion that simply restates a premise presented in support of that conclusion.
- (B) The argument takes for granted that what is true of one particular industry is true of industry in general.
- (C) The argument defends a practice solely on the grounds that the practice is widely accepted.
- (D) The argument presents a chain of possible consequences of a given event as if it were the only possible chain of consequences of that event.
- (E) The argument concludes that one event would cause a second event even though the second event would have to precede the first.

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4. Food company engineer: I stand by my decision to order the dumping of small amounts of chemicals into the local river even though there is some evidence that this material may pose health problems. I fish in the river myself and will continue to do so. Furthermore, I will have no problem if other food manufacturers do what our company does.

The engineer's reasoning most closely conforms to which one of the following principles?

- (A) One is justified in performing an act if other people are also planning to perform that kind of act.
  - (B) One should always choose to act in a way that will benefit the greatest number of people.
  - (C) One is justified in performing an act if one is willing to submit oneself to the consequences of that action performed by oneself or others.
  - (D) One should never perform an act until one has fully analyzed all the ways in which that act could impact others.
  - (E) One has the right to perform an act as long as that act does not harm anyone else.
5. Political strategist: Clearly, attacking an opposing candidate on philosophical grounds is generally more effective than attacking the details of the opponent's policy proposals. A philosophical attack links an opponent's policy proposals to an overarching ideological scheme, thereby telling a story and providing context. This makes the attack emotionally compelling.

Which one of the following is an assumption required by the political strategist's argument?

- (A) The stories that people are most likely to remember are those that are emotionally compelling.
- (B) Political attacks that are emotionally compelling are generally more effective than those that are not.
- (C) Political attacks that tell a story are able to provide more context than those that do not.
- (D) Voters are typically uninterested in the details of candidates' policy proposals.
- (E) Most candidates' policy proposals are grounded in an overarching ideological scheme.

6. Michaela: I think doctors who complain about patients doing medical research on the Internet are being a little unfair. It seems only natural that a patient would want to know as much as possible about his or her condition.

Sam: It is not unfair. Doctors have undergone years of training. How can you maintain that a doctor's opinion is not worth more than something an untrained person comes up with after searching the Internet?

Sam's response indicates that he interpreted Michaela's remarks to mean that

- (A) health information found on the Internet is trustworthy
- (B) the opinion of a patient who has done Internet research on his or her condition should have at least as much weight as the opinion of a doctor
- (C) the opinion of a patient's own doctor should not be given more weight than the opinions of doctors published on websites
- (D) a doctor's explanation of a patient's symptoms should be taken more seriously than the patient's own view of his or her symptoms
- (E) patients who do not research their conditions on the Internet give their doctors' opinions more consideration

7. Principle: People should not feed wild animals because it makes them dependent on humans and less likely to survive on their own.

Situation: Bird lovers commonly feed wild birds to attract them to their yards and gardens.

Which one of the following, if assumed, would most help to justify treating the human feeding of wild birds as an exception to the principle above?

- (A) Congregating around human bird feeders makes wild birds more vulnerable to predators and diseases.
- (B) Some species of wild birds benefit humans by consuming large numbers of mosquitoes and other insect pests.
- (C) Wild birds are much more likely to congregate in yards where they are fed than in yards where they are not fed.
- (D) Most bird lovers are very active in efforts to preserve the habitats of threatened species of wild birds and other animals.
- (E) Human settlement is so pervasive in the habitat of most wild birds that they must depend in part on human sources of food for survival.

8. Normally, political candidates send out campaign material in order to influence popular opinion. But the recent ads for Ebsen's campaign were sent to too few households to serve this purpose effectively. The ads were evidently sent out to test their potential to influence popular opinion. They covered a wide variety of topics, and Ebsen's campaign has been spending heavily on follow-up to gauge their effect on recipients.

Which one of the following most accurately expresses the conclusion drawn in the argument above?

- (A) Normally, political candidates send out campaign material to influence popular opinion.
- (B) The recent ads for Ebsen's campaign were sent to too few households to influence popular opinion effectively.
- (C) The recent ads for Ebsen's campaign were sent out to test their potential to influence popular opinion.
- (D) The recent ads for Ebsen's campaign covered a wide variety of topics.
- (E) Ebsen's campaign has been spending heavily on follow-up surveys to gauge the ads' effect on recipients.

9. Last year, pharmaceutical manufacturers significantly increased the amount of money they spent promoting new drugs, which they do mainly by sending sales representatives to visit physicians in their offices. However, two years ago there was an average of 640 such visits per representative, whereas last year that figure fell to 501. So the additional promotion must have been counterproductive, making physicians less willing to receive visits by pharmaceutical sales representatives.

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

- (A) Most pharmaceutical manufacturers increased the size of their sales forces so that their sales representatives could devote more time to each physician.
- (B) Physicians who receive visits from pharmaceutical sales representatives usually accept free samples of medication from the representatives' companies.
- (C) Most pharmaceutical companies did not increase the amount of money they spend promoting drugs through advertising targeted directly at consumers.
- (D) Most physicians who agree to receive a visit from a pharmaceutical sales representative will see that representative more than once during a given year.
- (E) The more visits a physician receives from a pharmaceutical sales representative, the more likely he or she is to prescribe drugs made by that representative's company.

