



Graduate Management Admission Test (GMAT®)

Disclosed Edition

Test Code 42

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ABOUT THIS EDITION OF THE GMAT®

This booklet contains the questions that were used to derive scores on the edition of the Graduate Management Admission Test (GMAT®) with test code 42. If the first two digits of the test code on your answer sheet (item 5 on Side 1) are not 42, please contact ETS to send you the correct booklet to match your answer sheet. The answer key follows the test questions. This booklet also contains instructions for calculating raw scores corrected for guessing. These are followed by unique tables for converting raw scores to the reported scaled scores for test code 42.

In this edition of the GMAT, the following essay and multiple-choice sections contributed to your scores:

Analytical Writing Assessment

Essay 1	Analysis of an Issue
Essay 2	Analysis of an Argument

Verbal Assessment

Section 3	Reading Comprehension
Section 5	Sentence Correction
Section 7	Critical Reasoning

Quantitative Assessment

Section 2	Data Sufficiency
Section 4	Problem Solving
Section 6	Problem Solving

GMAT Total

All six verbal and quantitative sections combined as one score

Section 1 in this edition of the GMAT contained trial or equating questions and does not contribute to your score. Questions from this section are not included in this booklet.

ANALYSIS OF AN ISSUE

Time—30 minutes

Directions: In this section, you will need to analyze the issue presented below and explain your views on it. The question has no “correct” answer. Instead, you should consider various perspectives as you develop your own position on the issue.

Read the statement and the instructions that follow it, and then make any notes in your test booklet that will help you plan your response. Begin writing your response on the separate answer document. Make sure that you use the answer document that goes with this writing task.

“Everywhere, it seems, there are clear and positive signs that people are becoming more respectful of one another’s differences.”

In your opinion, how accurate is the view expressed above? Use reasons and/or examples from your own experience, observations, or reading to develop your position.

NOTES

Use the space below or on the facing page to plan your response. Any writing on these pages will not be evaluated.

STOP

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ANALYSIS OF AN ARGUMENT

Time—30 minutes

Directions: In this section, you will be asked to write a critique of the argument presented below. *You are NOT being asked to present your own views on the subject.*

Read the argument and the instructions that follow it, and then make any notes in your test booklet that will help you plan your response. Begin writing your response on the separate answer document. Make sure that you use the answer document that goes with this writing task.

The following is from a campaign by Big Boards, Inc., to convince companies in River City that their sales will increase if they use Big Boards billboards for advertising their locally manufactured products.

“The potential of Big Boards to increase sales of your products can be seen from an experiment we conducted last year. We increased public awareness of the name of the current national women’s marathon champion by publishing her picture and her name on billboards in River City for a period of three months. Before this time, although the champion had just won her title and was receiving extensive national publicity, only five percent of the 15,000 randomly surveyed residents of River City could correctly name the champion when shown her picture; after the three-month advertising experiment, 35 percent of respondents from a second survey could supply her name.”

Discuss how well reasoned you find this argument. In your discussion be sure to analyze the line of reasoning and the use of evidence in the argument. For example, you may need to consider what questionable assumptions underlie the thinking and what alternative explanations or counterexamples might weaken the conclusion. You can also discuss what sort of evidence would strengthen or refute the argument, what changes in the argument would make it more sound and persuasive, and what, if anything, would help you better evaluate its conclusion.

NOTES

Use the space below or on the facing page to plan your response. Any writing on these pages will not be evaluated.

STOP

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DO NOT TURN TO ANY OTHER SECTION IN THE TEST.

ANSWER Sheet – Test Code 42

Section 2	Section 3	Section 4	Section 5	Section 6	Section 7
1.	1.	1.	1.	1.	1.
2.	2.	2.	2.	2.	2.
3.	3.	3.	3.	3.	3.
4.	4.	4.	4.	4.	4.
5.	5.	5.	5.	5.	5.
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19.			19.		
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			21.		
			22.		

SECTION 2

Time —25 minutes

20 Questions

Directions: Each of the data sufficiency problems below consists of a question and two statements, labeled (1) and (2), in which certain data are given. You have to decide whether the data given in the statements are sufficient for answering the question. Using the data given in the statements plus your knowledge of mathematics and everyday facts (such as the number of days in July or the meaning of *counterclockwise*), you are to fill in oval

- A if statement (1) ALONE is sufficient, but statement (2) alone is not sufficient to answer the question asked;
- B if statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked;
- C if BOTH statements (1) and (2) TOGETHER are sufficient to answer the question asked, but NEITHER statement ALONE is sufficient;
- D if EACH statement ALONE is sufficient to answer the question asked;
- E if statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data specific to the problem are needed.

Numbers: All numbers used are real numbers.

Figures: A figure in a data sufficiency problem will conform to the information given in the question, but will not necessarily conform to the additional information given in statements (1) and (2).

You may assume that lines shown as straight are straight and that angle measures are greater than zero.

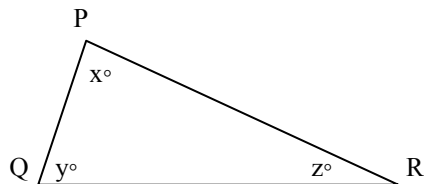
You may assume that the positions of points, angles, regions, etc., exist in the order shown.

All figures lie in a plane unless otherwise indicated.

Note: In questions that ask for the value of a quantity, the data given in the statements are sufficient only when it is possible to determine exactly one numerical value for the quantity.

Example:

In $\triangle PQR$, what is the value of x ?



- (1) $PQ = PR$
- (2) $y = 40$

Explanation: According to statement (1), $PQ = PR$; therefore, $\triangle PQR$ is isosceles and $y = z$. Since $x + y + z = 180$, it follows that $x + 2y = 180$. Since statement (1) does not give a value for y , you cannot answer the question using statement (1) alone. According to statement (2), $y = 40$; therefore, $x + z = 140$. Since statement (2) does not give a value for z , you cannot answer the question using statement (2) alone. Using both statements together, since $x + 2y = 180$ and the value of y is given, you can find the value of x . Therefore, the answer is C.

GO ON TO THE NEXT PAGE.

- A Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.
 B Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.
 C BOTH statements (1) and (2) TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.
 D EACH statement ALONE is sufficient.
 E Statements (1) and (2) TOGETHER are NOT sufficient.

1. In College X the number of students enrolled in both a chemistry course and a biology course is how much less than the number of students enrolled in neither?
 - (1) In College X there are 60 students enrolled in a chemistry course.
 - (2) In College X there are 85 students enrolled in a biology course.
2. What is the value of x ?
 - (1) $3x - 1 = x$
 - (2) $\frac{1}{x} + 1 = 3$
3. While Mel is on disability leave, his employer pays him a monthly disability benefit equal to \$1,200 plus 40 percent of the amount of his monthly salary in excess of \$2,000. What is Mel's monthly salary?
 - (1) Mel's monthly disability benefit from his employer is \$1,600.
 - (2) Mel's monthly salary exceeds \$2,500.
4. Does $r = 3$?
 - (1) $\frac{r}{3} = \frac{27 \times 27}{9 \times 9 \times 9}$
 - (2) $3r = \frac{27 + 27}{3 + 3}$
5. If car X followed car Y across a certain bridge that is $\frac{1}{2}$ mile long, how many seconds did it take car X to travel across the bridge?
 - (1) Car X drove onto the bridge exactly 3 seconds after car Y drove onto the bridge and drove off the bridge exactly 2 seconds after car Y drove off the bridge.
 - (2) Car Y traveled across the bridge at a constant speed of 30 miles per hour.
6. What is the maximum number of rectangular blocks, each with dimensions 12 centimeters by 6 centimeters by 4 centimeters, that will fit inside rectangular box X ?
 - (1) When box X is filled with the blocks and rests on a certain side, there are 25 blocks in the bottom layer.
 - (2) The inside dimensions of box X are 60 centimeters by 30 centimeters by 20 centimeters.
7. What is the ratio of p to r ?
 - (1) $\frac{2p}{r} = 30$
 - (2) $\frac{p}{3r} = 5$
8. What is the value of x ?
 - (1) $x \leq 8$
 - (2) $8 \leq x$
9. In a random sample of 80 adults, how many are college graduates?
 - (1) In the sample, the number of adults who are not college graduates is 3 times the number who are college graduates.
 - (2) In the sample, the number of adults who are not college graduates is 40 more than the number who are college graduates.
10. Does $x - y = 200$?
 - (1) $x = 10^2$
 - (2) $x = 100$ and $y = -100$
11. What was the total amount of postage required to mail n letters?
 - (1) $n = 10$
 - (2) Each of the letters required at least \$0.32 postage.

GO ON TO THE NEXT PAGE.

