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Graduate
Management
Admission
Council™



**Educational
Testing Service**

Graduate Management Admission Test (GMAT®)

Disclosed Edition

Test Code 25

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 25. If the first two digits of the test code on your answer sheet (item 5 on Side 1) are not 25, 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 25.

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 Argument
Essay 2	Analysis of an Issue

Verbal Assessment

Section 1	Sentence Correction
Section 4	Reading Comprehension
Section 6	Critical Reasoning

Quantitative Assessment

Section 2	Problem Solving
Section 5	Data Sufficiency
Section 7	Problem Solving

GMAT Total

All six verbal and quantitative sections combined as one score

Section 3 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.

Essay 1

ANALYSIS OF AN ARGUMENT

Time—30 minutes

Directions: In this section, you will be asked not to present your own views on an issue but rather to write a critique of the argument presented below. You may, for example, need to consider what questionable assumptions underlie the thinking, what alternative explanations or counterexamples might weaken the conclusion, or what sort of evidence could help strengthen or refute the argument.

Read the argument and the directions 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 appeared as part of an article in the business section of a local newspaper.

“Motorcycle X has been manufactured in the United States for over 70 years. Although one foreign company has copied the motorcycle and is selling it for less, the company has failed to attract motorcycle X customers – some say because its product lacks the exceptionally loud noise made by motorcycle X. But there must be some other explanation. After all, foreign cars tend to be quieter than similar American-made cars, but they sell at least as well. Also, television advertisements for motorcycle X highlight its durability and sleek lines, not its noisiness, and the ads typically have voice-overs or rock music rather than engine-roar on the sound track.”

Discuss how well reasoned you find this argument. In explaining your point of view, be sure to analyze the line of reasoning and the use of evidence in the argument. Also discuss what, if anything, would make the argument more sound and persuasive, or would help you to 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.

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Essay 2
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 directions 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.

Some employers who recruit recent college graduates for entry-level jobs evaluate applicants only on their performance in business courses such as accounting, marketing, and economics. However, other employers also expect applicants to have a broad background in such courses as history, literature, and philosophy.

Do you think that, in the application process, employers should emphasize one type of background --either specialization in business courses or a more varied academic preparation – over the other? Why or why not? Develop your position by using reasons and/or examples from your own experience, observations, or reading.

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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ANSWER SHEET – Test Code 25

Section 1	Section 2	Section 4	Section 5	Section 6	Section 7
1.	1.	1.	1.	1.	1.
2.	2.	2.	2.	2.	2.
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7.	7.	7.	7.	7.	7.
8.	8.	8.	8.	8.	8.
9.	9.	9.	9.	9.	9.
10.	10.	10.	10.	10.	10.
11.	11.	11.	11.	11.	11.
12.	12.	12.	12.	12.	12.
13.	13.	13.	13.	13.	13.
14. Not Scored	14.	14.	14.	14.	14.
15.	15.	15.	15.	15.	15.
16.	16.	16.	16.	16.	16.
17.		17.	17.		
18.		18.	18.		
19.		19.	19.		
20.		20.	20.		
21.		21.			
22.		22.			
		23.			

SECTION 1

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. Although early soap operas were first aired on evening radio in the 1920's, they had moved to the daytime hours of the 1930's when the evening schedule became crowded with comedians and variety shows.
 - (A) were first aired on evening radio in the 1920's, they had moved to the daytime hours of the 1930's
 - (B) were first aired on evening radio in the 1920's, they were moved to the daytime hours in the 1930's
 - (C) were aired first on evening radio in the 1920's, moving to the daytime hours in the 1930's
 - (D) were aired first in the evening on 1920's radio, they moved to the daytime hours of the 1930's
 - (E) aired on evening radio first in the 1920's, they were moved to the 1930's in the daytime hours
2. In 1527 King Henry VIII sought to have his marriage to Queen Catherine annulled so as to marry Anne Boleyn.
 - (A) so as to marry
 - (B) and so could be married to
 - (C) to be married to
 - (D) so that he could marry
 - (E) in order that he would marry
3. The energy source on *Voyager 2* is not a nuclear reactor, in which atoms are actively broken apart; rather a kind of nuclear battery that uses natural radioactive decay to produce power.
 - (A) apart; rather
 - (B) apart, but rather
 - (C) apart, but rather that of
 - (D) apart, but that of
 - (E) apart; it is that of
4. Seismologists studying the earthquake that struck northern California in October 1989 are still investigating some of its mysteries: the unexpected power of the seismic waves, the upward thrust that threw one man straight into the air, and the strange electromagnetic signals detected hours before the temblor.
 - (A) the upward thrust that threw one man straight into the air, and the strange electromagnetic signals detected hours before the temblor
 - (B) the upward thrust that threw one man straight into the air, and strange electromagnetic signals were detected hours before the temblor
 - (C) the upward thrust threw one man straight into the air, and hours before the temblor strange electromagnetic signals were detected
 - (D) one man was thrown straight into the air by the upward thrust, and hours before the temblor strange electromagnetic signals were detected
 - (E) one man who was thrown straight into the air by the upward thrust, and strange electromagnetic signals that were detected hours before the temblor

GO ON TO THE NEXT PAGE.