10. Archaeologist: The extensive network of ancient tracks on the island of Malta was most likely created through erosion caused by the passage of wheeled vehicles. Some researchers have suggested that the tracks were in fact manually cut to facilitate the passage of carts, citing the uniformity in track depth. However, this uniformity is more likely indicative of wheel diameter: Routes were utilized until tracks eroded to a depth that made vehicle passage impossible.

Which one of the following is the overall conclusion of the archaeologist's argument?

- (A) The extensive network of ancient tracks on the island of Malta was most likely created through erosion caused by the passage of wheeled vehicles.
- (B) Some researchers have suggested that the ancient tracks on the island of Malta were in fact manually cut to facilitate the passage of carts.
- (C) Some researchers cite the uniformity of the depth of the ancient tracks on the island of Malta to support the suggestion that they were manually cut.
- (D) The uniformity of depth of the ancient tracks on the island of Malta is probably indicative of the wheel diameter of the carts that passed over them.
- (E) The ancient tracks on the island of Malta were utilized until they eroded to a depth that made vehicle passage impossible.

11. The goal of reforesting degraded land is to create an area with a multitude of thriving tree species. But some experienced land managers use a reforesting strategy that involves planting a single fast-growing tree species.

Which one of the following, if true, most helps to resolve the apparent discrepancy in the information above?

- (A) Tree species that require abundant sunlight tend to grow quickly on degraded land.
- (B) An area with a multitude of thriving tree species tends to be more aesthetically pleasing than an area with only a single tree species.
- (C) The reforestation of degraded land is generally unsuccessful unless the land is planted with tree species that are native to the area designated for reforestation.
- (D) The growth of trees attracts wildlife whose activities contribute to the dispersal of a large variety of tree seeds from surrounding areas.
- (E) The process of reforesting degraded sites is time consuming and labor intensive.

12. An independent computer service company tallied the service requests it receives for individual brands of personal computers. It found that, after factoring in each brand's market share, KRV brand computers had the largest proportion of service requests, whereas ProBit brand computers had the smallest proportion of service requests. Obviously, ProBit is the more reliable personal computer brand.

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

- (A) The proportions of service requests for the other computer brands in the tally were clustered much closer to the ProBit level of service requests than to the KRV level.
  - (B) For some computer brands, but not for others, most service requests are made to the manufacturer's service department rather than to an independent service company.
  - (C) The company that did the tally receives more service requests for ProBit brand computers than does any other independent computer service company.
  - (D) The computer brands covered in the computer service company's tally differ greatly with respect to their market share.
  - (E) ProBit has been selling personal computers for many more years than has KRV.
13. When scientific journals began to offer full online access to their articles in addition to the traditional printed volumes, scientists gained access to more journals and easier access to back issues. Surprisingly, this did not lead to a broader variety of articles being cited in new scientific articles. Instead, it led to a greater tendency among scientists to cite the same articles that their fellow scientists cited.

Which one of the following, if true, most helps to explain the surprising outcome described above?

- (A) A few of the most authoritative scientific journals were among the first to offer full online access to their articles.
- (B) Scientists who wrote a lot of articles were the most enthusiastic about accessing journal articles online.
- (C) Scientists are more likely to cite articles by scientists that they know than they are to cite articles by scientists they have never met, even if the latter are more prominent.
- (D) Several new scientific journals appeared at roughly the same time that full online access to scientific articles became commonplace.
- (E) Online searching made it easier for scientists to identify the articles that present the most highly regarded views on an issue, which they prefer to cite.

14. Researcher: People are able to tell whether a person is extroverted just by looking at pictures in which the person has a neutral expression. Since people are also able to tell whether a chimpanzee behaves dominantly just by looking at a picture of the chimpanzee's expressionless face, and since both humans and chimpanzees are primates, we conclude that this ability is probably not acquired solely through culture but rather as a result of primate biology.

Which one of the following, if true, most strengthens the researcher's argument?

- (A) People are generally unable to judge the dominance of bonobos, which are also primates, by looking at pictures of them.
- (B) People are able to identify a wider range of personality traits from pictures of other people than from pictures of chimpanzees.
- (C) Extroversion in people and dominant behavior in chimpanzees are both indicators of a genetic predisposition to assertiveness.
- (D) Any common ancestor of humans and chimpanzees would have to have lived over 7 million years ago.
- (E) Some of the pictures of people used in the experiments were composites of several different people.

15. All the apartments on 20th Avenue are in old houses. However, there are twice as many apartments on 20th Avenue as there are old houses. Therefore, most old houses on 20th Avenue contain more than one apartment.

The reasoning in the argument above is most vulnerable to criticism on the grounds that the argument

- (A) overlooks the possibility that some of the buildings on 20th Avenue are not old houses
- (B) draws a conclusion that simply restates one of the premises offered in support of the conclusion
- (C) fails to consider the possibility that some buildings on 20th Avenue may offer types of rental accommodation other than apartments
- (D) confuses a condition whose presence would be sufficient to ensure the truth of the argument's conclusion with a condition whose presence is required in order for the conclusion to be true
- (E) fails to address the possibility that a significant number of old houses on 20th Avenue contain three or more apartments

16. Scientist: An orbiting spacecraft detected a short-term spike in sulfur dioxide in Venus's atmosphere. Volcanoes are known to cause sulfur dioxide spikes in Earth's atmosphere, and Venus has hundreds of mountains that show signs of past volcanic activity. But we should not conclude that volcanic activity caused the spike on Venus. No active volcanoes have been identified on Venus, and planetary atmospheres are known to undergo some cyclical variations in chemical composition.