- A Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient.
 B Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient.
 C BOTH statements (1) and (2) TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.
 D EACH statement ALONE is sufficient.
 E Statements (1) and (2) TOGETHER are NOT sufficient.

12. If d is a positive integer, is \sqrt{d} greater than 15?

- (1) d is divisible by 25.
 (2) d is divisible by 40.

13. Stores L and M each sell a certain product at a different regular price. If both stores discount their regular price of the product, is the discount price at store M less than the discount price at store L ?

- (1) At store L the discount price is 10 percent less than the regular price; at store M the discount price is 15 percent less than the regular price.
 (2) At store L the discount price is \$5 less than the regular store price; at store M the discount price is \$6 less than the regular price.

14. What is the value of $2x^2 + 4y$?

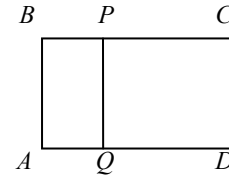
- (1) $x = 3$
 (2) $x^2 + 2y = 17$

15. If x and y are integers, is xy even?

- (1) $x = y + 1$
 (2) $\frac{x}{y}$ is an even integer.

16. If x is a positive integer and $x \leq 30$, what is the value of x ?

- (1) x can be written as the product of 3 different prime numbers each of which is greater than or equal to 2.
 (2) x is divisible by 3 and 5.

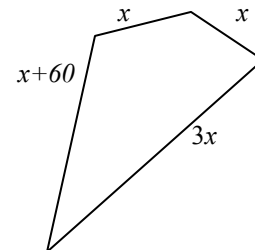


17. In the figure above, what is the perimeter of rectangle $ABPQ$?

- (1) The area of rectangular region $ABCD$ is 3 times the area of rectangular region $ABPQ$.
 (2) The perimeter of rectangle $ABCD$ is 54.

18. Is $|x + 2| < 3$?

- (1) $x < 1$
 (2) $x > -5$



19. The figure above shows the number of meters in the lengths of the four sides of a jogging path. What is the total distance around the path?

- (1) One of the sides of the path is 120 meters long.
 (2) One of the sides of the path is twice as long as each of the two shortest sides.

20. If n is a positive integer, what is the tens digit of n ?

- (1) The hundreds digit of $10n$ is 6.
 (2) The tens digit of $n + 1$ is 7.

STOP

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK ON THIS SECTION ONLY.

DO NOT TURN TO ANY OTHER SECTION IN THE TEST.

SECTION 3

Time – 25 minutes

18 Questions

Directions: Each passage in this group is followed by questions based on its content. After reading a passage, choose the best answer to each question and fill in the corresponding oval on the answer sheet. Answer all questions following a passage on the basis of what is stated or implied in that passage.

The new school of political history that emerged in the 1960's and 1970's sought to go beyond the traditional focus of political historians on leaders and government institutions by examining directly the political practices of
 (5) ordinary citizens. Like the old approach, however, this new approach excluded women. The very techniques these historians used to uncover mass political behavior in the nineteenth-century United States—quantitative analyses of election returns, for example—were useless in analyzing
 (10) the political activities of women, who were denied the vote until 1920.

By redefining "political activity," historian Paula Baker has developed a political history that includes women. She concludes that among ordinary citizens, political activism
 (15) by women in the nineteenth century prefigured trends in twentieth-century politics. Defining "politics" as "any action taken to affect the course of behavior of government or of the community," Baker concludes that, while voting and holding office were restricted to men, women in the nine-
 (20) teenth century organized themselves into societies committed to social issues such as temperance and poverty. In other words, Baker contends, women activists were early practitioners of nonpartisan, issue-oriented politics and thus were more interested in enlisting lawmakers, regardless of
 (25) their party affiliation, on behalf of certain issues than in ensuring that one party or another won an election. In the twentieth century, more men drew closer to women's ideas about politics and took up modes of issue-oriented politics that Baker sees women as having pioneered.

1. The primary purpose of the passage is to
 - (A) enumerate reasons why both traditional scholarly methods and newer scholarly methods have limitations
 - (B) identify a shortcoming in a scholarly approach and describe an alternative approach
 - (C) provide empirical data to support a long-held scholarly assumption
 - (D) compare two scholarly publications on the basis of their authors' backgrounds
 - (E) attempt to provide a partial answer to a longstanding scholarly dilemma

2. The passage suggests which of the following concerning the techniques used by the new political historians described in the first paragraph of the passage?
 - (A) They involved the extensive use of the biographies of political party leaders and political theoreticians.
 - (B) They were conceived by political historians who were reacting against the political climates of the 1960's and 1970's.
 - (C) They were of more use in analyzing the positions of United States political parties in the nineteenth century than in analyzing the positions of those in the twentieth century.
 - (D) They were of more use in analyzing the political behavior of nineteenth-century voters than in analyzing the political activities of those who could not vote during that period.
 - (E) They were devised as a means of tracing the influence of nineteenth-century political trends on twentieth-century political trends.
3. It can be inferred that the author of the passage quotes Baker directly in the second paragraph primarily in order to
 - (A) clarify a position before providing an alternative to that position
 - (B) differentiate between a novel definition and traditional definitions
 - (C) provide an example of a point agreed on by different generations of scholars
 - (D) provide an example of the prose style of an important historian
 - (E) amplify a definition given in the first paragraph

GO ON TO THE NEXT PAGE.

4. According to the passage, Paula Baker and the new political historians of the 1960's and 1970's shared which of the following?
- (A) A commitment to interest-group politics
 - (B) A disregard for political theory and ideology
 - (C) An interest in the ways in which nineteenth-century politics prefigure contemporary politics
 - (D) A reliance on such quantitative techniques as the analysis of election returns
 - (E) An emphasis on the political involvement of ordinary citizens
5. Which of the following best describes the structure of the first paragraph of the passage?
- (A) Two scholarly approaches are compared, and a shortcoming common to both is identified.
 - (B) Two rival schools of thought are contrasted and a third is alluded to.
 - (C) An outmoded scholarly approach is described, and a corrective approach is called for.
 - (D) An argument is outlined, and counterarguments are mentioned.
 - (E) A historical era is described in terms of its political trends.
6. The information in the passage suggests that a pre 1960's political historian would have been most likely to undertake which of the following studies?
- (A) An analysis of voting trends among women voters of the 1920's
 - (B) A study of male voters' gradual ideological shift from party politics to issue-oriented politics
 - (C) A biography of an influential nineteenth-century minister of foreign affairs
 - (D) An analysis of narratives written by previously unrecognized women activists
 - (E) A study of voting trends among naturalized immigrant laborers in a nineteenth-century logging camp

GO ON TO THE NEXT PAGE

Line
(5) New observations about the age of some globular clusters in our Milky Way galaxy have cast doubt on a long-held theory about how the galaxy was formed. The Milky Way contains about 125 globular clusters (compact groups of anywhere from several tens of thousands to perhaps a million stars) distributed in a roughly spherical halo around the galactic nucleus. The stars in these clusters are believed to have been born during the formation of the galaxy, and so may be considered relics of the original galactic nebula, holding vital clues to the way the formation took place.

(10) The conventional theory of the formation of the galaxy contends that roughly 12 to 13 billion years ago the Milky Way formed over a relatively short time (about 200 million years) when a spherical cloud of gas collapsed under the pressure of its own gravity into a disc surrounded by a halo. Such a rapid formation of the galaxy would mean that all stars in the halo should be very nearly the same age.

(20) However, the astronomer Michael Bolte has found considerable variation in the ages of globular clusters. One of the clusters studied by Bolte is 2 billion years older than most other clusters in the galaxy, while another is 2 billion years younger. A colleague of Bolte contends that the cluster called Palomar 12 is 5 billion years younger than most other globular clusters.

To explain the age differences among the globular clusters, astronomers are taking a second look at “renegade” theories. One such newly fashionable theory, first put forward by Richard Larson in the early 1970’s, argues that the halo of the Milky Way formed over a period of a billion or more years as hundreds of small gas clouds drifted about, collided, lost orbital energy, and finally collapsed into a centrally condensed elliptical system. Larson’s conception of a “lumpy and turbulent” protogalaxy is complemented by computer modeling done in the 1970’s by mathematician Alan Toomre, which suggests that closely interacting spiral galaxies could lose enough orbital energy to merge into a single galaxy.