5. A letter by Mark Twain, written in the same year as *The Adventures of Huckleberry Finn* were published reveals that Twain provided financial assistance to one of the first Black students at Yale Law School.
- (A) A letter by Mark Twain, written in the same year as *The Adventures of Huckleberry Finn* were published,
- (B) A letter by Mark Twain, written in the same year of publication as *The Adventures of Huckleberry Finn*,
- (C) A letter by Mark Twain, written in the same year that *The Adventures of Huckleberry Finn* was published,
- (D) Mark Twain wrote a letter in the same year as he published *The Adventures of Huckleberry Finn* that
- (E) Mark Twain wrote a letter in the same year of publication as *The Adventures of Huckleberry Finn* that
6. Two new studies indicate that many people become obese more due to the fact that their bodies burn calories too slowly than overeating.
- (A) due to the fact that their bodies burn calories too slowly than overeating
- (B) due to their bodies burning calories too slowly than to eating too much
- (C) because their bodies burn calories too slowly than that they are overeaters
- (D) because their bodies burn calories too slowly than because they eat too much
- (E) because of their bodies burning calories too slowly than because of their eating too much
7. As a result of the ground-breaking work of Barbara McClintock, many scientist now believe that all of the information encoded in 50,000 to 100,000 of the different genes found in a human cell are contained in merely three percent of the cell's DNA.
- (A) 50,000 to 100,000 of the different genes found in a human cell are contained in merely
- (B) 50,000 to 100,000 of the human cell's different genes are contained in a mere
- (C) the 50,000 to 100,000 different genes found in human cells are contained in merely
- (D) 50,000 to 100,000 of human cells' different genes is contained in merely
- (E) the 50,000 to 100,000 different genes found in a human cell is contained in a mere
8. So poorly educated and trained are many young recruits to the United States work force that many business executives fear this country will lose its economic preeminence.
- (A) So poorly educated and trained are many young recruits to the United States work force that
- (B) As poorly educated and trained as many young recruits to the United States work force are,
- (C) Because of many young recruits to the United States work force who are so poorly educated and trained,
- (D) That many young recruits to the United States work force are so poorly educated and trained is why
- (E) Many young recruits to the United States work force who are so poorly educated and trained explains why
9. In the last few years, the number of convicted criminals given community service sentences, which allow the criminals to remain unconfined while they perform specific jobs benefiting the public, have risen dramatically.
- (A) sentences, which allow the criminals to remain unconfined while they perform specific jobs benefiting the public have
- (B) sentences, performing specific jobs that benefit the public while being allowed to remain unconfined, have
- (C) sentences, performing specific jobs beneficial to the public while they are allowed to remain unconfined, have
- (D) sentences which allow them to remain unconfined in their performing of specific jobs beneficial to the public has
- (E) sentences allowing them to remain unconfined while performing specific jobs that benefit the public has

GO ON TO THE NEXT PAGE.

10. During the early years of European settlement on a continent that was viewed as “wilderness” by the newcomers, Native Americans, intimately knowing the ecology of the land, were a help in the rescuing of many Pilgrims and pioneers from hardship, or even death.
- (A) Native Americans, intimately knowing the ecology of the land, were a help in the rescuing of
- (B) Native Americans knew the ecology and the land intimately and this enabled them to help in the rescue of
- (C) Native Americans, with their intimate knowledge of the ecology of the land, helped to rescue
- (D) having intimate knowledge of the ecology of the land, Native Americans helped the rescue of
- (E) knowing intimately the ecology of the land, Native Americans helped to rescue
11. Quasars are so distant that their light has taken billions of years to reach the Earth; consequently, we see them as they were during the formation of the universe.
- (A) we see them as they were during
- (B) we see them as they had been during
- (C) we see them as if during
- (D) they appear to us as they did in
- (E) they appear to us as though in
12. Because of the enormous research and development expenditures required to survive in the electronics industry, an industry marked by rapid innovation and volatile demand, such firms tend to be very large.
- (A) to survive
- (B) of firms to survive
- (C) for surviving
- (D) for survival
- (E) for firms’ survival
13. Consumers many not think of household cleaning products to be hazardous substances, but many of them can be harmful to health, especially if they are used improperly.
- (A) Consumers may not think of household cleaning products to be
- (B) Consumers may not think of household cleaning products being
- (C) A consumer may not think of their household cleaning products being
- (D) A consumer may not think of household cleaning products as
- (E) Household cleaning products may not be thought of, by consumers, as
14. NOT SCORED.
15. Archaeologists in Ireland believe that a recently discovered chalice, which dates from the eighth century, was probably buried to keep from being stolen by invaders.
- (A) to keep from
- (B) to keep it from
- (C) to avoid
- (D) in order that it would avoid
- (E) in order to keep from
16. As measured by the Commerce Department, corporate profits peaked in the fourth quarter of 1988 and have slipped since then, as many companies have been unable to pass on higher costs.
- (A) and have slipped since then, as many companies have been unable to pass on higher costs
- (B) and have slipped since then, the reason being because many companies have been unable to pass on higher costs
- (C) and slipped since then, many companies being unable to pass on higher costs
- (D) but, many companies unable to pass on higher costs, they have slipped since then
- (E) yet are slipping since then, because many companies were unable to pass on higher costs

GO ON TO THE NEXT PAGE.

17. The recent surge in the number of airplane flights has clogged the nation's air-traffic control system, to lead to 55 percent more delays at airports, and prompts fears among some officials that safety is being compromised.
- (A) to lead to 55 percent more delays at airports, and prompts
- (B) leading to 55 percent more delay at airports and prompting
- (C) to lead to a 55 percent increase in delay at airports and prompt
- (D) to lead to an increase of 55 percent in delays at airports, and prompted
- (E) leading to a 55-percent increase in delays at airports and prompting
18. Judge Bonham denied a motion to allow members of the jury to go home at the end of each day instead of to confine them to a hotel.
- (A) to allow members of the jury to go home at the end of each day instead of to confine them to
- (B) that would have allowed members of the jury to go home at the end of each day instead of confined to
- (C) under which members of the jury are allowed to go home at the end of each day instead of confining them in
- (D) that would allow members of the jury to go home at the end of each day rather than confinement in
- (E) to allow members of the jury to go home at the end of each day rather than be confined to
19. In one of the bloodiest battles of the Civil War, fought at Sharpsburg, Maryland, on September 17, 1862, four times as many Americans were killed as would later be killed on the beaches of Normandy during D-Day.
- (A) Americans were killed as
- (B) Americans were killed than
- (C) Americans were killed than those who
- (D) more Americans were killed as there
- (E) more Americans were killed as those who
20. As a result of medical advances, many people that might at one time have died as children of such infections as diphtheria, pneumonia, or rheumatic fever now live well into old age.
- (A) that might at one time have died as children
- (B) who might once have died in childhood
- (C) that as children might once have died
- (D) who in childhood might have at one time died
- (E) who, when they were children, might at one time have died
21. Proponents of artificial intelligence say they will be able to make computers that can understand English and other human languages, recognize objects, and reason as an expert does—computers that will be used to diagnose equipment breakdowns, deciding whether to authorize a loan, or other purposes such as these.
- (A) as an expert does—computers that will be used to diagnose equipment breakdowns, deciding whether to authorize a loan, or other purposes such as these
- (B) as an expert does, which may be used for purposes such as diagnosing equipment breakdowns or deciding whether to authorize a loan
- (C) like an expert—computers that will be used for such purposes as diagnosing equipment breakdowns or deciding whether to authorize a loan
- (D) like an expert, the use of which would be for purposes like the diagnosis of equipment breakdowns or the decision whether or not a loan should be authorized
- (E) like an expert, to be-used to diagnose equipment breakdowns, deciding whether to authorize a loan or not, or the like