Which one of the following, if true, most weakens the scientist's argument?

- (A) Conditions on Venus make it unlikely that any instrument targeting Venus would detect a volcanic eruption directly.
- (B) Evidence suggests that there was a short-term spike in sulfur dioxide in Venus's atmosphere 30 years earlier.
- (C) Levels of sulfur dioxide have been higher in Venus's atmosphere than in Earth's atmosphere over the long term.
- (D) Traces of the sulfur dioxide from volcanic eruptions on Earth are detectable in the atmosphere years after the eruptions take place.
- (E) Most instances of sulfur dioxide spikes in the Earth's atmosphere are caused by the burning of fossil fuels.

17. Increasing the electrical load carried on a transmission line increases the line's temperature, and too great a load will cause the line to exceed its maximum operating temperature. The line's temperature is also affected by wind speed and direction: Strong winds cool the line more than light winds, and wind blowing across a line cools it more than does wind blowing parallel to it.

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

- (A) Electrical utility companies typically increase the electrical load on their transmission lines on days on which the wind has a strong cooling effect.
- (B) Transmission lines that run parallel to the prevailing winds can generally carry greater electrical loads than otherwise identical lines at a right angle to the prevailing winds.
- (C) The electrical load that a transmission line can carry without reaching its maximum operating temperature increases when the wind speed increases.
- (D) Air temperature has less effect on the temperature of a transmission line than wind speed does.
- (E) The maximum operating temperature of a transmission line is greater on windy days than on calm days.

18. In grasslands near the Namib Desert there are "fairy circles"—large, circular patches that are entirely devoid of vegetation. Since sand termite colonies were found in every fairy circle they investigated, scientists hypothesize that it is the burrowing activities of these termites that cause the circles to form.

Which one of the following, if true, most supports the scientists' hypothesis?

- (A) Dying grass plants within newly forming fairy circles are damaged only at the roots.
- (B) The grasses that grow around fairy circles are able to survive even the harshest and most prolonged droughts in the region.
- (C) The soil in fairy circles typically has higher water content than the soil in areas immediately outside the circles.
- (D) Fairy circles tend to form in areas that already have numerous other fairy circles.
- (E) Species of animals that feed on sand termites are often found living near fairy circles.

19. Munroe was elected in a landslide. It is impossible for Munroe to have been elected without both a fundamental shift in the sentiments of the electorate and a well-run campaign. Thus, one cannot avoid the conclusion that there has been a fundamental shift in the sentiments of the electorate.

Which one of the following arguments is most closely parallel in its reasoning to the argument above?

- (A) The Park Street Cafe closed this year even though its customer base was satisfied. So, because its customer base was satisfied, the only conclusion one can draw is that the Park Street Cafe closed because it was facing strong competition.
- (B) The Park Street Cafe closed this year. So we must conclude that the Park Street Cafe was facing strong competition, since it would not have closed unless it was true both that it was facing strong competition and that its customer base was unsatisfied.
- (C) No one can argue that the Park Street Cafe closed this year because its customer base was not satisfied. Even if its customer base was not satisfied, the Park Street Cafe would have closed only if it was facing strong competition.
- (D) The Park Street Cafe closed this year. There was no reason for it to remain open if it was facing strong competition and had an unsatisfied customer base. So one cannot rule out the possibility that it was both facing strong competition and had an unsatisfied customer base.
- (E) The Park Street Cafe closed this year. In order to stay open, it needed a lack of competition and it needed a satisfied customer base. Because it had neither, the unavoidable conclusion is that the Park Street Cafe could not have stayed open this year.

20. For pollinating certain crops such as cranberries, bumblebees are far more efficient than honeybees. This is because a bumblebee tends to visit only a few plant species in a limited area, whereas a honeybee generally flies over a much broader area and visits a wider variety of species.

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

- (A) If a honeybee visits a wider variety of plant species than a bumblebee visits, the honeybee will be less efficient than the bumblebee at pollinating any one of those species.
- (B) The number of plant species other than cranberries that a bee visits affects the efficiency with which the bee pollinates cranberries.
- (C) The broader an area a bee flies over, the smaller the number of plant species that bee will be able to visit.
- (D) Cranberries are typically found concentrated in limited areas that bumblebees are more likely than honeybees ever to visit.
- (E) The greater the likelihood of a given bee species visiting one or more plants in a given cranberry crop, the more efficient that bee species will be at pollinating that crop.

21. Economist: Currently the interest rates that banks pay to borrow are higher than the interest rates that they can receive for loans to large, financially strong companies. Banks will not currently lend to companies that are not financially strong, and total lending by banks to small and medium-sized companies is less than it was five years ago. So total bank lending to companies is less than it was five years ago.

The economist's conclusion follows logically if which one of the following is assumed?

- (A) Banks will not lend money at interest rates that are lower than the interest rates they pay to borrow.
- (B) Most small and medium-sized companies were financially stronger five years ago than they are now.
- (C) Five years ago, some banks would lend to companies that were not financially strong.
- (D) The interest rates that banks currently pay to borrow are higher than the rates they paid five years ago.
- (E) The interest rates that small and medium-sized companies pay to borrow are higher than those paid by large, financially strong companies.

22. Counselor: To be kind to someone, one must want that person to prosper. Yet, even two people who dislike each other may nevertheless treat each other with respect. And while no two people who dislike each other can be fully content in each other's presence, any two people who do not dislike each other will be kind to each other.

If the counselor's statements are true, then which one of the following must be false?