7. The passage is primarily concerned with discussing
- (A) the importance of determining the age of globular clusters in assessing when the Milky Way galaxy was formed
 - (B) recent changes in the procedures used by astronomers to study the formation of the Milky Way galaxy
 - (C) current disputes among astronomers regarding the size and form of the Milky Way galaxy
 - (D) the effect of new discoveries regarding globular clusters on theories about the formation of the Milky Way galaxy
 - (E) the origin, nature, and significance of groups of stars known as globular clusters

8. According to the passage, one way in which Larson’s theory and the conventional theory of the formation of the Milky Way galaxy differ is in their assessment of the

- (A) amount of time it took to form the galaxy
- (B) size of the galaxy immediately after its formation
- (C) the particular gases involved in the formation of the galaxy
- (D) importance of the age of globular clusters in determining how the galaxy was formed
- (E) shape of the halo that formed around the galaxy

9. Which of the following, if true, would be most useful in supporting the conclusions drawn from recent observations about globular clusters?

- (A) There is firm evidence that the absolute age of the Milky Way galaxy is between 10 and 17 billion years.
- (B) A survey reveals that a galaxy close to the Milky Way galaxy contains globular clusters of ages close to the age of Palomar 12.
- (C) A mathematical model proves that small gas clouds move in regular patterns.
- (D) Space probes indicate that the stars in the Milky Way galaxy are composed of several different types of gas.
- (E) A study of over 1,500 individual stars in the halo of the Milky Way galaxy indicates wide discrepancies in their ages.

10. If Bolte and his colleague are both correct, it can be inferred that the globular cluster Palomar 12 is approximately

- (A) 5 billion years younger than any other cluster in the galaxy
- (B) the same age as most other clusters in the galaxy
- (C) 7 billion years younger than another cluster in the galaxy
- (D) 12 billion years younger than most other clusters in the galaxy
- (E) 2 billion years younger than most other clusters in the galaxy

GO ON TO THE NEXT PAGE.

11. The passage suggests that Toomre's work complements Larson's theory because it
- (A) specifies more precisely the time frame proposed by Larson
 - (B) subtly alters Larson's theory to make it more plausible
 - (C) supplements Larson's hypothesis with direct astronomical observations
 - (D) provides theoretical support for the ideas suggested by Larson
 - (E) expands Larson's theory to make it more widely applicable
12. Which of the following most accurately states a finding of Bolte's research, as described in the passage?
- (A) The globular clusters in the Milky Way galaxy are 2 billion years older than predicted by the conventional theory.
 - (B) The ages of at least some globular clusters in the Milky Way galaxy differ by at least 4 billion years.
 - (C) One of the globular clusters in the Milky Way galaxy is 5 billion years younger than most others.
 - (D) The globular clusters in the Milky Way galaxy are significantly older than the individual stars in the halo.
 - (E) Most globular clusters in the Milky Way galaxy are between 11 and 15 billion years old.
13. The author of the passage puts the word "renegade" (line 29) in quotation marks most probably in order to
- (A) emphasize the lack of support for the theories in question
 - (B) contrast the controversial quality of the theories in question with the respectable character of their formulators
 - (C) generate skepticism about the theories in question
 - (D) ridicule the scientists who once doubted the theories in question
 - (E) indicate that the theories in question are no longer as unconventional as they once seemed

GO ON TO THE NEXT PAGE.

Line
(5) During the 1960's and 1970's, the primary economic development strategy of local governments in the United States was to attract manufacturing industries. Unfortunately, this strategy was usually implemented at another community's expense: many manufacturing facilities were lured away from their moorings elsewhere through tax incentives and slick promotional efforts. Through the transfer of jobs and related revenues that resulted from this practice, one town's triumph could become another
(10) town's tragedy.

In the 1980's the strategy shifted from this zero-sum game to one called "high-technology development," in which local governments competed to attract newly formed high-technology manufacturing firms. Although
(15) this approach was preferable to victimizing other geographical areas by taking their jobs, it also had its shortcomings: high-tech manufacturing firms employ only a specially trained fraction of the manufacturing workforce, and there simply are not enough high-tech
(20) firms to satisfy all geographic areas.

Recently, local governments have increasingly come to recognize the advantages of yet a third strategy: the promotion of homegrown small businesses. Small indig-
(25) enous businesses are created by a nearly ubiquitous resource, local entrepreneurs. With roots in their communities, these individuals are less likely to be enticed away by incentives offered by another community. Indig- enous industry and talent are kept at home, creating an environment that both provides jobs and fosters further entrepreneurship.

14. The primary purpose of the passage is to
- (A) advocate more effective strategies for encouraging the development of high-technology enterprises in the United States
 - (B) contrast the incentives for economic development offered by local governments with those offered by the private sector
 - (C) acknowledge and counter adverse criticism of programs being used to stimulate local economic development
 - (D) define and explore promotional efforts used by local governments to attract new industry
 - (E) review and evaluate strategies and programs that have been used to stimulate economic development

15. The passage suggests which of the following about the majority of United States manufacturing industries before the high-technology development era of the 1980's?

- (A) They lost many of their most innovative personnel to small entrepreneurial enterprises.
- (B) They experienced a major decline in profits during the 1960's and 1970's.
- (C) They could provide real economic benefits to the areas in which they were located.
- (D) They employed workers who had no specialized skills.
- (E) They actively interfered with local entrepreneurial ventures.

16. The tone of the passage suggests that the author is most optimistic about the economic development potential of which of the following groups?

- (A) Local governments
- (B) High-technology promoters
- (C) Local entrepreneurs
- (D) Manufacturing-industry managers
- (E) Economic development strategists

17. The passage does NOT state which of the following about local entrepreneurs?

- (A) They are found nearly everywhere.
- (B) They encourage further entrepreneurship.
- (C) They attract out-of-town investors.
- (D) They employ local workers.
- (E) They are established in their communities.

18. The author of the passage mentions which of the following as an advantage of high-technology development?

- (A) It encourages the modernization of existing manufacturing facilities.
- (B) It promotes healthy competition between rival industries.
- (C) It encourages the growth of related industries.
- (D) It takes full advantage of the existing workforce.
- (E) It does not advantage one local workforce at the expense of another.

STOP

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK ON THIS SECTION ONLY.

DO NOT TURN TO ANY OTHER SECTION IN THE TEST.

SECTION 4
Time – 25 minutes
16 Questions

Directions: In this section solve each problem, using any available space on the page for scratchwork. Then indicate the best of the answer choices given.

Numbers: All numbers used are real numbers.

Figures: Figures that accompany problems in this section are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that its figure is not drawn to scale. All figures lie in a plane unless otherwise indicated.

1. What is 25 percent of 20 percent of 75 ?

(A) 3.75
(B) 15
(C) 18.75
(D) 25
(E) 33.75

PAYROLL AT COMPANY X

Number of Employees	Salary
5	\$20,000
4	\$22,000
8	\$25,000
3	\$30,000

2. The table above shows the number of employees at each of four salary levels at Company X. What is the average (arithmetic mean) salary for the 20 employees?

(A) \$23,500
(B) \$23,750
(C) \$23,900
(D) \$24,125
(E) \$24,250

3. A store reported total sales of \$385 million for February of this year. If the total of sales for the same month last year was \$320 million, approximately what was the percent increase in sales?

(A) 2%
(B) 17%
(C) 20%
(D) 65%
(E) 83%

4. Which three of the following fractions are equivalent?

$$v = \frac{5}{80} \quad w = \frac{0.05}{0.08} \quad x = \frac{0.5}{8.0} \quad y = \frac{0.05}{0.8} \quad z = \frac{0.05}{0.008}$$

(A) v , w , and x
(B) v , x , and y
(C) w , x , and y
(D) w , y , and z
(E) x , y , and z

5. If $a = \frac{b+c}{e}$, then $c =$

(A) $(a-b)e$
(B) $ae-b$
(C) $\frac{ae}{b}$
(D) $\frac{b+a}{e}$
(E) $\frac{a}{e}-b$

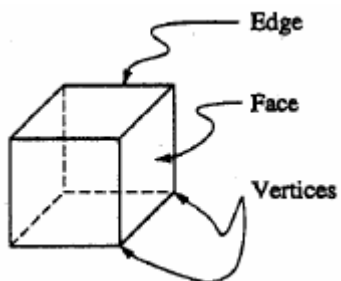
6. If $\left(\frac{4a}{6}\right)\left(\frac{1}{7}\right)(4)\left(\frac{3}{2a}\right)(7)(x) = 1$ then $x =$

(A) $\frac{1}{4}$
(B) $\frac{1}{2}$
(C) 2
(D) 7
(E) 8

GO ON TO THE NEXT PAGE.

7. On June 1 a bicycle dealer noted that the number of bicycles in stock had decreased by 4 for each of the past 5 months. If the stock continues to decrease at the same rate for the rest of the year, how many fewer bicycles will be in stock on September 1 than were in stock on January 1?