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22. Manifestations of Islamic political militancy in the first period of religious reformism were the rise of the Wahhabis in Arabia, the Sanusi in Cyrenaica, the Fulani in Nigeria, the Mahdi in the Sudan, and the victory of the Usuli “mujtahids” in Shiite Iran and Iraq.
- (A) Manifestations of Islamic political militancy in the first period of religious reformism were the rise of the Wahhabis in Arabia, the Sanusi in Cyrenaica, the Fulani in Nigeria, the Mahdi in the Sudan, and
- (B) Manifestations of Islamic political militancy in the first period of religious reformism were shown in the rise of the Wahhabis in Arabia, the Sanusi in Cyrenaica, the Fulani in Nigeria, the Mahdi in the Sudan, and also
- (C) In the first period of religious reformism, manifestations of Islamic political militancy were the rise of the Wahhabis in Arabia, of the Sanusi in Cyrenaica, the Fulani in Nigeria, the Mahdi in the Sudan, and
- (D) In the first period of religious reformism, manifestations of Islamic political militancy were shown in the rise of the Wahhabis in Arabia, the Sanusi in Cyrenaica, the Fulani in Nigeria, the Mahdi in the Sudan, and
- (E) In the first period of religious reformism, Islamic political militancy was manifested in the rise of the Wahhabis in Arabia, the Sanusi in Cyrenaica, the Fulani in Nigeria, and the Mahdi in the Sudan, and in

STOP

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SECTION 2
Time—25 Minutes
16 Questions

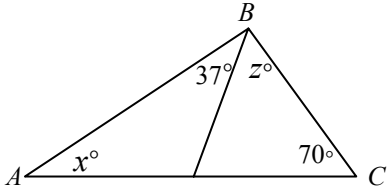
Directions: In this section solve each problem, using any available space on the page for scratchwork. Then indicate the best of the answer choices given.

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.

- As a salesperson, Phyllis can choose one of two methods of annual payment: either an annual salary of \$35,000 with no commission or an annual salary of \$10,000 plus a 20 percent commission on her total annual sales. What must her total annual sales be to give her the same annual pay with either method?
(A) \$100,000
(B) \$120,000
(C) \$125,000
(D) \$130,000
(E) \$132,000
- A restaurant buys fruits in cans containing $3\frac{1}{2}$ cups of fruit each. If the restaurant uses $\frac{1}{2}$ cup of the fruit in each serving of its fruit compote, what is the least number of cans needed to prepare 60 servings of the compote?
(A) 7
(B) 8
(C) 9
(D) 10
(E) 12
- If $x > 3,000$, then the value of $\frac{x}{2x+1}$ is closest to
(A) $\frac{1}{6}$
(B) $\frac{1}{3}$
(C) $\frac{10}{21}$
(D) $\frac{1}{2}$
(E) $\frac{3}{2}$
- Machine A produces 100 parts twice as fast as machine B does. Machine B produces 100 parts in 40 minutes. If each machine produces parts at a constant rate, how many parts does machine A produce in 6 minutes?
(A) 30
(B) 25
(C) 20
(D) 15
(E) 7.5
- If 18 is 15 percent of 30 percent of a certain number, what is the number?
(A) 9
(B) 36
(C) 40
(D) 81
(E) 400
- A necklace is made by stringing N individual beads together in the repeating pattern red bead, green bead, white bead, blue bead, and yellow bead. If the necklace design begins with a red bead and ends with a white bead, then N could equal
(A) 16
(B) 32
(C) 41
(D) 54
(E) 68
- If $x = (0.08)^2$, $y = \frac{1}{(0.08)^2}$, and $z = (1 - 0.08)^2 - 1$, which of the following is true?
(A) $x = y = z$
(B) $y < z < x$
(C) $z < x < y$
(D) $y < x$ and $x = z$.
(E) $x < y$ and $x = z$.

GO ON TO THE NEXT PAGE.



8. In $\triangle ABC$ above, what is x in terms of z ?

- (A) $z + 73$
- (B) $z - 73$
- (C) $70 - z$
- (D) $z - 70$
- (E) $73 - z$

9. In 1990 a total of x earthquakes occurred worldwide, some but not all of which occurred in Asia. If m of these earthquakes occurred in Asia, which of the following represents the ratio of the number of earthquakes that occurred in Asia to the number that did not occur in Asia?

- (A) $\frac{x}{m}$
- (B) $\frac{m}{x}$
- (C) $\frac{m}{x-m}$
- (D) $\frac{x}{x-m}$
- (E) $1 - \frac{m}{x}$

10. If $\frac{x+y}{xy} = 1$, then $y =$

- (A) $\frac{x}{x-1}$
- (B) $\frac{x}{x+1}$
- (C) $\frac{x-1}{x}$
- (D) $\frac{x+1}{x}$
- (E) x

11. If $\frac{1}{2}$ of the air in a tank is removed with each stroke of a vacuum pump, what fraction of the original amount of air has been removed after 4 strokes?

- (A) $\frac{15}{16}$
- (B) $\frac{7}{8}$
- (C) $\frac{1}{4}$
- (D) $\frac{1}{8}$
- (E) $\frac{1}{16}$

12. Last year Department Store X had a sales total for December that was 4 times the average (arithmetic mean) of the monthly sales totals for January through November. The sales total for December was what fraction of the sales total for the year?

- (A) $\frac{1}{4}$
- (B) $\frac{4}{15}$
- (C) $\frac{1}{3}$
- (D) $\frac{4}{11}$
- (E) $\frac{4}{5}$

13. How many integers n are there such that $1 < 5n + 5 < 25$?

- (A) Five
- (B) Four
- (C) Three
- (D) Two
- (E) One

14. If the two-digit integers M and N are positive and have the same digits, but in reverse order, which of the following CANNOT be the sum of M and N ?