- (A) Some people who like each other are not fully content in each other's presence.
- (B) Some people who are fully content in each other's presence do not want each other to prosper.
- (C) Some people who treat each other with respect are not fully content in each other's presence.
- (D) Some people who want each other to prosper dislike each other.
- (E) Some people who are kind to each other do not treat each other with respect.

23. A gram of the artificial sweetener aspartame is much sweeter than a gram of sugar. Soft drinks that are sweetened with sugar are, of course, sweet, so those sweetened with aspartame must be even sweeter. Thus people who regularly drink soft drinks sweetened with aspartame will develop a preference for extremely sweet products.

Which one of the following arguments exhibits flawed reasoning that is most similar to flawed reasoning in the argument above?

- (A) People sometimes develop a preference for foods that they initially disliked. So if you dislike a new food, then you will eventually develop a preference for it.
- (B) Most people own more books than televisions. Moreover, it takes longer to read a book than to watch an episode of a television show. So most people must spend more time reading than they do watching television.
- (C) Joe's piggy bank has only pennies in it, and Maria's has only nickels. Nickels are worth much more than pennies. It therefore follows that there is more money in Maria's piggy bank than in Joe's.
- (D) Stephanie likes hot summer weather much more than Katherine does. So the place where Stephanie grew up must have had more days of hot summer weather than the place where Katherine grew up.
- (E) Guillermo has a much shorter drive to work than Abdul does. So Guillermo's estimate of the average commute for workers in the country as a whole is likely to be lower than Abdul's estimate.

24. Economist: If minimum wage levels are low, employers have a greater incentive to hire more workers than to buy productivity-enhancing new technology. As a result, productivity growth, which is necessary for higher average living standards, falls off. Conversely, high minimum wage levels result in higher productivity. Thus, raising our currently low minimum wage levels would improve the country's overall economic health more than any hiring cutbacks triggered by the raise would harm it.

Which one of the following, if true, most strengthens the economist's argument?

- (A) Productivity growth in a country usually leads to an eventual increase in job creation.
- (B) The economist's country has seen a slow but steady increase in its unemployment rate over the last decade.
- (C) A country's unemployment rate is a key factor in determining its average living standards.
- (D) The economist's country currently lags behind other countries in the development of new technology.
- (E) Productivity-enhancing new technology tends to quickly become outdated.

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25. Mayor: Periodically an ice cream company will hold a free ice cream day as a promotion. Showing up may not cost you any money, but it sure does cost you time. We learn from this that when something valuable costs no money you get overconsumption and long lines. Currently, those who drive to work complain about the congestion they face in their rush-hour commutes. What is needed is a system for charging people for the use of roads during rush hour. Then rush hour congestion will abate.

The claim that when something valuable costs no money you get overconsumption and long lines plays which one of the following roles in the mayor's argument?

- (A) It is a hypothesis that is rejected in favor of the hypothesis stated in the argument's overall conclusion.
- (B) It is a concession made to those who dispute an analogy drawn in the argument.
- (C) It helps establish the importance of the argument's overall conclusion, but is not offered as evidence for that conclusion.
- (D) It is a general claim used in support of the argument's overall conclusion.
- (E) It is the overall conclusion of the argument.

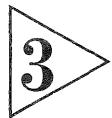
26. The advertising campaign for Roadwise auto insurance is notable for the variety of its commercials, which range from straightforward and informative to funny and offbeat. This is unusual in the advertising world, where companies typically strive for uniformity in advertising in order to establish a brand identity with their target demographic. But in this case variety is a smart approach, since purchasers of auto insurance are so demographically diverse.

Which one of the following, if true, adds the most support for the conclusion of the argument?

- (A) Advertising campaigns designed to target one demographic sometimes appeal to a wider group of people than expected.
- (B) Consistent efforts to establish a brand identity are critical for encouraging product interest and improving company recognition.
- (C) Fewer people are influenced by auto insurance commercials than by commercials for other types of products.
- (D) Advertising campaigns that target one demographic often alienate people who are not part of the target demographic.
- (E) Efforts to influence a target demographic do not pay off when the content of the advertising campaign falls short.

## S T O P

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK ON THIS SECTION ONLY.  
DO NOT WORK ON ANY OTHER SECTION IN THE TEST.



## SECTION III

Time—35 minutes

25 Questions

**Directions:** Each question in this section is based on the reasoning presented in a brief passage. In answering the questions, you should not make assumptions that are by commonsense standards implausible, superfluous, or incompatible with the passage. For some questions, more than one of the choices could conceivably answer the question. However, you are to choose the best answer; that is, choose the response that most accurately and completely answers the question and mark that response on your answer sheet.

1. Researchers put two electrodes in a pool that a dolphin swam in. When the dolphin swam near the electrodes, the researchers would sometimes create a weak electric field by activating the electrodes. The dolphin would swim away if the electrodes were activated; otherwise it acted normally. The researchers then placed a plastic shield over small organs called vibrissal crypts located on the dolphin's snout. With the crypts covered, the dolphin no longer swam away when the electrodes were activated.

The statements above, if true, most strongly support which one of the following?

- (A) In the wild, dolphins sometimes encounter strong electric fields.
- (B) Vibrissal crypts enable dolphins to sense electric fields.
- (C) Dolphins do not instinctually avoid electric fields, but they can be trained to do so.
- (D) Electric fields interfere with the normal functioning of dolphins' vibrissal crypts.
- (E) Under normal circumstances, dolphins are unable to sense electric fields.