(A) 8
(B) 12
(C) 20
(D) 32
(E) 36



8. In the figure above, an edge, a face, and two vertices of a cube are indicated. If e , f , and v denote the number of edges, faces, and vertices, respectively, of a cube, which of the following is true?

(A) $e + f = v + 8$
(B) $e + f = v + 6$
(C) $e + f = 20 - v$
(D) $e - f = v - 2$
(E) $e - f = \frac{v}{2}$

Q	R
P	S

9. The figure above shows a rectangular parcel of undeveloped land partitioned into four regions, P , Q , R , and S . In square meters, the area of square region Q is x^2 , the area of rectangular region R is $5x$, and the area of rectangular region P is $4x$. What is the area, in square meters, of rectangular region S ?

(A) $x^2 - x$
(B) $x^2 + 9x$
(C) $20x - x^2$
(D) 9
(E) 20

10. From the sale of sleeping bags, a retailer made a gross profit of 12 percent of the wholesale cost. If each sleeping bag was sold for \$28, what was the wholesale cost per bag?

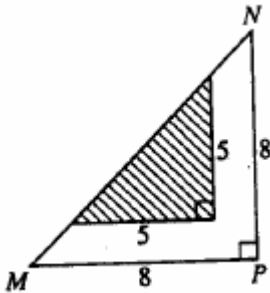
(A) \$3.00
(B) \$3.36
(C) \$24.64
(D) \$25.00
(E) \$31.36

11. If $y = 3x + 2$ and $y = -4 - 6x$ what is the value of y ?

(A) $-\frac{2}{3}$
(B) 0
(C) 2
(D) 8
(E) 16

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12. Of the 100 pet owners who responded to a survey, 50 own cats, 42 own dogs, and 7 own both. How many respondents own neither a cat nor a dog?
- (A) 7
(B) 8
(C) 10
(D) 12
(E) 15



13. In the figure above, the perimeter of $\triangle MNP$ is how much greater than the perimeter of the shaded region?
- (A) $2 + \sqrt{2}$
(B) 6
(C) $8\sqrt{2}$
(D) $6 + 3\sqrt{2}$
(E) $6 + 8\sqrt{2}$
14. How many different groups of 3 people can be formed from a group of 5 people?
- (A) 5
(B) 6
(C) 8
(D) 9
(E) 10

15. In a certain sequence, the term x_n is given by the formula $x_n = 2x_{n-1} - \frac{1}{2}(x_{n-2})$ for all $n \geq 2$. If $x_0 = 3$ and $x_1 = 2$, what is the value of x_3 ?
- (A) 2.5
(B) 3.125
(C) 4
(D) 5
(E) 6.75

16. Fox jeans regularly sell for \$15 a pair and Pony jeans regularly sell for \$18 a pair. During a sale these regular unit prices are discounted at different rates so that a total of \$9 is saved by purchasing 5 pairs of jeans: 3 pairs of Fox jeans and 2 pairs of Pony jeans. If the sum of the two discounts rates is 22 percent, what is the discount rate on Pony jeans?
- (A) 9%
(B) 10%
(C) 11%
(D) 12%
(E) 15%

STOP

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

SECTION 5

Time – 25 minutes

22 Questions

Directions: In each of the following sentences, some part of the sentence or the entire sentence is underlined. Beneath each sentence you will find five ways of phrasing the underlined part. The first of these repeats the original; the other four are different. If you think the original is the best of these answer choices, choose answer A; otherwise, choose one of the others. Select the best version and fill in the corresponding oval on your answer sheet.

This is a test of correctness and effectiveness of expression. In choosing answers, follow the requirements of standard written English; that is, pay attention to grammar, choice of words, and sentence construction. Choose the answer that produces the most effective sentence; this answer should be clear and exact, without awkwardness, ambiguity, redundancy, or grammatical error.

1. Because the financial review covered only the fiscal years of July 1992 through June 1994, so the investigators were unable to determine the extent of possibly earlier overpayments.
 - (A) 1994, so the investigators were unable to determine the extent of possibly
 - (B) 1994, and the investigators were unable to determine the extent of possibly
 - (C) 1994, the investigators were unable to determine the extent of possible
 - (D) 1994, therefore the investigators were unable to determine the extent of possibly
 - (E) 1994; therefore, the investigators were unable to determine the extent of possible
2. Child care already a solid part of the employee benefits package at many companies, more businesses are focusing on a newer family benefit known as elder care, services for older dependents.
 - (A) Child care
 - (B) With child care
 - (C) Child care as
 - (D) Being that child care was
 - (E) With child care's being
3. Pulsars are generally believed to be fast-spinning neutron stars to be located by the pulsating radio waves it emits.
 - (A) to be located by the pulsating radio waves it emits
 - (B) to be located by the pulsating radio waves they emit
 - (C) locatable by the pulsating radio waves which it emits
 - (D) emitting pulsating radio waves by which it can be located
 - (E) that can be located by the pulsating radio waves they emit
4. The gyrfalcon, an arctic bird of prey, has survived a close brush with extinction; its numbers are now five times greater than what they were when the use of DDT was sharply restricted in the early 1970's.
 - (A) its numbers are now five times greater than what they were when
 - (B) its numbers now fivefold what they were when
 - (C) its numbers now five times more than when
 - (D) now with fivefold the numbers it had when
 - (E) now with its numbers five greater since
5. Before becoming head of the department of surgery at Howard University, Dr. Charles Drew discovered that blood plasma, which keeps for months, can be used in transfusions to replace whole blood, which deteriorates in a few days when stored.
 - (A) Dr. Charles Drew discovered that blood plasma, which keeps for months, can be used in transfusions to replace whole blood, which deteriorates in a few days when stored
 - (B) Dr. Charles Drew discovered that blood plasma can keep for months and replace whole blood in transfusions, which deteriorates in a few days when stored
 - (C) Dr. Charles Drew's discovery was that blood plasma can replace whole blood in transfusions because it can keep for months instead of deteriorating in a few days when stored
 - (D) the discovery was made by Dr. Charles Drew that blood transfusions can replace whole blood, which deteriorates in a few days when stored, with blood plasma, which can keep for months
 - (E) the ability in transfusions to replace whole blood, which deteriorates in a few days when stored, with blood plasma, which can keep for months, was discovered by Dr. Charles Drew

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6. A recent report shows that over the last five years many banks have more than doubled fees for automated teller machine withdrawals even with the cost of the machines being less for banks for each transaction than a teller does.
- (A) even with the cost of the machines being less for banks
 - (B) even though the machines cost banks less
 - (C) in spite of the machines and their costing banks less
 - (D) despite the cost of the machines to the banks, which is lower
 - (E) despite the fact of the machines costing banks less
7. To force a person to retire solely because they have reached a certain arbitrary age is like denying a person a job because of sex, race, or religion.
- (A) To force a person to retire solely because they have reached a certain arbitrary age is like denying a person a job
 - (B) Forcing a person to retire solely because they have reached a certain arbitrary age is like denying a person a job
 - (C) Forcing people to retire solely because they have reached a certain arbitrary age is like to deny a person a job
 - (D) Forcing people to retire solely because they have reached a certain arbitrary age is like denying people jobs
 - (E) To force people to retire solely because they have reached a certain arbitrary age is like denying people jobs
8. The European Economic Community exported just under \$400 billion in goods in 1988, sixty percent more than the United States did and nearly twice as much as Japan's exports.
- (A) the United States did and nearly twice as much as Japan's exports
 - (B) the United States' and nearly double what the Japanese exports were
 - (C) the United States exported and nearly twice as much as the Japanese did
 - (D) what the United States did and nearly twice as much as Japan's exports
 - (E) what the United States exported and nearly double the Japanese exports
9. Unlike the low status accorded the craftwork of many women settlers in the nineteenth-century American West, Native American women of the Plains tribes often received public recognition, wealth, and prestige for their craftwork.
- (A) Unlike the low status accorded the craftwork of many women settlers in the nineteenth-century American West, Native American women of the Plains tribes
 - (B) Unlike many women settlers in the nineteenth-century American West, whose craftwork was accorded low status, Native American women of the Plains tribes
 - (C) Native American women of the Plains tribes, unlike the craftwork of many women settlers in the nineteenth-century American West,
 - (D) The craftwork of many women settlers in the nineteenth-century American West was accorded low status, while that of the Native American women of the Plains tribes
 - (E) While low status was accorded the craftwork of many women settlers in the nineteenth-century American West, that of Native American women of the Plains tribes
10. This fall two out of five households in the United States will harvest some of their own food from a vegetable garden in backyards and city lots.
- (A) their own food from a vegetable garden in backyards and city lots
 - (B) its own food from a vegetable garden in backyards and city lots
 - (C) their own food from vegetable gardens in a backyard or a city lot
 - (D) their own food from vegetable gardens in backyards or city lots
 - (E) its own food from a vegetable garden in a backyard or a city lot
11. In many upper-class Egyptian homes, French was spoken within the family, just as it had once been among the Russian aristocracy.
- (A) just as it had once been among the Russian aristocracy
 - (B) just like it once had been among the Russian aristocracy
 - (C) just as the Russian aristocracy had once done
 - (D) similar to what the Russian aristocracy had done once
 - (E) like what had once been done by the Russian aristocracy