- (A) 181
- (B) 165
- (C) 121
- (D) 99
- (E) 44

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15. Working alone, printers X , Y , and Z can do a certain printing job, consisting of a large number of pages, in 12, 15, and 18 hours, respectively. What is the ratio of the time it takes printer X to do the job, working alone at its rate, to the time it takes printers Y and Z to do the job, working together at their individual rates?
- (A) $\frac{4}{11}$
(B) $\frac{1}{2}$
(C) $\frac{15}{22}$
(D) $\frac{22}{15}$
(E) $\frac{11}{4}$
16. In 1985 a company sold a brand of shoes to retailers for a fixed price per pair. In 1986 the number of pairs of the shoes that the company sold to retailers decreased by 20 percent, while the price per pair increased by 20 percent. If the company's revenue from the sale of the shoes in 1986 was \$3.0 million, what was the approximate revenue from the sale of the shoes in 1985?
- (A) \$2.4 million
(B) \$2.9 million
(C) \$3.0 million
(D) \$3.1 million
(E) \$3.6 million

STOP

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SECTION 4

Time—30 minutes

23 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.

Joseph Glatthaar's *Forged in Battle* is not the first excellent study of Black soldiers and their White officers in the Civil War, but it uses more soldiers' letters and diaries—
Line
(5) including rare material from Black soldiers— and concentrates more intensely on Black-White relations in Black regiments than do any of its predecessors. Glatthaar's title expresses his thesis: loyalty, friendship, and respect among White officers and Black soldiers were fostered by the mutual dangers they faced in combat.
(10) Glatthaar accurately describes the government's discriminatory treatment of Black soldiers in pay, promotion, medical care, and job assignments, appropriately emphasizing the campaign by Black soldiers and their officers to get the opportunity to fight. That chance remained limited through-
(15) out the war by army policies that kept most Black units serving in rear-echelon assignments and working in labor battalions. Thus, while their combat death rate was only one-third that of White units, their mortality rate from disease, a major killer in this war, was twice as great.
(20) Despite these obstacles, the courage and effectiveness of several Black units in combat won increasing respect from initially skeptical or hostile White soldiers. As one White officer put it, "they have fought their way into the respect of all the army."
(25) In trying to demonstrate the magnitude of this attitudinal change, however, Glatthaar seems to exaggerate the prewar racism of the White men who became officers in Black regiments. "Prior to the war," he writes of these men, "virtually all of them held powerful racial prejudices."
(30) While perhaps true of those officers who joined Black units for promotion or other self-serving motives, this statement misrepresents the attitudes of the many abolitionists who became officers in Black regiments. Having spent years fighting against the race prejudice endemic in Ameri-
(35) can society, they participated eagerly in this military experiment, which they hoped would help African Americans achieve freedom and postwar civil equality. By current standards of racial egalitarianism, these men's paternalism toward African Americans was racist. But to call their feel-
(40) ings "powerful racial prejudices" is to indulge in generational chauvinism—to judge past eras by present standards.

1. The passage as a whole can best be characterized as which of the following?
 - (A) An evaluation of scholarly study
 - (B) A description of an attitudinal change
 - (C) A discussion of an analytical defect
 - (D) An analysis of the causes of a phenomenon
 - (E) An argument in favor of revising a view

2. According to the author, which of the following is true of Glatthaar's *Forged in Battle* compared with previous studies on the same topic?
 - (A) It is more reliable and presents a more complete picture of the historical events on which it concentrates than do previous studies.
 - (B) It uses more of a particular kind of source material and focuses more closely on a particular aspect of the topic than do previous studies.
 - (C) It contains some unsupported generalizations, but it rightly emphasizes a theme ignored by most previous studies.
 - (D) It surpasses previous studies on the same topic in that it accurately describes conditions often neglected by those studies.
 - (E) It makes skillful use of supporting evidence to illustrate a subtle trend that previous studies have failed to detect.

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3. The author implies that the title of Glatthaar's book refers specifically to which of the following?
- (A) The sense of pride and accomplishment that Black soldiers increasingly felt as a result of their Civil War experiences
 - (B) The civil equality that African Americans achieved after the Civil War, partly as a result of their use of organizational skills honed by combat
 - (C) The changes in discriminatory army policies that were made as a direct result of the performance of Black combat units during the Civil War
 - (D) The improved interracial relations that were formed by the races' facing of common dangers and their waging of a common fight during the Civil War
 - (E) The standards of racial egalitarianism that came to be adopted as a result of White Civil War veterans' repudiation of their previous racism
4. The passage mentions which of the following as an important theme that receives special emphasis in Glatthaar's book?
- (A) The attitudes of abolitionist officers in Black units
 - (B) The struggle of Black units to get combat assignments
 - (C) The consequences of the poor medical care received by Black soldiers
 - (D) The motives of officers serving in Black units
 - (E) The discrimination that Black soldiers faced when trying for promotions
5. The passage suggests that which of the following was true of Black units' disease mortality rates in the Civil War?
- (A) They were almost as high as the combat mortality rates of White units.
 - (B) They resulted in part from the relative inexperience of these units when in combat.
 - (C) They were especially high because of the nature of these units' usual duty assignments.
 - (D) They resulted in extremely high overall casualty rates in Black combat units.
 - (E) They exacerbated the morale problems that were caused by the army's discriminatory policies.
6. The author of the passage quotes the White officer in lines 23-24 primarily in order to provide evidence to support the contention that
- (A) virtually all White officers initially had hostile attitudes toward Black soldiers
 - (B) Black soldiers were often forced to defend themselves from physical attacks initiated by soldiers from White units
 - (C) the combat performance of Black units changed the attitudes of White soldiers toward Black soldiers
 - (D) White units paid especially careful attention to the performance of Black units in battle
 - (E) respect in the army as a whole was accorded only to those units, whether Black or White, that performed well in battle