2. In a study of honesty conducted in various retail stores, customers who paid in cash and received change were given an extra dollar with their change. Few people who received an extra dollar returned it. So, among those who received an extra dollar, most behaved dishonestly.

The answer to which one of the following questions would most help in evaluating the argument?

- (A) Did those who received an extra dollar count their change?
- (B) What percentage of the retail transactions studied were cash transactions?
- (C) Would the people who returned the extra dollar describe themselves as honest?
- (D) Did the people who returned the extra dollar suspect that it was given to them intentionally?
- (E) Does increasing the extra change to five dollars have an effect on people's behavior?

3. Dario: The government should continue to grant patents for all new drug compounds. Patents promote innovation by rewarding pharmaceutical companies for undertaking the costly research needed to develop new drugs.

Cynthia: Promoting innovation is certainly important. For this reason, patents should be granted only for truly innovative drugs, not for minor variants of previously existing drugs. Since it is much less expensive to tweak an existing drug than to develop a wholly new one, pharmaceutical companies tend to focus primarily on the cheaper alternative.

Dario and Cynthia disagree over whether

- (A) pharmaceutical companies should be rewarded for pursuing innovation
- (B) patents should be granted for all drug compounds
- (C) developing truly innovative drugs is costly
- (D) pharmaceutical companies have an incentive to create minor variants of existing drugs
- (E) drug patents can promote innovation

4. There are only two possible reasons that it would be wrong to engage in an activity that causes pollution: because pollution harms ecosystems, which are valuable in themselves; or, ecosystems aside, because pollution harms human populations. Either way, it would not be wrong to perform mining operations on Mars. Although doing so would pollute Mars, the small human presence needed to run the mining operation would be completely protected from the Martian environment and would suffer no harm.

The conclusion drawn above follows logically if which one of the following is assumed?

- (A) Mining creates less pollution than many other human activities.
- (B) There are no ecosystems on Mars.
- (C) The economic benefits of mining on Mars would outweigh its costs.
- (D) It is technologically feasible to perform mining operations on Mars.
- (E) The more complex an ecosystem is, the more valuable it is.

5. A person with low self-esteem will be treated disrespectfully more often than will a person with high self-esteem. Moreover, a recent experiment found that, when people with low self-esteem and those with high self-esteem are both confronted with the same treatment by others, people with low self-esteem are much more likely to feel that they have been treated disrespectfully. Thus, \_\_\_\_\_.

Which one of the following most logically completes the argument?

- (A) people with low self-esteem are usually right when they think they have been treated disrespectfully
- (B) being treated disrespectfully tends to cause a person to develop lower self-esteem
- (C) if an individual has been treated disrespectfully, it is probably because the individual was perceived to have low self-esteem
- (D) people with low self-esteem more frequently think that they are being treated disrespectfully than do people with high self-esteem
- (E) a person with low self-esteem will be more inclined to treat others disrespectfully than will a person with high self-esteem

6. Watanabe: To protect the native kokanee salmon in the lake, we must allow fishing of native trout. Each mature trout eats about 250 mature kokanee annually.

Lopez: The real problem is mysis shrimp, which were originally introduced into the lake as food for mature kokanee; but mysis eat plankton—young kokanee's food. The young kokanee are starving to death. So eradicating the shrimp is preferable to allowing trout fishing.

Which one of the following principles, if valid, most strongly supports Lopez's conclusion?

- (A) Eliminating a non-native species from a habitat in which it threatens a native species is preferable to any other method of protecting the threatened native species.
- (B) When trying to protect the food supply of a particular species, it is best to encourage the method that will have the quickest results, all else being equal.
- (C) The number of species in a given habitat should not be reduced if at all possible.
- (D) No non-native species should be introduced into a habitat unless all the potential effects of that introduction have been considered.
- (E) When seeking to increase the population of a given species, it is most important that one preserve the members of the species who are in the prime reproductive stage of their lives.

7. If rational-choice theory is correct, then people act only in ways that they expect will benefit themselves. But this means that rational-choice theory cannot be correct, because plenty of examples exist of people acting in ways that result in no personal benefit whatsoever.

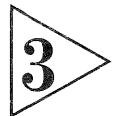
The argument above is most vulnerable to criticism on the grounds that it

- (A) assumes as a premise the contention the argument purports to establish
- (B) concludes that a theory is false merely on the grounds that the evidence for it is hypothetical
- (C) takes for granted that people who are acting in ways that are personally beneficial expected that their actions would be personally beneficial
- (D) presumes, without justification, that examples of people acting in ways that are not personally beneficial greatly outnumber examples of people acting in ways that are personally beneficial
- (E) fails to consider that people acting in ways that result in no personal benefit may nonetheless have expected that acting in those ways would produce personal benefit

8. Winds, the movement of gases in the atmosphere of a planet, are ultimately due to differences in atmospheric temperature. Winds on Earth are the result of heat from the Sun, but the Sun is much too far away from Jupiter to have any significant impact on the temperature of Jupiter's atmosphere. Nevertheless, on Jupiter winds reach speeds many times those of winds found on Earth.

Which one of the following, if true, most helps to explain the facts cited above about Jupiter and its winds?