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12. Somber in tone and menacing in content, the leader of the terrorists who were holding the hostages sent a message leaving little hope that they would be released by the end of the week.
- (A) leader of the terrorists who were holding the hostages sent a message leaving little hope that they would be
- (B) leader of the terrorists holding the hostages sent a message that left little hope for their being
- (C) leader of the terrorists holding the hostages sent a message leaving little hope of the hostages being
- (D) message sent by the leader of the terrorists who were holding the hostages left little hope that the hostages would be
- (E) message that was sent by the leader of the terrorists who were holding the hostages left little hope for the hostages to be
13. In constant dollars, New York City taxpayers spend three times more than ten years ago to receive the same level of municipal services.
- (A) more than
- (B) as much as they have
- (C) more than they have
- (D) more as they did
- (E) more than they did
14. The failing of the book lies not in a lack of attention to scientific detail but in the depiction of scenes of life and death in the marine world with emotional overtones that reduce the credibility of the work.
- (A) depiction of scenes of life and death in the marine world with emotional overtones that
- (B) fact that it depicts marine world scenes of life and death as having emotional overtones that
- (C) depiction of scenes of life and death in the marine world, whose emotional overtones
- (D) depiction of marine world scenes of life and death, which have emotional overtones and thus
- (E) fact that it depicts scenes of life and death in the marine world, whose emotional overtones
15. The government's projections on business growth and unemployment, along with its specific reports on prices and wages in individual companies, indicates inflationary pressures subsiding.
- (A) indicates inflationary pressures subsiding
- (B) has indicated the subsiding of inflationary pressures
- (C) indicate that inflationary pressures are subsiding
- (D) is indicative that inflationary pressures are subsiding
- (E) are indicative of inflationary pressures subsiding
16. The hypothesis has been advanced that the ancestors of such plants and animals as the giant sequoia, the alligator, and the horse appeared on the fringes of the Arctic Ocean millions of years before lower latitudes.
- (A) before lower latitudes
- (B) before at lower latitudes
- (C) before they did it at lower latitudes
- (D) before they appeared at lower latitudes
- (E) preceding their appearance at lower latitudes
17. Released the first Friday of every month and covering the preceding month, the Labor Department's employment report discloses the amount of new jobs to be created during the reporting period and the amount of hours to be worked.
- (A) discloses the amount of new jobs to be created during the reporting period and the amount of hours to be worked
- (B) discloses the amount of new jobs being created during the reporting period and the amount of hours worked
- (C) discloses the number of new jobs created during the reporting period and the number of hours worked
- (D) disclosed the number of new jobs that are created during the reporting period and the number of hours being worked
- (E) disclosed the number of new jobs that have been created during the reporting period and the number of hours worked

GO ON TO THE NEXT PAGE.

18. By enhancing college programs to attract the over-fifty population, the decline in college enrollment caused by the decrease in the population of eighteen to twenty-four year olds could be offset.
- (A) the decline in college enrollment caused by the decrease in the population of eighteen to twenty-four year olds could be offset
- (B) the college enrollment decline caused by the decrease in the population of eighteen to twenty-four year olds could be offset
- (C) college enrollment could offset the decline caused by the decrease in the population of eighteen to twenty-four year olds
- (D) colleges could offset the decline in enrollment caused by the decrease in the population of eighteen to twenty-four year olds
- (E) the decrease in the population of eighteen to twenty-four year olds that has caused a decline in college enrollment could be offset
19. According to some experts, carbon dioxide is accumulating in the atmosphere so rapidly, largely because of the burning of fossil fuels, that should the present rate of buildup continue, the global concentration of this poison will double by the end of the next century.
- (A) that should the present rate of buildup continue, the global concentration of this poison
- (B) should the present rate of buildup continue, the global concentration of this poison
- (C) should the present rate of buildup be continued, the global concentration of this poison
- (D) the global concentration of this poison, were the present rate of buildup continue,
- (E) that the global concentration of this poison, if the present rate of buildup did continue,
20. In an effort improve the quality of patient care, Dr. Lydia Temoscho is directing one of several clinical research projects that seek to determine the extent that psychological counseling helps to supplement the medical treatment of serious disease.
- (A) seek to determine the extent that psychological counseling helps to supplement
- (B) seek to determine how helpful psychological counseling is in supplementing
- (C) seeks to determine how helpful psychological counseling is to supplement
- (D) seeks to determine to what extent psychological counseling is a help in supplementing
- (E) seeks to determine the extent that psychological counseling is helpful in supplementing
21. Four generations of Americans have developed the habit of reading the daily newspapers due to the comic strips being appealing.
- (A) due to the comic strips being appealing
- (B) because of the appeal of the comic strips
- (C) for the fact of the comic strips' appeal
- (D) as a result of the comic strips having appeal
- (E) since the comic strips were appealing
22. Kuru, one of the strangest and most insidious of the diseases known, is no longer a major problem in New Guinea.
- (A) of the diseases known
- (B) of the diseases to be known
- (C) of the diseases that is known
- (D) known of the diseases
- (E) diseases known

S T O P

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK ON THIS SECTION ONLY.

DO NOT TURN TO ANY OTHER SECTION IN THE TEST.

SECTION 6

Time – 25 minutes

16 Questions

Directions: In this section solve each problem, using any available space on the page for scratchwork. Then indicate the best of the answer choices given.

Numbers: All numbers used are real numbers.

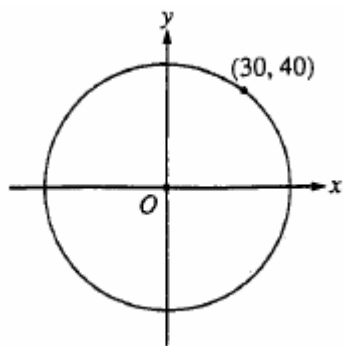
Figures: Figures that accompany problems in this section are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that its figure is not drawn to scale. All figures lie in a plane unless otherwise indicated.

1. For all integers a , b , c , and d , $*(a, b, c, d)$ is defined as $a - b + c - d$. What is the value of $*(1, 3, 8, 5)$?
(A) -1
(B) 0
(C) 1
(D) 2
(E) 3
2. For a certain company, operating costs and commissions totaled \$550 million in 1990, representing an increase of 10 percent from the previous year. The sum of operating costs and commissions for both years was
(A) \$1,000 million
(B) \$1,050 million
(C) \$1,100 million
(D) \$1,150 million
(E) \$1,155 million
3. A certain computer file contains 8,000 data records, each of which needs to be updated. If it takes 20 seconds to update 100 records, then at the same rate, approximately how many minutes will it take to update all of the records in the file?
(A) 16
(B) 27
(C) 67
(D) 80
(E) 160
4. If $x - 3y = -20$, then $2x - 6y =$
(A) -40
(B) -10
(C) 0
(D) 10
(E) 40
5. A car salesman earns a base salary of \$1,000 per month plus a commission of \$200 for each car he sells. If he earned \$2,200 in February, how many cars does he have to sell in March in order to double his February earnings?
(A) 6
(B) 11
(C) 12
(D) 17
(E) 22
6. Which of the following is equivalent to the pair of inequalities $x + 6 > 10$ and $x - 3 \leq 5$?
(A) $2 \leq x < 16$
(B) $2 \leq x < 4$
(C) $2 < x \leq 8$
(D) $4 < x \leq 8$
(E) $4 \leq x < 16$

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7. Before leaving on a trip, Ms. Rods exchanged 500 United States dollars for German marks at an exchange rate of 1.55 marks per dollar. When the trip was canceled, she exchanged the total amount of marks for dollars at an exchange rate of 0.60 dollar per mark. What was the total amount, in dollars, that she lost through the two transactions?

(A) \$20.00
(B) \$30.00
(C) \$35.00
(D) \$45.00
(E) \$55.00



8. What is the area of the circular region with center O shown in the figure above?

(A) 100π
(B) 900π
(C) $1,600\pi$
(D) $2,500\pi$
(E) $4,900\pi$

9. A rectangular-shaped carpet remnant that measures x feet by y feet is priced at \$50. What is the cost of the carpet, in dollars per square yard? (9 square feet = 1 square yard)

(A) $50xy$
(B) $450xy$
(C) $\frac{xy}{9}$
(D) $\frac{xy}{50}$
(E) $\frac{450}{xy}$

10. In a certain voting district, 40 percent of registered voters live in Town A and the rest live in Town B . In the last election, 70 percent of the registered voters from Town A voted. If equal numbers of registered voters from both towns voted, approximately what percent of the registered voters from Town B voted?