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7. Which of the following best describes the kind of error attributed to Glatthaar in lines 25-28?
- (A) Insisting on an unwarranted distinction between two groups of individuals in order to render an argument concerning them internally consistent
 - (B) Supporting an argument in favor of a given interpretation of a situation with evidence that is not particularly relevant to the situation
 - (C) Presenting a distorted view of the motives of certain individuals in order to provide grounds for a negative evaluation of their actions
 - (D) Describing the conditions prevailing before a given event in such a way that the contrast with those prevailing after the event appears more striking than it actually is
 - (E) Asserting that a given event is caused by another event merely because the other event occurred before the given event occurred
8. Which of the following actions can best be described as indulging in “generational chauvinism” (lines 40-41) as that practice is defined in the passage?
- (A) Condemning a present-day monarch merely because many monarchs have been tyrannical in the past
 - (B) Clinging to the formal standards of politeness common in one's youth to such a degree that any relaxation of those standards is intolerable
 - (C) Questioning the accuracy of a report written by an employee merely because of the employee's gender
 - (D) Deriding the superstitions accepted as "science" in past eras without acknowledging the prevalence of irrational beliefs today
 - (E) Labeling a nineteenth-century politician as “corrupt” for engaging in once-acceptable practices considered intolerable today

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Line
(5) It was once assumed that all living things could be divided into two fundamental and exhaustive categories. Multicellular plants and animals, as well as many unicellular organisms, are eukaryotic—their large, complex cells have a well-formed nucleus and many organelles. On the other hand, the true bacteria are prokaryotic cells, which are simple and lack a nucleus. The distinction between eukaryotes and bacteria, initially defined in terms of subcellular structures visible with a microscope, was ultimately carried to the molecular level. Here prokaryotic and eukaryotic cells have many features in common. For instance, they translate genetic information into proteins according to the same type of genetic coding. But even where the molecular processes are the same, the details in the two forms are different and characteristic of the respective forms. For example, the amino acid sequences of various enzymes tend to be typically prokaryotic or eukaryotic. The differences between the groups and the similarities within each group made it seem certain to most biologists that the tree of life had only two stems. Moreover, arguments pointing out the extent of both structural and functional differences between eukaryotes and true bacteria convinced many biologists that the precursors of the eukaryotes must have diverged from the common ancestor before the bacteria arose.

(10) Although much of this picture has been sustained by more recent research, it seems fundamentally wrong in one respect. Among the bacteria, there are organisms that are significantly different both from the cells of eukaryotes and from the true bacteria, and it now appears that there are three stems in the tree of life. New techniques for determining the molecular sequence of the RNA of organisms have produced evolutionary information about the degree to which organisms are related, the time since they diverged from a common ancestor, and the reconstruction of ancestral versions of genes. These techniques have strongly suggested that although the true bacteria indeed from a large coherent group, certain other bacteria, the archaeobacteria, which are also prokaryotes and which resemble true bacteria, represent a distinct evolutionary branch that far antedates the common ancestor of all true bacteria.

9. The passage is primarily concerned with
- (A) detailing the evidence that has led most biologists to replace the trichotomous picture of living organisms with a dichotomous one
 - (B) outlining the factors that have contributed to the current hypothesis concerning the number of basic categories of living organisms
 - (C) evaluating experiments that have resulted in proof that the prokaryotes are more ancient than had been expected
 - (D) summarizing the differences in structure and function found among true bacteria, archaeobacteria, and eukaryotes
 - (E) formulating a hypothesis about the mechanisms of evolution that resulted in the ancestors of the prokaryotes

10. According to the passage, investigations of eukaryotic and prokaryotic cells at the molecular level supported the conclusion that
- (A) most eukaryotic organisms are unicellular
 - (B) complex cells have well-formed nuclei
 - (C) prokaryotes and eukaryotes form two fundamental categories
 - (D) subcellular structures are visible with a microscope
 - (E) prokaryotic and eukaryotic cells have similar enzymes
11. According to the passage, which of the following statements about the two-category hypothesis is likely to be true?
- (A) It is promising because it explains the presence of true bacteria-like organisms such as organelles in eukaryotic cells.
 - (B) It is promising because it explains why eukaryotic cells, unlike prokaryotic cells, tend to form multicellular organisms.
 - (C) It is flawed because it fails to account for the great variety among eukaryotic organisms.
 - (D) It is flawed because it fails to account for the similarity between prokaryotes and eukaryotes.
 - (E) It is flawed because it fails to recognize an important distinction among prokaryotes.
12. It can be inferred from the passage that which of the following have recently been compared in order to clarify the fundamental classifications of living things?
- (A) The genetic coding in true bacteria and that in other prokaryotes
 - (B) The organelle structures of archaeobacteria, true bacteria, and eukaryotes
 - (C) The cellular structures of multicellular organisms and unicellular organisms
 - (D) The molecular sequences in eukaryotic RNA, true bacterial RNA, and archaeobacterial RNA
 - (E) The amino acid sequences in enzymes of various eukaryotic species and those of enzymes in archaeobacterial species

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13. If the “new techniques” mentioned in line 31 were applied in studies of biological classifications other than bacteria, which of the following is most likely?
- (A) Some of those classifications will have to be reevaluated.
 - (B) Many species of bacteria will be reclassified.
 - (C) It will be determined that there are four main categories of living things rather than three.
 - (D) It will be found that true bacteria are much older than eukaryotes.
 - (E) It will be found that there is a common ancestor of the eukaryotes, archaeobacteria, and true bacteria.
14. According to the passage, researchers working under the two-category hypothesis were correct in thinking that
- (A) prokaryotes form a coherent group
 - (B) the common ancestor of all living things had complex properties
 - (C) eukaryotes are fundamentally different from true bacteria
 - (D) true bacteria are just as complex as eukaryotes
 - (E) ancestral versions of eukaryotic genes functioned differently from their modern counterparts
15. All of the following statements are supported by the passage EXCEPT:
- (A) True bacteria form a distinct evolutionary group.
 - (B) Archaeobacteria are prokaryotes that resemble true bacteria.
 - (C) True bacteria and eukaryotes employ similar types of genetic coding.
 - (D) True bacteria and eukaryotes are distinguishable at the subcellular level.
 - (E) Amino acid sequences of enzymes are uniform for eukaryotic and prokaryotic organisms.
16. The author’s attitude toward the view that living things are divided into three categories is best described as one of
- (A) tentative acceptance
 - (B) mild skepticism
 - (C) limited denial
 - (D) studious criticism
 - (E) wholehearted endorsement

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Excess inventory, a massive problem for many businesses, has several causes, some of which are unavoidable. Overstocks may accumulate through production overruns or errors. Certain styles and colors prove unpopular. With
 (5) some products —computers and software, toys, and books — last year’s models are difficult to move even at huge discounts. Occasionally the competition introduces a better product. But in many cases the public’s buying tastes simply change, leaving a manufacturer or distributor with
 (10) thousands (or millions) of items that the fickle public no longer wants.