- (A) Unlike Earth, Jupiter's atmosphere is warmed by the planet's internal heat source.
- (B) Jupiter's atmosphere is composed of several gases that are found in Earth's atmosphere only in trace amounts.
- (C) Gaseous planets such as Jupiter sometimes have stronger winds than do rocky planets such as Earth.
- (D) There are more planets that have winds stronger than Earth's than there are planets that have winds weaker than Earth's.
- (E) Planets even farther from the Sun than Jupiter are known to have atmospheric winds.



9. Until recently it was widely believed that only a limited number of species could reproduce through parthenogenesis, reproduction by a female alone. But lately, as interest in the topic has increased, parthenogenesis has been found in a variety of unexpected cases, including sharks and Komodo dragons. So the number of species that can reproduce through parthenogenesis must be increasing.

The reasoning in the argument is most vulnerable to criticism on the grounds that the argument

- (A) equates mere interest in a subject with real understanding of that subject
- (B) takes for granted that because one thing follows another, the one must have been caused by the other
- (C) takes ignorance of the occurrence of something as conclusive evidence that it did not occur
- (D) overlooks a crucial difference between two situations that the argument presents as being similar
- (E) presumes that because research is new it is, on that basis alone, better than older research

10. Physician: Clinical psychologists who are not also doctors with medical degrees should not be allowed to prescribe psychiatric medications. Training in clinical psychology includes at most a few hundred hours of education in neuroscience, physiology, and pharmacology. In contrast, doctors with medical degrees must receive years of training in these fields before they are allowed to prescribe psychiatric medications.

Which one of the following principles, if valid, would most help to justify the reasoning in the physician's argument?

- (A) Clinical psychologists who are also doctors with medical degrees should be allowed to prescribe psychiatric medications.
- (B) Doctors without training in clinical psychology should not be allowed to prescribe psychiatric medications.
- (C) No one without years of training in neuroscience, physiology, and pharmacology should be allowed to prescribe psychiatric medications.
- (D) The training in neuroscience, physiology, and pharmacology required for a medical degree is sufficient for a doctor to be allowed to prescribe psychiatric medications.
- (E) Clinical psychologists should receive years of training in neuroscience, physiology, and pharmacology.



11. Lobbyist: Those who claim that automobile exhaust emissions are a risk to public health are mistaken. During the last century, as automobile exhaust emissions increased, every relevant indicator of public health improved dramatically rather than deteriorated.

The flaw in the lobbyist's reasoning can most effectively be demonstrated by noting that, by parallel reasoning, we could conclude that

- (A) inspecting commercial airplanes for safety is unnecessary because the number of commercial airplane crashes has decreased over the last decade
- (B) smoking cigarettes is not bad for one's health because not all cigarette smokers get smoking-related illnesses
- (C) using a cell phone while driving is not dangerous because the number of traffic accidents has decreased since the invention of the cell phone
- (D) skydiving is not dangerous because the number of injuries to skydivers has decreased in recent years
- (E) people with insurance do not need to lock their doors because if anything is stolen the insurance company will pay to replace it

12. A recently discovered fossil, which is believed by some to come from *Archaeoraptor liaoningensis*, a species of dinosaur, can serve as evidence that birds evolved from dinosaurs only if the entire fossil is from a single animal. However, the fossil is a composite of bones collected from various parts of the discovery site, so it does not provide evidence that birds evolved from dinosaurs.

The conclusion drawn in the argument follows logically if which one of the following is assumed?

- (A) The only paleontologists who believe that the entire fossil is from a single animal are those who were already convinced that birds evolved from dinosaurs.
- (B) If the fossil is a composite, then it has pieces of more than one animal.
- (C) There are other fossils that provide evidence that birds evolved from dinosaurs.
- (D) If the entire fossil is from a single animal, then it is a well-preserved specimen.
- (E) The fossil was stolen from the discovery site and sold by someone who cared much more about personal profit than about the accuracy of the fossil record.



13. A new screening test has been developed for syndrome Q. Research has shown that the test yields a positive for syndrome Q whenever the person tested has that syndrome. So, since Justine shows positive on the test, she must have syndrome Q.

Which one of the following most accurately describes a flaw in the reasoning in the argument?

- (A) It confuses the claim that a subject will test positive when the syndrome is present with the claim that any subject who tests positive has the syndrome.
- (B) It makes a general claim regarding the accuracy of the test for syndrome Q without providing adequate scientific justification for that claim.
- (C) It fails to adequately distinguish between a person's not having syndrome Q and that person's not testing positive for syndrome Q.
- (D) It confuses a claim about the accuracy of a test for syndrome Q in an arbitrary group of individuals with a similar claim about the accuracy of the test for a single individual.
- (E) It confuses the test's having no reliable results for the presence of syndrome Q with its having no reliable results for the absence of syndrome Q.

14. Music historian: In the past, radio stations would not play rock songs that were more than three minutes in length. Rock musicians claimed that such commercial barriers limited their creativity, and some critics argue that only since those barriers have been lifted has rock music become artistic. In fact, however, when these barriers were lifted, the standards for song structures broke down and the music became aimless, because the styles from which rock derived were not well suited to songs of extended length.

Which one of the following is most strongly supported by the music historian's claims?

- (A) Rock music is not a good outlet for creative musicians who have a great many ideas.
- (B) Rock music must borrow from styles more conducive to songs of extended length if it is to become artistic.
- (C) Rock music requires more discipline than some other forms of music.
- (D) Rock music can sometimes benefit from the existence of commercial barriers rather than being harmed by them.
- (E) Rock music is best when it is made by musicians who do not think of themselves as being self-conscious artists.

