

SECTION I

Time—35 minutes

26 Questions

Directions: The questions in this section are based on the reasoning contained in brief statements or passages. For some questions, more than one of the choices could conceivably answer the question. However, you are to choose the best answer; that is, the response that most accurately and completely answers the question. You should not make assumptions that are by commonsense standards implausible, superfluous, or incompatible with the passage. After you have chosen the best answer, blacken the corresponding space on your answer sheet.

1. It is probably within the reach of human technology to make the climate of Mars inhabitable. It might be several centuries before people could live there, even with breathing apparatuses, but some of the world's great temples and cathedrals took centuries to build. Research efforts now are justified if there is even a chance of making another planet inhabitable. Besides, the intellectual exercise of understanding how the Martian atmosphere might be changed could help in understanding atmospheric changes inadvertently triggered by human activity on Earth.

The main point of the argument is that

- (A) it is probably technologically possible for humankind to alter the climate of Mars
- (B) it would take several centuries to make Mars even marginally inhabitable
- (C) making Mars inhabitable is an effort comparable to building a great temple or cathedral
- (D) research efforts aimed at discovering how to change the climate of Mars are justified
- (E) efforts to change the climate of Mars could facilitate understanding of the Earth's climate

Questions 2–3

Adults have the right to vote; so should adolescents. Admittedly, adolescents and adults are not the same. But to the extent that adolescents and adults are different, adults cannot be expected to represent the interests of adolescents. If adults cannot represent the interests of adolescents, then only by giving adolescents the vote will these interests be represented.

- 2. The argument relies on which one of the following assumptions?
 - (A) The right to vote is a right that all human beings should have.
 - (B) Adolescents and adults differ in most respects that are important.
 - (C) Adolescents should have their interests represented.
 - (D) Anyone who has the right to vote has all the rights an adult has.
 - (E) Adolescents have never enjoyed the right to vote.
- 3. The statement that adolescents and adults are not the same plays which one of the following roles in the argument?
 - (A) It presents the conclusion of the argument.
 - (B) It makes a key word in the argument more precise.
 - (C) It illustrates a consequence of one of the claims that are used to support the conclusion.
 - (D) It distracts attention from the point at issue.
 - (E) It concedes a point that is then used to support the conclusion.

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4. When deciding where to locate or relocate, businesses look for an educated work force, a high level of services, a low business-tax rate, and close proximity to markets and raw materials. However, although each of these considerations has approximately equal importance, the lack of proximity either to markets or to raw materials often causes municipalities to lose prospective businesses, whereas having a higher-than-average business-tax rate rarely has this effect.

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

- (A) Taxes paid by businesses constitute only a part of the tax revenue collected by most municipalities.
- (B) In general, the higher the rate at which municipalities tax businesses, the more those municipalities spend on education and on providing services to businesses.
- (C) Businesses sometimes leave a municipality after that municipality has raised its taxes on businesses.
- (D) Members of the work force who are highly educated are more likely to be willing to relocate to secure work than are less highly educated workers.
- (E) Businesses have sometimes tried to obtain tax reductions from municipalities by suggesting that without such a reduction the business might be forced to relocate elsewhere.

Questions 5–6

Oscar: I have been accused of plagiarizing the work of Ethel Myers in my recent article. But that accusation is unwarranted. Although I admit I used passages from Myers' book without attribution, Myers gave me permission in private correspondence to do so.

Millie: Myers cannot give you permission to plagiarize. Plagiarism is wrong, not only because it violates authors' rights to their own words, but also because it misleads readers: it is fundamentally a type of lie. A lie is no less a lie if another person agrees to the deception.

5. Which one of the following principles, if established, would justify Oscar's judgment?
- (A) A writer has no right to quote passages from another published source if the author of that other source has not granted the writer permission to do so.
 - (B) The writer of an article must cite the source of all passages that were not written by that writer if those passages are more than a few sentences long.
 - (C) Plagiarism is never justified, but writers are justified in occasionally quoting without attribution the work of other writers if the work quoted has not been published.
 - (D) An author is entitled to quote freely without attribution the work of a writer if that writer relinquishes his or her exclusive right to the material.
 - (E) Authors are entitled to quote without attribution passages that they themselves have written and published in other books or articles.
6. Millie uses which one of the following argumentative strategies in contesting Oscar's position?
- (A) analyzing plagiarism in a way that undermines Oscar's position
 - (B) invoking evidence to show that Oscar did quote Myers' work without attribution
 - (C) challenging Oscar's ability to prove that he had received Myers' permission to quote Myers' work without attribution
 - (D) citing a theory of rights that prohibits plagiarism and suggesting that Oscar is committed to that theory
 - (E) showing that Oscar's admission demonstrates his lack of credibility

7. Soil scientists studying the role of compost in horticulture have found that, while compost is useful for building soil structure, it does not supply large enough quantities of the nutrients essential for plant growth to make it a replacement for fertilizer. Many home gardeners, however, have found they can grow healthy and highly productive plants in soil that lacked essential nutrients by enriching the soil with nothing but compost.