One common way to dispose of this merchandise is to sell it to a liquidator, who buys as cheaply as possible and then resells the merchandise through catalogs, discount
 (15) stores, and other outlets. However, liquidators may pay less for the merchandise than it cost to make it. Another way to dispose of excess inventory is to dump it. The corporation takes a straight cost write-off on its taxes and hauls the merchandise to a landfill. Although it is hard to believe,
 (20) there is a sort of convoluted logic to this approach. It is perfectly legal, requires little time or preparation on the company’s part, and solves the problem quickly. The drawback is the remote possibility of getting caught by the news media. Dumping perfectly useful products can turn into a
 (25) public relations nightmare. Children living in poverty are freezing and XYZ Company has just sent 500 new snow-suits to the local dump. Parents of young children are barely getting by and QRS Company dumps 1,000 cases of disposable diapers because they have slight imperfections.
 (30) The managers of these companies are not deliberately wasteful; they are simply unaware of all their alternatives. In 1976 the Internal Revenue Service provided a tangible incentive for businesses to contribute their products to charity. The new tax law allowed corporations to deduct the
 (35) cost of the product donated plus half the difference between cost and fair market selling price, with the proviso that deductions cannot exceed twice cost. Thus, the federal government sanctions —indeed, encourages — and above-cost federal tax deduction for companies that donate inventory to charity.

17. The author mentions each of the following as a cause of excess inventory EXCEPT
- (A) production of too much merchandise
 - (B) inaccurate forecasting of buyers’ preferences
 - (C) unrealistic pricing policies
 - (D) products’ rapid obsolescence
 - (E) availability of a better product
18. The passage suggests that which of the following is a kind of product that a liquidator who sells to discount stores would be unlikely to wish to acquire?
- (A) Furniture
 - (B) Computers
 - (C) Kitchen equipment
 - (D) Baby-care products
 - (E) Children’s clothing

19. The passage provides information that supports which of the following statements?
- (A) Excess inventory results most often from insufficient market analysis by the manufacturer.
 - (B) Products with slight manufacturing defects may contribute to excess inventory.
 - (C) Few manufacturers have taken advantage of the changes in the federal tax laws.
 - (D) Manufacturers who dump their excess inventory are often caught and exposed by the news media.
 - (E) Most products available in discount stores have come from manufacturer’s excess-inventory stock.
20. The author cites the examples in lines 25-29 most probably in order to illustrate
- (A) the fiscal irresponsibility of dumping as a policy for dealing with excess inventory
 - (B) the waste-management problems that dumping new products creates
 - (C) the advantages to the manufacturer of dumping as a policy
 - (D) alternatives to dumping explored by different companies
 - (E) how the news media could portray dumping to the detriment of the manufacturer’s reputation
21. By asserting that manufacturers “are simply unaware” (line 31), the author suggests which of the following?
- (A) Manufacturers might donate excess inventory to charity rather than dump it if they knew about the provision in the federal tax code.
 - (B) The federal government has failed to provide sufficient encouragement to manufacturers to make use of advantageous tax policies.
 - (C) Manufacturers who choose to dump excess inventory are not aware of the possible effects on their reputation of media coverage of such dumping.
 - (D) The manufacturers of products disposed of by dumping are unaware of the needs of those people who would find the products useful.
 - (E) The manufacturers who dump their excess inventory are not familiar with the employment of liquidators to dispose of overstock.

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22. The information in the passage suggests that which of the following, if true, would make donating excess inventory to charity less attractive to manufacturers than dumping?
- (A) The costs of getting the inventory to the charitable destination are greater than the above-cost tax deduction.
 - (B) The news media give manufacturers' charitable contributions the same amount of coverage that they give dumping.
 - (C) No straight-cost tax benefit can be claimed for items that are dumped.
 - (D) The fair-market value of an item in excess inventory is 1.5 times its cost.
 - (E) Items end up as excess inventory because of a change in the public's preferences.
23. Information in the passage suggests that one reason manufacturers might take advantage of the tax provision mentioned in the last paragraph is that
- (A) there are many kinds of products that cannot be legally dumped in a landfill
 - (B) liquidators often refuse to handle products with slight imperfections
 - (C) the law allows a deduction in excess of the cost of manufacturing the product
 - (D) media coverage of contributions of excess-inventory products to charity is widespread and favorable
 - (E) no tax deduction is available for products dumped or sold to a liquidator

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 5

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.

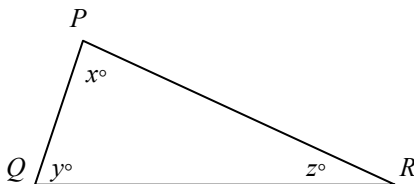
You may assume that the positions of points, angles, regions, etc., exist in the order shown.

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) $y = 40$

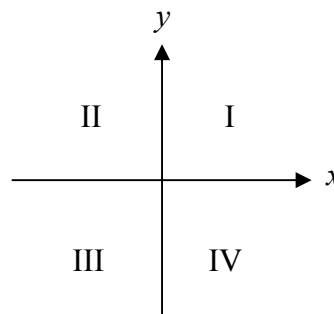
Explanation: According to statement (1), $PQ = PR$; therefore, $\triangle PQR$ is isosceles and $y = z$. Since $x + y + z = 180$, it follows that $x + 2y = 180$. Since statement (1) does not give a value for y , you cannot answer the question using statement (1) alone. According to statement (2), $y = 40$; 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 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. The regular price per eight-ounce can of brand X soup is \$0.37, regardless of the number of cans purchased. What amount will be saved on the purchase of 3 eight-ounce cans of brand X soup if the regular price is reduced?