15. Some food historians conclude that recipes compiled by an ancient Roman named Apicius are a reliable indicator of how wealthy Romans prepared and spiced their food. Since few other recipes from ancient Rome have survived, this conclusion is far too hasty. After all, the recipes of Apicius may have been highly atypical, just like the recipes of many notable modern chefs.

The argument does which one of the following?

- (A) It rejects a view held by some food historians solely on the grounds that there is insufficient evidence to support it.
- (B) It offers support for a view held by some food historians by providing a modern analogue to that view.
- (C) It takes issue with the view of some food historians by providing a modern analogue that purportedly undercuts their view.
- (D) It uses a conclusion drawn by some food historians as the basis for a conclusion about a modern analogue.
- (E) It tries to bolster a conclusion about the similarity of historical times to modern times by comparing a conclusion drawn by some food historians to a modern analogue.

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16. Wood that is waterlogged or desiccated can be preserved for a significant period, but, under normal conditions, wood usually disintegrates within a century or two. For this reason, archaeologists have been unable to find many remains of early wheeled vehicles to examine. However, archaeologists have found small ceramic models of wheeled vehicles made at approximately the same time as those early vehicles. Since these models have been much less susceptible to disintegration than the vehicles themselves, the main evidence regarding early wheeled vehicles has come from these models.

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

- (A) Most of the small ceramic models of early wheeled vehicles were made by the very individuals who made the vehicles upon which the ceramic vehicles were modeled.
- (B) Few, if any, small models of early wheeled vehicles were made of wood or other materials equally susceptible to disintegration under normal conditions.
- (C) The individuals who made the early wheeled vehicles were not always aware that wood can be preserved through waterlogging or desiccation.
- (D) An artifact will be more difficult for archaeologists to find if it has been preserved through waterlogging or desiccation than if it has been preserved under more normal conditions.
- (E) Of the early wheeled vehicles not preserved, more were made of wood than were made of materials no more susceptible to disintegration than are ceramic items.

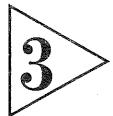


17. Traditional hatcheries raise fish in featureless environments and subject them to dull routines, whereas new, experimental hatcheries raise fish in visually stimulating environments with varied routines. When released into the wild, fish from the experimental hatcheries are bolder than those from traditional hatcheries in exploring new environments and trying new types of food. Fish raised in the experimental hatcheries, therefore, are more likely to survive after their release.

Which one of the following is an assumption required by the argument?

- (A) It is economically feasible for hatchery operators to expose fish to greater visual stimulation and to more varied routines.
- (B) The quality of the environments into which hatchery-raised fish are released has little effect on the fish's survival rate.
- (C) Some fish raised in traditional hatcheries die because they are too timid in their foraging for food.
- (D) Hatchery-raised fish that are released into the wild need to eat many different types of food to survive.
- (E) Fish in the wild always live in visually stimulating environments.

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18. An analysis of the language in social media messages posted via the Internet determined that, on average, the use of words associated with positive moods is common in the morning, decreases gradually to a low point midafternoon, and then increases sharply throughout the evening. This shows that a person's mood typically starts out happy in the morning, declines during the day, and improves in the evening.

The reasoning in the argument is most vulnerable to criticism on the grounds that the argument overlooks the possibility that

- (A) people's overall moods are lowest at the beginning of the workweek and rise later, peaking on the weekend
- (B) many people who post social media messages use neither words associated with positive moods nor words associated with negative moods
- (C) the frequency in the use of words in social media is not necessarily indicative of the frequency of the use of those words in other forms of communication
- (D) the number of social media messages posted in the morning is not significantly different from the number posted in the evening
- (E) most of the social media messages posted in the evening are posted by people who rarely post such messages in the morning

19. Economist: The wages of many of the lowest-paid corporate employees in this country would be protected from cuts by enacting a maximum wage law that prohibits executives at any corporation from earning more than, say, 50 times what the corporation's lowest-paid employees in this country earn. Currently, some executives try to increase corporate profits—and their own salaries—by cutting the pay and benefits of their corporations' employees. A maximum wage law would remove this incentive for these executives to cut the wages of their lowest-paid employees.

Which one of the following is an assumption the economist's argument requires?

- (A) All of the lowest-paid corporate employees in the economist's country are employed at corporations at which the executives earn more than 50 times what the corporations' lowest-paid employees in the economist's country earn.
- (B) Some corporate executives who cut the pay of their corporations' lowest-paid employees in the economist's country in order to increase their own salaries already earn less than 50 times what their corporations' lowest-paid employees in the economist's country earn.
- (C) No corporate executives in the economist's country would raise the wages of their corporations' lowest-paid employees in the economist's country unless such a maximum wage law linked executive wages to those of their corporations' lowest-paid employees in the economist's country.
- (D) If corporate executives could not increase their own salaries by cutting the pay and benefits of their corporations' lowest-paid employees in the economist's country, they would never change the wages of those employees.
- (E) If such a maximum wage law were enacted in the economist's country, one or more corporate executives would not cut the pay and benefits of their corporations' lowest-paid employees in the economist's country.



20. The level of triglycerides in the blood rises when triglycerides are inadequately metabolized. Research shows that patients with blood triglyceride levels above 1 milligram per milliliter are twice as prone to heart attacks as others. Thus, it is likely that consuming large amounts of fat, processed sugar, or alcohol, each known to increase triglyceride levels in the blood, is a factor causing heart disease.