(A) 72%
(B) 47%
(C) 42%
(D) 34%
(E) 28%

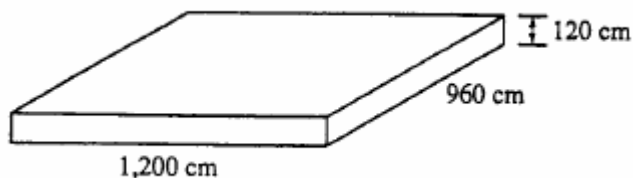
11. Which of the following is equivalent to $(2^3)(3^4)(7) + (2^2)(3^5)(5) + (2^4)(3^3)(11)$?

(A) $(2^2)(3^3)[(2)(3)(7) + (3^2)(5) + (2^2)(11)]$
(B) $(2^2)(3^4)[7 + (3)(5) + 11]$
(C) $(2)(3)[7 + 5 + 11]$
(D) $(2)(3^3)[(2)(3)(7) + (3^2)(5) + (2^2)(11)]$
(E) $(2)(3^4)[7 + (2)(3)(5) + 11]$

12. A mixture of nuts is to contain 3 parts cashews to 6 parts almonds to 7 parts walnuts by weight. How many pounds of almonds will be needed to make 5 pounds of the mixture?

(A) $\frac{3}{8}$
(B) $\frac{8}{15}$
(C) $1\frac{1}{5}$
(D) $1\frac{2}{3}$
(E) $1\frac{7}{8}$

GO ON TO THE NEXT PAGE.



13. The figure above represents a rectangular tank. How many cubic centimeters of water are in the tank when the water level is 10 centimeters below the top of the tank?

(A) 12,672,000
 (B) 13,824,000
 (C) 126,720,000
 (D) 138,240,000
 (E) 1,267,200,000

14. If $5 - \frac{6}{x} = x$, then x has how many possible values?

(A) None
 (B) One
 (C) Two
 (D) n A finite number greater than two
 (E) An infinite number

15. If $[x]$ is the greatest integer less than or equal to x , what is the value of $[-1.6] + [3.4] + [2.7]$?

(A) 3
 (B) 4
 (C) 5
 (D) 6
 (E) 7

16. In year Y imported machine tools accounted for 25 percent of total machine-tool sales in the United States, and Japanese imports accounted for 45 percent of the sales of imported machine tools. If the total sales of machine tools imported from Japan that year was x billion dollars, then the total sales of all machine tools in the United States was how many billion dollars?

(A) $\frac{9x}{80}$
 (B) $\frac{13x}{20}$
 (C) $\frac{80}{9x}$
 (D) $\frac{20x}{13}$
 (E) $\frac{80x}{9}$

S T O P

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK ON THIS SECTION ONLY.

DO NOT TURN TO ANY OTHER SECTION IN THE TEST.

SECTION 7

Time – 25 minutes

16 Questions

Directions: For each question in this section, select the best of the answer choices given.

1. From 1965 to 1988, spending on food in the United States climbed 46 percent. But over that same period, spending on food to be consumed at home — purchased mainly from supermarkets — grew by only 20 percent.
- Which of the following statements about the period from 1965 to 1988 in the United States is best supported by the statements above?
- (A) Spending on food increased at restaurants and other food retailers that prepare food to be consumed away from home.
 - (B) Shoppers spent more on certain food products to be consumed at home that are not generally available in supermarkets.
 - (C) Food prices at supermarkets neither rose nor dropped relative to food prices at other food retailers.
 - (D) There was a decrease in the number of heads of households, who tend to spend more than other household members on food consumed away from home.
 - (E) The number of people who ate at restaurants decreased relative to the number of people who ordered take-out food from restaurants.
2. Department Store Manager: Since 1985, when our department store enjoyed its highest sales figures ever, customers have increasingly turned to mail-order merchants for clothing and household appliances. We plan to halt this trend by reorganizing those departments in our store, simplifying our displays, and making individual items easier to find.
- Which of the following, if true, most strengthens the viability of the department store's plan?
- (A) Many department stores have increased their sales by placing small luxury items near cash registers, where customers waiting to pay are tempted to buy them on impulse.
 - (B) Some consumers who receive mail-order catalogs consider them to be a good source of information about current fashion and new products.
 - (C) Former customers indicated that they had often been frustrated trying to locate individual items in the department store's merchandise displays.
 - (D) The department store's customers have changed their lifestyles since 1985, spending less on clothing and household appliances today than they did at that time.
 - (E) Since 1985, there has been a sharp rise in the number of mail-order merchants who sell clothing and household goods.

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3. Several airlines have recently intensified their fierce competition for business by offering tickets that, if purchased 2 days in advance, cost as much as 40 percent less than the heretofore lowest-priced "super-saver" tickets, which require a 30-day advance purchase. The airlines' long-term gains from tickets bought under this new plan will be enormous because, unlike earlier discount tickets, these are not refundable.
- The author assumes which of the following about discounted airline tickets in predicting long-term gains in airline revenue?
- (A) More discounted, advance purchase tickets are purchased than are actually used.
 - (B) Tickets requiring 30-day advance purchase are not profitable for airlines.
 - (C) Few business travelers have taken advantage of 30-day advance purchase tickets.
 - (D) Airlines will have to discontinue offering 30-day advance purchase tickets when they begin offering 2-day advance purchase tickets.
 - (E) The majority of the 2-day advance purchase tickets offered by a given airline will be sold to passengers who have not previously flown on that airline.
4. The mastodon, a large mammal resembling today's elephant, became extinct at the end of the Ice Age. Scientists once attributed the mastodon's extinction to the disappearance of evergreen forests at the end of the Ice Age. More recently, however, scientists have rejected that theory, hypothesizing instead that the mastodon's extinction was caused by the draining of glacial wetlands.
- Which of the following, if recently discovered, would help to account for the change in the accepted explanation of the mastodon's extinction?
- (A) When the Ice Age ended, many forests died off, endangering the food supply for herbivores that fed primarily on evergreens.
 - (B) As glaciers receded at the end of the Ice Age, glacial wetlands drained, leaving a new topography of hills and plains.
 - (C) Bacteria found in mastodon remains are similar to bacteria found in the remains of species that are known to have fed on evergreens.
 - (D) The mastodon's diet consisted primarily of water plants such as marsh grasses and water lilies.
 - (E) Evergreen forests were inhabited by many species of large mammals until the end of the Ice Age.
5. **Mr. Mead:** Turning this subway system over to private ownership will surely not make it financially viable. After all, the reason the system is now government-owned is precisely that in 1979 its original private owners went bankrupt operating it.
- Ms. Gallis:** But remember that government price controls were keeping fares unreasonably low in the 1970's.
- Of the following, the best assessment of the logical role played by Ms. Gallis' response is that her response
- (A) offers additional evidence for the correctness of Mr. Mead's conclusion
 - (B) states one of Mr. Mead's tacit assumptions
 - (C) contradicts Mr. Mead's factual claims about the system's original owners
 - (D) identifies a weakness in the evidence Mr. Mead uses as a basis for his conclusion
 - (E) implies that Mr. Mead's conclusion is correct, but not for the reasons Mr. Mead gives
6. **Editor:** We use the computer to check the length of our articles, but surprisingly there is good reason to believe that the word count it provides is inaccurate. Several times when an article's words were carefully counted by our most reliable copy editor, the resulting count differed from the count the computer gave.
- The editor's reasoning relies on which of the following assumptions?
- (A) The criteria that the computer uses in determining what constitutes a single word differ from the criteria that the copy editor uses.
 - (B) The inaccuracy of the computer's word count does not result from a malfunction of the computer itself.
 - (C) It would be possible to modify the computer so that it counted words more accurately.
 - (D) A careful count by the copy editor is unlikely to be less accurate than the computer's count
 - (E) The accuracy of the computer's word count is not dependent on the length of the article that it is measuring.