Which one of the following, if true, most helps to explain the discrepant findings of the soil scientists and the home gardeners?

- (A) The findings of soil scientists who are employed by fertilizer manufacturers do not differ widely from those of scientists employed by the government or by universities.
- (B) Compost used in research projects is usually made from leaves and grass clippings only, whereas compost used in home gardens is generally made from a wide variety of ingredients.
- (C) Most plants grown in home gardens and in scientists' test plots need a favorable soil structure, as well as essential nutrients, in order to thrive.
- (D) The soil in test plots, before it is adjusted in the course of experiments, tends to contain about the same quantities of plant nutrients as does soil in home gardens to which no compost or fertilizer has been added.
- (E) Some of the varieties of plants grown by home gardeners require greater quantities of nutrients in order to be healthy than do the varieties of plants generally grown by the soil scientists in test plots.

8. At Happywell, Inc., last year the average annual salary for dieticians was \$50,000, while the average annual salary for physical therapists was \$42,000. The average annual salary for all Happywell employees last year was \$40,000.

If the information above is correct, which one of the following conclusions can properly be drawn on the basis of it?

- (A) There were more physical therapists than dieticians at Happywell last year.
- (B) There was no dietician at Happywell last year who earned less than the average for a physical therapist.
- (C) At least one Happywell employee earned less than the average for a physical therapist last year.
- (D) At least one physical therapist earned less than the lowest-paid Happywell dietician last year.
- (E) At least one dietician earned more than the highest-paid Happywell physical therapist last year.

9. Since multinational grain companies operate so as to maximize profits, they cannot be relied on to initiate economic changes that would reform the world's food-distribution system. Although it is true that the actions of multinational companies sometimes do result in such economic change, this result is incidental, arising not from the desire for reform but from the desire to maximize profits. The maximization of profits normally depends on a stable economic environment, one that discourages change.

The main point of the argument is that

- (A) the maximization of profits depends on a stable economic environment
 - (B) when economic change accompanies business activity, that change is initiated by concern for the profit motive
 - (C) multinational grain companies operate so as to maximize profits
 - (D) the world's current food-distribution system is not in need of reform
 - (E) multinational grain companies cannot be relied on to initiate reform of the world's food-distribution system
10. Stage performances are judged to be realistic to the degree that actors reproduce on stage the behaviors generally associated by audiences with the emotional states of the characters portrayed. Traditional actors imitate those behaviors, whereas Method actors, through recollection of personal experience, actually experience the same emotions that their characters are meant to be experiencing. Audiences will therefore judge the performances of Method actors to be more realistic than the performances of traditional actors.

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

- (A) Performances based on an actor's own experience of emotional states are more likely to affect an audience's emotions than are performances based on imitations of the behaviors generally associated with those emotional states.
- (B) The behavior that results when a Method actor feels a certain emotion will conform to the behavior that is generally associated by audiences with that emotion.
- (C) Realism is an essential criterion for evaluating the performances of both traditional actors and Method actors.
- (D) Traditional actors do not aim to produce performances that are realistic representations of a character's emotional states.
- (E) In order to portray a character, a Method actor need not have had experiences identical to those of the character portrayed.

11. The demand for used cars has risen dramatically in Germany in recent years. Most of this demand is generated by former East Germans who cannot yet afford new cars and for whom cars were generally unavailable prior to unification. This demand has outstripped supply and thus has exerted an upward pressure on the prices of used cars. Consequently, an increasing number of former West Germans, in order to take advantage of the improved market, will be selling the cars they have owned for several years. Hence, the German new-car market will most likely improve soon as well.

Which one of the following, if true, would most help to support the conclusion about the German new-car market?