- (1) At the reduced price, 3 eight-ounce cans of brand X soup will cost \$0.99.
- (2) The amount that will be saved on each eight-ounce can of brand X soup purchased at the reduced price is \$0.04.



2. Does Joe weigh more than Tim?

- (1) Tim's weight is 80 percent of Joe's weight.
- (2) Joe's weight is 125 percent of Tim's weight.

6. Point (x, y) lies in which quadrant of the rectangular coordinate system shown above?

- (1) $x + y < 0$
- (2) $x = 4$ and $y = -7$.

3. Is p^2 an odd integer?

- (1) p is an odd integer.
- (2) \sqrt{p} is an odd integer.

7. What is the average (arithmetic mean) of $x, y,$ and z ?

- (1) $x + y = 5$
- (2) $y + z = 7$

4. What is the value of xy ?

- (1) $x + y = 10$
- (2) $x - y = 6$

8. Chan and Mieko drove separate cars along the entire length of a certain route. If Chan made the trip in 15 minutes, how many minutes did it take Mieko to make the same trip?

- (1) Mieko's average speed for the trip was $\frac{3}{4}$ of Chan's average speed.
- (2) The route is 14 miles long.

5. Elena receives a salary plus commission that is equal to a fixed percentage of her sales revenue. What was the total of Elena's salary and commission last month?

- (1) Elena's monthly salary is \$1,000.
- (2) Elena's commission is 5 percent of her sales revenue.

9. If $xy \neq 0$, is $\frac{x}{y} < 0$?

- (1) $x = -y$
- (2) $-x = -(-y)$

10. What is the value of the two-digit integer x ?

- (1) The sum of the two digits is 3.
- (2) x is divisible by 3.

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 TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.
- D EACH statement ALONE is sufficient.
- E Statements (1) and (2) TOGETHER are NOT sufficient.

11. Is the number x between 0.2 and 0.7?

- (1) $560x < 280$
- (2) $700x > 280$

12. Is x an integer?

- (1) $\frac{x}{2}$ is an integer.
- (2) $2x$ is an integer.

13. A swim club that sold only individual and family memberships charged \$300 for an individual membership. If the club's total revenue from memberships was \$480,000, what was the charge for a family membership?

- (1) The revenue from individual memberships was $\frac{1}{4}$ of the total revenue from memberships.
- (2) The club sold 1.5 times as many family memberships as individual memberships.

14. If x , y , and z are positive numbers, is $x > y > z$?

- (1) $xz > yz$
- (2) $yx > yz$

15. Can the positive integer p be expressed as the product of two integers, each of which is greater than 1?

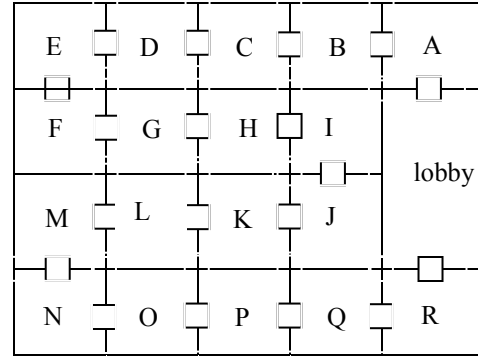
- (1) $31 < p < 37$
- (2) p is odd.

16. Currently there are 50 picture books on each shelf in the children's section of a library. If these books were to be placed on smaller shelves with 30 picture books on each shelf, how many of the smaller shelves would be needed to hold all of these books?

- (1) The number of smaller shelves needed is 6 more than the current number of shelves.
- (2) Currently there are 9 shelves in the children's section.

17. Is $y = 6$?

- (1) $y^2 = 36$
- (2) $y^2 - 7y + 6 = 0$

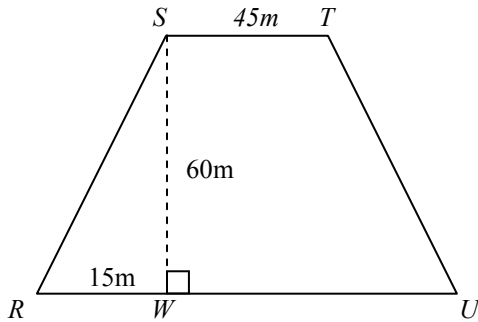


18. The figure above represents the floor plan of an art gallery that has a lobby and 18 rooms. If Lisa goes from the lobby into room A at the same time that Paul goes from lobby into room R , and each goes through all of the rooms in succession, entering by one door and exiting by the other, which room will they be in at the same time?

- (1) Lisa spends $2x$ minutes in each room and Paul spends $3x$ minutes in each room.
- (2) Lisa spends 10 minutes less time in each room than Paul.

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- 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 TOGETHER are sufficient, but NEITHER statement ALONE is sufficient.
- D EACH statement ALONE is sufficient.
- E Statements (1) and (2) TOGETHER are NOT sufficient.



19. Quadrilateral $RTSU$ shown above is a site plan for a parking lot in which side RU is parallel to side ST is and RU is longer than ST . What is the area of the parking lot?
- (1) $RU = 80$ meters
 - (2) $TU = 20\sqrt{10}$ meters
20. If $xy = -6$, what is the value of $xy(x + y)$?
- (1) $x - y = 5$
 - (2) $xy^2 = 18$