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7. People who live unusually long tend to have been lean young adults who went on to gain approximately one pound every year, so lean young adults can improve their chances of living a long life by gaining about a pound every year.
- A flaw in the argument above is that it
- (A) gives reasons for the truth of its conclusion that presuppose the truth of that conclusion
 - (B) proceeds as though a condition that by itself is enough to guarantee a certain result must always be present for that result to be achieved
 - (C) assumes without proof that two phenomena that occur together share an underlying cause
 - (D) concludes that one phenomenon is the cause of another when at most what has been established is an association between them
 - (E) fails to recognize that a tendency widely shared by a subgroup within a given population will not necessarily be widely shared by that population as a whole
8. Which of the following best completes the passage below?
- Adding ethanol to the gasoline used in cars reduces exhaust emissions while slightly increasing evaporation from gasoline tanks in cars and service stations. These evaporative emissions are a major component of the smog found in many large cities in the hot summer months but, except in hot weather, evaporative emissions pose less of a pollution problem than exhaust emissions do. Therefore, if air pollution were the only consideration, one could conclude that -----.
- (A) ethanol should be added only to gasoline intended for use in large cities
 - (B) the benefits of using gasoline to which ethanol has been added are greater in hot weather than in cold weather
 - (C) the disadvantages of adding ethanol to gasoline are likely to be outweighed by the advantages, at least in cold weather
 - (D) it is not necessary to work at reducing exhaust emissions in large cities
 - (E) adding ethanol to the gasoline used in large cities will improve air quality in the cities in hot weather
9. In Morigia the average age of cars that are still in use has historically been seven years, but now it is nearly nine years. Car manufacturers claim that the current poor economy has forced people to put off buying new cars, and thus when the economy improves, the average age of cars will return to former levels.
- Which of the following, if true, most seriously calls into question the car manufacturers' prediction?
- (A) Fewer cars per year are now being manufactured in Morigia than were being manufactured there five years ago.
 - (B) When the threat of job loss is particularly strong, people are reluctant to commit themselves to expensive purchases.
 - (C) The older a car is, the greater the amount of upkeep it requires.
 - (D) The air-pollution control devices now being used in cars manufactured in Morigia cost less than those that were used seven years ago.
 - (E) Most people in Morigia now believe that replacing an old car with a new one has very undesirable ecological consequences.
10. Rheumatic fever is the most serious complication of streptococcal infection, but rheumatic fever is not itself an infection. Rheumatic fever occurs only when, in defending against streptococcal infection, the body's immunological system produces antibodies that also attack the cells of the heart and kidneys.
- Which of the following, if true, would contribute most to an explanation of why only streptococcal bacteria give rise to rheumatic fever?
- (A) Only certain strains of streptococcal bacteria are associated with rheumatic fever.
 - (B) The antibodies that the body produces to control a streptococcal infection can attack cells of the mucous membranes.
 - (C) Antibiotics have not proved as effective against streptococcal infections as they have against some other bacterial infections.
 - (D) Streptococcal bacteria are the only bacteria that are structurally similar to the cells of the body attacked in rheumatic fever.
 - (E) Rheumatic fever can be misdiagnosed if it is not preceded by a serious streptococcal infection.

GO ON TO THE NEXT PAGE.

11. If the check valves in nuclear power plants do not function properly, other parts of the plants' piping systems can be critically damaged. Check valves cannot be tested in actual operation, but they are disassembled as part of routine annual maintenance and any flawed parts are replaced. Therefore, power plant accidents attributable to malfunctioning check valves are unlikely to occur.

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

- (A) Approximately 80 percent of accidents in nuclear power plants are attributable to failures in piping systems.
- (B) Check valves in nuclear power plants tend to wear out after a few years in operation.
- (C) Disassembling check valves can expose workers to radiation if precautions are not taken.
- (D) Flaws in any part of a check valve can be identified when the valve is disassembled.
- (E) Errors made in the reassembly of check valves can go undetected.

12. A requirement of traditional pension plans is that an employee work for a company a number of years before gaining full rights to benefits from the company's plan on retirement. Companies used this requirement to help them retain employees, but recent regulations have substantially reduced the number of years of work a company can require. Nevertheless, companies have not experienced any significant loss of employees.

Which of the following, if true, helps to explain why companies are not experiencing problems in retaining employees?

- (A) As the number of years an employee has worked for a company increases, the rate at which the company contributes to the employee's pension benefits increases.
- (B) Potential employees prefer to work for companies that offer them pension plans rather than for those that do not.
- (C) Most companies that do not offer traditional pension plans offer plans in which their employees enjoy rights to retirement benefits as soon as they enter employment.
- (D) An employee is more willing to leave an employer after gaining full rights to pension benefits than before gaining such rights.
- (E) Employers have always been reluctant to lose highly trained employees.

13. When a female fruit fly is placed in a cage with several potential mates, her offspring tend to be stronger than when she is caged with only a single male of average strength. Therefore, the female fruit fly must be able to determine which mate will give her the strongest offspring.

Which of the following, if true, is the best basis for a counterargument against the conclusion drawn above?

- (A) The offspring also tend to be stronger when, in a cage containing several female and male fruit flies, the males vary widely in strength and size, from very small and weak to very large and strong.
- (B) Given a choice between a male fruit fly of average strength and a relatively weak male fruit fly, the female will mate with the male of average strength.
- (C) When caged with just one male fruit fly of average strength, the female produces no fewer offspring than when caged with a variety of potential mates.
- (D) Strong male fruit flies produce stronger offspring than do weak male fruit flies, provided that both are mated to females of equal strength.
- (E) In a cage containing several male fruit flies, the strongest male does not allow the female to mate with any of the other males.

GO ON TO THE NEXT PAGE.

14. The recycling of municipal solid waste is widely seen as an environmentally preferable alternative to the prevailing practices of incineration and of dumping in landfills. Recycling is profitable, as the recycling programs already in operation demonstrate. A state legislator proposes that communities should therefore be required to adopt recycling and to reach the target of recycling 50 percent of all solid waste within 5 years.

Which of the following, if true, most seriously calls into question the advisability of implementing the proposal?

- (A) Existing recycling programs have been voluntary, with citizen participation ranging from 30 percent in some communities to 80 percent in others.
- (B) Existing recycling programs have been restricted to that 20 percent of solid waste that, when reprocessed, can match processed raw materials in quality and price.
- (C) Existing recycling programs have had recurrent difficulties finding purchasers for their materials usually because of quantities too small to permit cost-effective pickup and transportation.
- (D) Some of the materials that can be recycled are the very materials that, when incinerated, produce the least pollution.
- (E) Many of the materials that cannot be recycled are also difficult to incinerate.

15. A recent survey found that more computers than copies of computer programs were purchased by Germans last year. The best interpretation of this finding is that the practice of illegally duplicating commercial computer programs is widespread among Germans.

Each of the following, if true, would counter some reasonable objection to the interpretation advanced above EXCEPT:

- (A) Few German computer users write their own computer programs.
- (B) There are few free noncommercial computer programs available in Germany.
- (C) Some Germans purchase computers outside of Germany for use in Germany, and such purchases were counted in the survey.
- (D) The typical German computer user has several commercially written computer programs on his or her computer.
- (E) Many Germans legally make duplicates of commercial computer programs, but such duplicates were counted as purchased copies in the survey.

16. A new technique for extracting residues of oil from existing oil wells by using lignins, a by-product of papermaking, is profitable provided that oil prices are over 20 dollars a barrel. Since oil prices are rising, investors looking for companies with prospects for rapid growth in profits would be wise to invest in paper manufacturers, whose currently almost worthless by-product will soon be a profit-boosting commodity.

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

- (A) A small quantity of lignins are currently sold by paper manufacturers to chemical companies, but most of the lignins produced are burnt as waste.
- (B) The 20-dollar-a-barrel oil price as a threshold of profitability for using lignins allows for the increased cost of refining crude oil that has been extracted using lignins.
- (C) Only one-half to two-thirds of the total oil in a well can be extracted using conventional techniques of pumping and flooding with water.
- (D) Petroleum-based substances that can be used as a substitute for lignins in extracting oil are costly and are made from oil, and these substances therefore increase in price as oil increases in price.
- (E) The quantity of lignins produced annually in the manufacture of paper is several times larger than the amount that is likely to be useful in the oil industry.