- (A) The demand for old cars in former West Germany is greater than the demand for new cars in former East Germany.
 - (B) In most European countries, the sale of a used car is subject to less tax than is the sale of a new car.
 - (C) Most Germans own very few cars in the course of their lives.
 - (D) Most former West Germans purchase new cars once they sell their used cars.
 - (E) Many former East Germans prefer to buy cars imported from North America because they are generally larger than European cars.
12. In 1980 health officials began to publicize the adverse effects of prolonged exposure to the sun, and since then the number of people who sunbathe for extended periods of time has decreased considerably each year. Nevertheless, in 1982 there was a dramatic rise in newly reported cases of melanoma, a form of skin cancer found mostly in people who have had prolonged exposure to the sun.

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

- (A) Before 1980 a considerable number of the people who developed melanoma as a result of prolonged exposure to the sun were over forty years of age.
- (B) Before 1980, when most people had not yet begun to avoid prolonged exposure to the sun, sunbathing was widely thought to be healthful.
- (C) In 1982 scientists reported that the body's need for exposure to sunlight in order to produce vitamin D, which helps prevent the growth of skin cancers, is less than was previously thought.
- (D) In 1982 medical researchers perfected a diagnostic technique that allowed them to detect the presence of melanoma much earlier than had previously been possible.
- (E) Since 1980, those people who have continued to sunbathe for extended periods of time have used sunblocks that effectively screen out the ultraviolet rays that help cause melanoma.

13. The tiny country of Minlandia does not produce its own television programming. Instead, the citizens of Minlandia, who generally are fluent not only in their native Minlandian, but also in Boltese, watch Boltese-language television programs from neighboring Bolta. Surveys show that the Minlandians spend on average more hours per week reading for pleasure and fewer hours per week watching television than people anywhere else in the world. A prominent psychologist accounts for the survey results by explaining that people generally prefer to be entertained in their native language even if they are perfectly fluent in other languages.

The explanation offered by the psychologist accounts for the Minlandians' behavior only if which one of the following is assumed?

- (A) Some Minlandians derive no pleasure from watching television in a language other than their native Minlandian.
 - (B) The study of Boltese is required of Minlandian children as part of their schooling.
 - (C) The proportion of bilingual residents to total population is greater in Minlandia than anywhere else in the world.
 - (D) At least some of what the Minlandians read for pleasure is in the Minlandian language.
 - (E) When Minlandians watch Boltese television programs, they tend to ignore the fact that they are hearing a foreign language spoken.
14. Morris High School has introduced a policy designed to improve the working conditions of its new teachers. As a result of this policy, only one-quarter of all part-time teachers now quit during their first year. However, a third of all full-time teachers now quit during their first year. Thus, more full-time than part-time teachers at Morris now quit during their first year.

The argument's reasoning is questionable because the argument fails to rule out the possibility that

- (A) before the new policy was instituted, more part-time than full-time teachers at Morris High School used to quit during their first year
- (B) before the new policy was instituted, the same number of full-time teachers as part-time teachers at Morris High School used to quit during their first year
- (C) Morris High School employs more new full-time teachers than new part-time teachers
- (D) Morris High School employs more new part-time teachers than new full-time teachers
- (E) Morris High School employs the same number of new part-time as new full-time teachers

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Questions 15–16

Salmonella is a food-borne microorganism that can cause intestinal illness. The illness is sometimes fatal, especially if not identified quickly and treated. Conventional *Salmonella* tests on food samples are slow and can miss unusual strains of the microorganism. A new test identifies the presence or absence of *Salmonella* by the one piece of genetic material common to all strains. Clearly, public health officials would be well advised to replace the previous *Salmonella* tests with the new test.

15. Which one of the following, if true, most strengthens the argument?
- (A) The level of skill required for laboratory technicians to perform the new test is higher than that required to perform previous tests for *Salmonella*.
 - (B) The new test returns results very soon after food samples are submitted for testing.
 - (C) A proposed new treatment for *Salmonella* poisoning would take effect faster than the old treatment.
 - (D) *Salmonella* poisoning is becoming less frequent in the general population.
 - (E) Some remedies for *Salmonella* poisoning also cure intestinal disorders caused by other microorganisms.
16. Which one of the following, if true, most substantially weakens the argument?
- (A) The new test identifies genetic material from *Salmonella* organisms only and not from similar bacteria.
 - (B) The new test detects the presence of *Salmonella* at levels that are too low to pose a health risk to people.
 - (C) *Salmonella* is only one of a variety of food-borne microorganisms that can cause intestinal illness.
 - (D) The new test has been made possible only recently by dramatic advances in biological science.
 - (E) Symptoms of *Salmonella* poisoning are often mistaken for those of other common intestinal illnesses.