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

- (A) People with a high-fat diet who engage in regular, vigorous physical activity are much less likely to develop heart disease than are sedentary people with a low-fat diet.
- (B) Triglyceride levels above 2 milligrams per milliliter increase the risk of some serious illnesses not related to heart disease.
- (C) Shortly after a person ceases to regularly consume alcohol and processed sugar, that person's triglyceride levels drop dramatically.
- (D) Heart disease interferes with the body's ability to metabolize triglycerides.
- (E) People who maintain strict regimens for their health tend to adopt low-fat diets and to avoid alcohol and processed sugar.

21. In an experiment, some volunteers were assigned to take aerobics classes and others to take weight-training classes. After three months, each performed an arduous mathematical calculation. Just after that challenge, the measurable stress symptoms of the volunteers in the aerobics classes were less than those of the volunteers in the weight-training classes. This provides good evidence that aerobic exercise helps the body handle psychological stress.

Which one of the following is an assumption the argument requires?

- (A) Three months is enough time for the body to fully benefit from aerobic exercise.
- (B) The volunteers who were assigned to the aerobics classes did not also lift weights outside the classes.
- (C) On average, the volunteers who were assigned to the aerobics classes got more exercise in the months in which they took those classes than they had been getting before beginning the experiment.
- (D) On average, the volunteers assigned to the aerobics classes found it less difficult to perform the mathematical calculation than did the volunteers assigned to the weight-training classes.
- (E) On average, the volunteers assigned to the aerobics classes got a greater amount of aerobic exercise overall during the experiment, including any exercise outside the classes, than did the volunteers assigned to the weight-training classes.



22. Insurers and doctors are well aware that the incidence of lower-back injuries among office workers who spend long hours sitting is higher than that among people who regularly do physical work of a type known to place heavy stresses on the lower back. This shows that office equipment and furniture are not properly designed to promote workers' health.

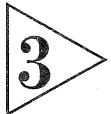
Which one of the following, if true, most undermines the reasoning above?

- (A) When they are at home, laborers and office workers tend to spend similar amounts of time sitting.
- (B) Insurance companies tend to dislike selling policies to companies whose workers often claim to have back pain.
- (C) People who regularly do physical work of a type known to place heavy stress on the lower back are encouraged to use techniques that reduce the degree of stress involved.
- (D) Most of the lower-back injuries that office workers suffer occur while they are on the job.
- (E) Consistent physical exercise is one of the most effective ways to prevent or recover from lower-back injuries.

23. Researchers have found that some unprotected areas outside of a national park that was designed to protect birds have substantially higher numbers of certain bird species than comparable areas inside the park.

Which one of the following, if true, most helps to explain the researchers' finding?

- (A) Moose are much more prevalent inside the park, where hunting is prohibited, than outside the park, and moose eat much of the food that the birds need to survive.
- (B) The researchers also found that some unprotected areas outside of the park have substantially higher numbers of certain reptile species than comparable areas inside the park.
- (C) Researchers tagged a large number of birds inside the park; three months later some of these birds were recaptured outside the park.
- (D) Both inside the park and just outside of it, there are riverside areas containing willows and other waterside growth that the bird species thrive on.
- (E) The park was designed to protect endangered bird species, but some of the bird species that are present in higher numbers in the unprotected areas are also endangered.



24. A recent poll of a large number of households found that 47 percent of those with a cat had at least one person with a university degree, while 38 percent of households with a dog had at least one person with a university degree. Clearly, people who hold university degrees are more likely to live in a household with a cat than one with a dog.

The reasoning in the argument is flawed in that the argument

- (A) ignores the possibility that a significant number of households might have both a cat and a dog
- (B) takes for granted that there are not significantly more households with a dog than ones with a cat
- (C) fails to consider how many of the households have at least one person without a university degree
- (D) fails to consider to what extent people with university degrees participate in decisions about whether their households have a cat or dog
- (E) ignores the possibility that two things can be correlated without being causally connected

25. Keeler wanted the institute to receive bad publicity. He and Greene were the only ones in a position to tell the press about the institute's potentially embarrassing affiliations, but Greene had no reason to do so. Therefore, it must have been Keeler who notified the press.

Which one of the following arguments is most closely parallel in its reasoning to the argument above?

- (A) The only people who had any reason to write the anonymous letter were Johnson and Ringwold. Johnson and Ringwold both deny doing so. Ringwold, however, admits that she has written anonymous letters in the past. Thus, it must have been Ringwold who wrote the letter.
- (B) Carter and Whitequill were the only ones who had any motive to bribe the public official. But Whitequill would have been too fearful that the bribery might somehow be made public. Carter, therefore, must be the person who bribed the public official.
- (C) Other than Helms and Lapinski, no one had access to the equipment on Thursday, the day it was tampered with. Thus, since Helms had reason to tamper with the equipment and Lapinski did not, it must have been Helms who did it.
- (D) When the bridge was designed, Fleming and Solano were the only ones capable of creating such a design. Fleming, however, had a strong reason to take credit for the design if it were his. Thus, since no one took credit for the design, it must have been the work of Solano. Cutter and Rengo are the only serious candidates for designing the new monument. Rengo has designed several beautiful monuments and has connections to the selection committee. Therefore, it will probably be Rengo who is awarded the job of designing the monument.
- (E)

## S T O P

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK ON THIS SECTION ONLY.  
DO NOT WORK ON ANY OTHER SECTION IN THE TEST.