STOP

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

ANSWER KEY – Test Code 42

Section 2	Section 3	Section 4	Section 5	Section 6	Section 7
1. E	1. B	1. A	1. C	1. C	1. A
2. D	2. D	2. C	2. B	2. B	2. C
3. A	3. B	3. C	3. E	3. B	3. A
4. D	4. E	4. B	4. A	4. A	4. D
5. C	5. A	5. B	5. A	5. D	5. D
6. B	6. C	6. A	6. B	6. D	6. D
7. D	7. D	7. D	7. D	7. C	7. D
8. C	8. A	8. D	8. C	8. D	8. C
9. D	9. E	9. E	9. B	9. E	9. E
10. B	10. C	10. D	10. D	10. B	10. D
11. E	11. D	11. B	11. A	11. A	11. E
12. E	12. B	12. E	12. D	12. E	12. A
13. C	13. E	13. D	13. E	13. C	13. E
14. B	14. E	14. E	14. A	14. C	14. B
15. D	15. C	15. C	15. C	15. A	15. C
16. A	16. C	16. B	16. D	16. E	16. E
17. E	17. C		17. C		
18. C	18. E		18. D		
19. B			19. A		
20. A			20. B		
			21. B		
			22. E		

CONVERSION TABLE FOR VERBAL AND QUANTITATIVE SCORES

Graduate Management Admission Test, Code 42

Scaled Score			Scaled Score			Scaled Score		
Corrected Raw Score	Verbal Score	Quantitative Score	Corrected Raw Score	Verbal Score	Quantitative Score	Corrected Raw Score	Verbal Score	Quantitative Score
56	50		31	30	35	6	12	15
55	49		30	30	34	5	12	14
54	48		29	29	33	4	11	13
53	47		28	28	33	3	10	12
52	46	50	27	27	32	2	10	11
51	45	49	26	27	31	1	9	10
50	44	49	25	26	30	0	8	10
49	43	48	24	25	30			
48	42	48	23	25	29			
47	42	47	22	24	28			
46	41	46	21	23	27			
45	40	45	20	22	27			
44	39	44	19	22	26			
43	39	44	18	21	25			
42	38	43	17	20	24			
41	37	42	16	20	24			
40	37	41	15	19	23			
39	36	41	14	18	22			
38	35	40	13	17	21			
37	34	39	12	17	21			
36	34	38	11	16	20			
35	33	38	10	15	19			
34	32	37	9	15	18			
33	32	36	8	14	17			
32	31	36	7	13	16			

CONVERSION TABLE FOR TOTAL SCORES

Graduate Management Admission Test, Code 42

Corrected Raw Score	Total Scaled Score	Corrected Raw Score	Total Scaled Score	Corrected Raw Score	Total Scaled Score	Corrected Raw Score	Total Scaled Score
108	800	83	650	53	500	23	340
107	790	82	650	52	490	22	340
106	780	81	640	51	490	21	330
105	770	80	640	50	480	20	330
104	770	79	630	49	480	19	320
103	760	78	630	48	470	18	320
102	760	77	620	47	470	17	310
101	750	76	620	46	460	16	310
100	740	75	610	45	460	15	300
99	740	74	610	44	450	14	300
98	730	73	600	43	450	13	290
97	730	72	600	42	440	12	290
96	720	71	590	41	440	11	280
95	720	70	590	40	430	10	280
94	710	69	580	39	430	9	270
93	710	68	580	38	420	8	260
92	700	67	570	37	420	7	250
91	700	66	570	36	410	6	240
90	690	65	560	35	410	5	240
89	690	64	560	34	400	4	230
88	680	63	550	33	400	3	220
87	680	62	550	32	390	2	220
86	670	61	540	31	390	1	210
85	660	60	540	30	380	0	200
84	660	59	530	29	370		
		58	530	28	370		
		57	520	27	360		
		56	510	26	360		
		55	510	25	350		
		54	500	24	350		

SCORING INFORMATION

Calculating and Verifying Your Multiple-Choice Scores

Proceed with the following steps.

1. As you match the responses on your answer sheet with the answer key on page 28, use marks to indicate whether each answer is correct or incorrect. Cross out any questions you omitted, or for which you marked more than one answer, because they are not counted in the scoring. The number of questions crossed out should equal the “raw score total omit” figure on your score report. The number of questions crossed out in the three sections that contributed to your verbal score and the similar number for the three sections that contributed to the quantitative score should match the “raw score verbal omit” and “raw score quantitative omit” figures on your score report.
2. Count the total number of questions you answered correctly in the three sections that contributed to the verbal score. This number should match the “raw score verbal right” figure on your score report.
3. Then count the total number of questions you answered incorrectly in these three sections. This number should match the “raw score verbal wrong” figure on your score report.
4. Divide the number answered incorrectly from Step 3 by four.
5. Subtract the result in Step 4 from the number answered correctly in Step 2. This is the correction for guessing.
6. Round the resulting number to the nearest whole number by adding .5 and then dropping all digits to the right of the decimal point. This number should equal the “verbal corrected raw score” figure on your score report.

.....

The table below shows three examples of corrected raw score calculations based on 40 questions (total number of omitted or multiple-marked questions, number correct, and number wrong):

	Example 1	Example 2	Example 3
Step 1- Number omitted or multiple-marked.....	8	0	5
Step 2- Number correct...	20	25	30
Step 3- Number wrong....	12	15	5
Step 4- Number wrong in step 3 divided by 4.....	3	3.75	1.25
Step 5- Number in step 2 minus number in step 4	17	21.25	28.75
Step 6- Rounding- Add .5 to the number in step 5	17.5	21.75	29.25
Final raw score corrected for guessing: Drop all digits to the right of the decimal in step 6.....	17	21	29

Repeat these steps using the three sections contributing to the quantitative score to calculate your quantitative corrected raw score and all six sections contributing to the total score to obtain your total corrected raw score. The figures you calculate should match the respective figures on your score report. The sum of your verbal and quantitative corrected raw scores may be one point higher or lower than the total corrected raw score due to the rounding procedure for each score.

Conversion of Corrected Raw Scores to Scaled Scores

Use the score conversion tables on pages 29 and 30 to find the scaled score associated with each of your corrected raw scores. The equivalent scaled scores should match those on your score report.

Your Analytical Writing Scores

Analytical Writing Assessments are offered in this test preparation product for practice purposes only. When calculating the GMAT® equivalent score on GMAT Paper Tests, the essay portion should be ignored. When taking the GMAT®, the Analytical Writing Assessment results are reported on your official score report to schools.

Essay Insight (SM), available through www.mba.com, lets you write two practice essays on actual AWA topics and has them scored automatically by the same technology used to score the GMAT. Your scores are objective and accurate, so you can practice to improve.

Rescoring Service

If there are any discrepancies between your self-scoring results and those on your score report, you may request that ETS rescore your answer sheet by submitting the appropriate fee and the form for this purpose you're your *GMAT Examinee Score Interpretation Guide*. But first check your answer sheet from incomplete erasures or light or partial marking, and check your calculations to be sure that they are accurate.

Caveats Regarding Raw Score Interpretation

1. The GMAT is designed to yield only the reported verbal, quantitative, and total scaled scores. One should not calculate raw scores or individual test sections and infer specific strengths or weaknesses from a comparison of the raw scores results by section. There are two reasons for this. First, different sections have different numbers of questions, and, even if the number were the same of if percentages were used to make the numbers comparable, the sections might not be equally difficult. For illustrative purposes only, suppose that one section had 20 items and another had 25. Furthermore, suppose you received corrected raw scores of 10 on the first and 10 on the second. It would be inappropriate to conclude that you had equal ability in the two sections because the corrected raw scores were equal, as you really obtained 50 percent for the first section and only 40 percent for the second. It would be equally inappropriate, however, to conclude from the percentages that you did better on the first section than on the second. Suppose the first section was relatively easy for most examinees (say, an average corrected raw score percentage across examines of 55 percent) and the second was relatively difficult (an average raw score percentage of 35 percent). Now you might conclude that you did less well than average on the first section and better than average on the second.

Differences in difficulty level between editions are accounted for in the procedure for converting the verbal, quantitative, and total corrected raw scores to scaled scores. Since the corrected raw scores for individual sections are not converted to produce scales scores by section, performance on individual sections of the test cannot be compared.

Second, corrected raw scores by section are not converted to scaled scores by section because the GMAT is not designed to reliably measure specific strengths and weaknesses beyond the general verbal and quantitative abilities for which separate scaled scores are reported. Reliability is dependent, in part, on the number of questions in the test- the more questions, the higher the reliability. The relatively few questions in each section, taken alone, are not sufficient to produce a reliable result for each section (see "Accuracy of the Scores" in the *GMAT Examinee Score Interpretation Guide*.) Only the reported verbal, quantitative, and total scaled scores (which are based on questions from several sections) have sufficient reliability to permit their use in counseling and predicting graduate school performance.

2. It is possible, if you repeat the test, that your second raw scores corrected for guessing could be high than on the first test, but your scaled scores could be lower and vice versa. This is a result of the slight differences in difficulty level between editions of the test, which are taken into account when corrected raw scores are converted to the GMAT scaled scores. That is, for a given scaled score, a more difficult edition requires a lower corrected raw score and an easier edition requires a high corrected raw score.

Additional Information

If you have questions about any of the information in this booklet, please write to:

Graduate Management Admission Test

Educational Testing Service

P.O. Box 6102

Princeton, NJ 08541-6102

If you have questions about specific test questions, please indicate that test code and the number(s) of the question(s) as well as your query or comment.