17. On average, city bus drivers who are using the new computerized fare-collection system have a much better on-time record than do drivers using the old fare-collection system. Millicent Smith has the best on-time record of any bus driver in the city. Therefore, she must be using the computerized fare-collection system.

Which one of the following contains flawed reasoning most similar to that contained in the argument above?

- (A) All the city's solid-waste collection vehicles acquired after 1988 have a larger capacity than any of those acquired before 1988. This vehicle has the largest capacity of any the city owns, so it must have been acquired after 1988.
- (B) The soccer players on the blue team are generally taller than the players on the gold team. Since Henri is a member of the blue team, he is undoubtedly taller than most of the members of the gold team.
- (C) This tomato is the largest of this year's crop. Since the tomatoes in the experimental plot are on average larger than those grown in the regular plots, this tomato must have been grown in the experimental plot.
- (D) Last week's snowstorm in Toronto was probably an average storm for the area. It was certainly heavier than any snowstorm known to have occurred in Miami, but any average snowstorm in Toronto leaves more snow than ever falls in Miami.
- (E) Lawn mowers powered by electricity generally require less maintenance than do lawn mowers powered by gasoline. This lawn mower is powered by gasoline, so it will probably require a lot of maintenance.

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18. Frieda: Lightning causes fires and damages electronic equipment. Since lightning rods can prevent any major damage, every building should have one.

Erik: Your recommendation is pointless. It is true that lightning occasionally causes fires, but faulty wiring and overloaded circuits cause far more fires and damage to equipment than lightning does.

Erik's response fails to establish that Frieda's recommendation should not be acted on because his response

- (A) does not show that the benefits that would follow from Frieda's recommendation would be offset by any disadvantages
 - (B) does not offer any additional way of lessening the risk associated with lightning
 - (C) appeals to Frieda's emotions rather than to her reason
 - (D) introduces an irrelevant comparison between overloaded circuits and faulty wiring
 - (E) confuses the notion of preventing damage with that of causing inconvenience
19. The use of automobile safety seats by children aged 4 and under has nearly doubled in the past 8 years. It is clear that this increase has prevented child fatalities that otherwise would have occurred, because although the number of children aged 4 and under who were killed while riding in cars involved in accidents rose 10 percent over the past 8 years, the total number of serious automobile accidents rose by 20 percent during that period.

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

- (A) Some of the automobile safety seats purchased for children under 4 continue to be used after the child reaches the age of 5.
- (B) The proportion of serious automobile accidents involving child passengers has remained constant over the past 8 years.
- (C) Children are taking more trips in cars today than they were 8 years ago, but the average total time they spend in cars has remained constant.
- (D) The sharpest increase in the use of automobile safety seats over the past 8 years has been for children over the age of 2.
- (E) The number of fatalities among adults involved in automobile accidents rose by 10 percent over the past 8 years.

Questions 20–21

The new perfume Aurora smells worse to Joan than any comparably priced perfume, and none of her friends likes the smell of Aurora as much as the smell of other perfumes. However, she and her friends must have a defect in their sense of smell, since Professor Jameson prefers the smell of Aurora to that of any other perfume and she is one of the world's foremost experts on the physiology of smell.

20. The reasoning is flawed because it
- (A) calls into question the truthfulness of the opponent rather than addressing the point at issue
 - (B) ignores the well-known fact that someone can prefer one thing to another without liking either very much
 - (C) fails to establish that there is widespread agreement among the experts in the field
 - (D) makes an illegitimate appeal to the authority of an expert
 - (E) misrepresents the position against which it is directed
21. From the information presented in support of the conclusion, it can be properly inferred that
- (A) none of Joan's friends is an expert on the physiology of smell
 - (B) Joan prefers all other perfumes to Aurora
 - (C) Professor Jameson is not one of Joan's friends
 - (D) none of Joan's friends likes Aurora perfume
 - (E) Joan and her friends all like the same kinds of perfumes

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22. At the end of the year, Wilson's Department Store awards free merchandise to its top salespeople. When presented with the fact that the number of salespeople receiving these awards has declined markedly over the past fifteen years, the newly appointed president of the company responded, "In that case, since our award criterion at present is membership in the top third of our sales force, we can also say that the number of salespeople passed over for these awards has similarly declined."

Which one of the following is an assumption that would allow the company president's conclusion to be properly drawn?

- (A) Policies at Wilson's with regard to hiring salespeople have not become more lax over the past fifteen years.
- (B) The number of salespeople at Wilson's has increased over the past fifteen years.
- (C) The criterion used by Wilson's for selecting its award recipients has remained the same for the past fifteen years.
- (D) The average total sales figures for Wilson's salespeople have been declining for fifteen years.
- (E) Wilson's calculates its salespeople's sales figures in the same way as it did fifteen years ago.

23. The capture of a wild animal is justified only as a last resort to save that animal's life. But many wild animals are captured not because their lives are in any danger but so that they can be bred in captivity. Hence, many animals that have been captured should not have been captured.

Which one of the following arguments is most similar in its pattern of reasoning to the argument above?

- (A) Punishing a child is justified if it is the only way to reform poor behavior. But punishment is never the only way to reform poor behavior. Hence, punishing a child is never justified.
- (B) Parents who never punish a child are not justified in complaining if the child regularly behaves in ways that disturb them. But many parents who prefer not to punish their children complain regularly about their children's behavior. Hence, many parents who complain about their children have no right to complain.
- (C) Punishing a young child is justified only if it is done out of concern for the child's future welfare. But many young children are punished not in order to promote their welfare but to minimize sibling rivalry. Hence, many children who are punished should not have been punished.
- (D) A teacher is entitled to punish a child only if the child's parents have explicitly given the teacher the permission to do so. But many parents never give their child's teacher the right to punish their child. Hence, many teachers should not punish their pupils.
- (E) Society has no right to punish children for deeds that would be crimes if the children were adults. But society does have the right to protect itself from children who are known threats. Hence, confinement of such children does not constitute punishment.

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24. Until recently it was thought that ink used before the sixteenth century did not contain titanium. However, a new type of analysis detected titanium in the ink of the famous Bible printed by Johannes Gutenberg and in that of another fifteenth-century Bible known as B-36, though not in the ink of any of numerous other fifteenth-century books analyzed. This finding is of great significance, since it not only strongly supports the hypothesis that B-36 was printed by Gutenberg but also shows that the presence of titanium in the ink of the purportedly fifteenth-century Vinland Map can no longer be regarded as a reason for doubting the map's authenticity.

The reasoning in the passage is vulnerable to criticism on the ground that

- (A) the results of the analysis are interpreted as indicating that the use of titanium as an ingredient in fifteenth-century ink both was, and was not, extremely restricted
- (B) if the technology that makes it possible to detect titanium in printing ink has only recently become available, it is unlikely that printers or artists in the fifteenth century would know whether their ink contained titanium or not
- (C) it is unreasonable to suppose that determination of the date and location of a document's printing or drawing can be made solely on the basis of the presence or absence of a single element in the ink used in the document
- (D) both the B-36 Bible and the Vinland Map are objects that can be appreciated on their own merits whether or not the precise date of their creation or the identity of the person who made them is known
- (E) the discovery of titanium in the ink of the Vinland Map must have occurred before titanium was discovered in the ink of the Gutenberg Bible and the B-36 Bible

25. All actors are exuberant people and all exuberant people are extroverts, but nevertheless it is true that some shy people are actors.

If the statements above are true, each of the following must also be true EXCEPT:

- (A) Some shy people are extroverts.
- (B) Some shy extroverts are not actors.
- (C) Some exuberant people who are actors are shy.
- (D) All people who are not extroverts are not actors.
- (E) Some extroverts are shy.

26. Science Academy study: It has been demonstrated that with natural methods, some well-managed farms are able to reduce the amounts of synthetic fertilizer and pesticide and also of antibiotics they use without necessarily decreasing yields; in some cases yields can be increased.

Critics: Not so. The farms the academy selected to study were the ones that seemed most likely to be successful in using natural methods. What about the farmers who have tried such methods and failed?

Which one of the following is the most adequate evaluation of the logical force of the critics' response?

- (A) Success and failure in farming are rarely due only to luck, because farming is the management of chance occurrences.
- (B) The critics show that the result of the study would have been different if twice as many farms had been studied.
- (C) The critics assume without justification that the failures were not due to soil quality.
- (D) The critics demonstrate that natural methods are not suitable for the majority of farmers.
- (E) The issue is only to show that something is possible, so it is not relevant whether the instances studied were representative.

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.