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 6

Time—25 minutes

16 Questions

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

1. The local board of education found that, because the current physics curriculum has little direct relevance to today's world, physics classes attracted few high school students. So to attract students to physics classes, the board proposed a curriculum that emphasizes principles of physics involved in producing and analyzing visual images.
- Which of the following, if true, provides the strongest reason to expect that the proposed curriculum will be successful in attracting students?
- (A) Several of the fundamental principles of physics are involved in producing and analyzing visual images.
- (B) Knowledge of physics is becoming increasingly important in understanding the technology used in today's world.
- (C) Equipment that a large producer of photographic equipment has donated to the high school could be used in the proposed curriculum.
- (D) The number of student interested in physics today is much lower than the number of students interested in physics 50 years ago.
- (E) In today's world the production and analysis of visual images is of major importance in communications, business, and recreation.
2. Many companies now have employee assistance programs that enable employees, free of charge, to improve their physical fitness, reduce stress, and learn ways to stop smoking. These programs increase worker productivity, reduce absenteeism, and lessen insurance costs for employee health care. Therefore, these programs benefit the company as well as the employee.
- Which of the following, if true, most significantly strengthens the conclusion above?
- (A) Physical fitness programs are often the most popular services offered to employees.
- (B) Studies have shown that training in stress management is not effective for many people.
- (C) Regular exercise reduces people's risk of heart disease and provides them with increased energy.
- (D) Physical injuries sometimes result from entering a strenuous physical fitness program too quickly.
- (E) Employee assistance programs require companies to hire people to supervise the various programs offered.
3. Unlike the wholesale price of raw wool, the wholesale price of raw cotton has fallen considerably in the last year. Thus, although the retail price of cotton clothing at retail clothing stores has not yet fallen, it will inevitably fall.
- Which of the following, if true, most seriously weakens the argument above?
- (A) The cost of processing raw cotton for cloth has increased during the last year.
- (B) The wholesale price of raw wool is typically higher than that of the same volume of raw cotton.
- (C) The operating costs of the average retail clothing store have remained constant during the last year.
- (D) Changes in retail prices always lag behind changes in wholesale prices.
- (E) The cost of harvesting raw cotton has increased in the last year.
4. Small-business groups are lobbying to defeat proposed federal legislation that would substantially raise the federal minimum wage. This opposition is surprising since the legislation they oppose would, for the first time, exempt all small businesses from paying any minimum wage.
- Which of the following, if true, would best explain the opposition of small-business groups to the proposed legislation?
- (A) Under the current federal minimum-wage law, most small businesses are required to pay no less than the minimum wage to their employees.
- (B) In order to attract workers, small companies must match the wages offered by their larger competitors, and these competitors would not be exempt under the proposed laws.
- (C) The exact number of companies that are currently required to pay no less than the minimum wage but that would be exempt under the proposed laws is unknown.
- (D) Some states have set their own minimum wages—in some cases, quite a bit above the level of the minimum wage mandated by current federal law—for certain key industries.
- (E) Service companies make up the majority of small businesses and they generally employ more employees per dollar of revenues than do retail or manufacturing businesses.

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5. Reviewer: The book *Art's Decline* argues that European painters today lack skills that were common among European painters of preceding centuries. In this the book must be right, since its analysis of 100 paintings, 50 old and 50 contemporary, demonstrates convincingly that none of the contemporary paintings are executed as skillfully as the older paintings.

Which of the following points to the most serious logical flaw in the reviewer's argument?

- (A) The paintings chosen by the book's author for analysis could be those that most support the book's thesis.
- (B) There could be criteria other than the technical skill of the artist by which to evaluate a painting.
- (C) The title of the book could cause readers to accept the book's thesis even before they read the analysis of the paintings that supports it.
- (D) The particular methods currently used by European painters could require less artistic skill than do methods used by painters in other parts of the world.
- (E) A reader who was not familiar with the language of art criticism might not be convinced by the book's analysis of the 100 paintings.
6. The pharmaceutical industry argues that because new drugs will not be developed unless heavy development costs can be recouped in later sales, the current 20 years of protection provided by patents should be extended in the case of newly developed drugs. However, in other industries new-product development continues despite high development costs, a fact that indicates that the extension is unnecessary.
- Which of the following, if true, most strongly supports the pharmaceutical industry's argument against the challenge made above?
- (A) No industries other than the pharmaceutical industry have asked for an extension of the 20-year limit on patent protection.
- (B) Clinical trials of new drugs, which occur after the patent is granted and before the new drug can be marketed, often now take as long as 10 years to complete.
- (C) There are several industries in which the ratio of research and development costs to revenues is higher than it is in the pharmaceutical industry.
- (D) An existing patent for a drug does not legally prevent pharmaceutical companies from bringing to market alternative drugs, provided they are sufficiently dissimilar to the patented drug.
- (E) Much recent industrial innovation has occurred in products—for example, in the computer and electronics industries—for which patent protection is often very ineffective.

Questions 7-8 are based on the following.

Bank depositors in the United States are all financially protected against bank failure because the government insures all individuals' bank deposits. An economist argues that this insurance is partly responsible for the high rate of bank failures, since it removes from depositors any financial incentive to find out whether the bank that holds their money is secure against failure. If depositors were more selective, then banks would need to be secure in order to compete for depositors' money.

7. The economist's argument makes which of the following assumptions?
- (A) Bank failures are caused when big borrowers default on loan repayments.
- (B) A significant proportion of depositors maintain accounts at several different banks.
- (C) The more a depositor has to deposit, the more careful he or she tends to be in selecting a bank.
- (D) The difference in the interest rates paid to depositors by different banks is not a significant factor in bank failures.
- (E) Potential depositors are able to determine which banks are secure against failure.
8. Which of the following, if true, most seriously weakens the economist's argument?
- (A) Before the government started to insure depositors against bank failure, there was a lower rate of bank failure than there is now.
- (B) When the government did not insure deposits, frequent bank failures occurred as result of depositors' fears of losing money in bank failures.
- (C) Surveys show that a significant proportion of depositors are aware that their deposits are insured by the government.
- (D) There is an upper limit on the amount of an individual's deposit that the government will insure, but very few individuals' deposits exceed this limit.
- (E) The security of a bank against failure depends on the percentage of its assets that are loaned out and also on how much risk its loans involve.

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9. Passengers must exit airplanes swiftly after accidents, since gases released following accidents are toxic to humans and often explode soon after being released. In order to prevent passenger deaths from gas inhalation, safety officials recommend that passengers be provided with smoke hoods that prevent inhalation of the gases.

Which of the following, if true, constitutes the strongest reason not to require implementation of the safety officials' recommendation?

- (A) Test evacuations showed that putting on the smoke hoods added considerably to the overall time it passengers to leave the cabin.
- (B) Some airlines are unwilling to buy the smoke hoods because they consider them to be prohibitively expensive.
- (C) Although the smoke hoods protect passengers from the toxic gases, they can do nothing to prevent the gases from igniting.
- (D) Some experienced flyers fail to pay attention to the safety instructions given on every commercial flight before takeoff.
- (E) In many airplane accidents, passengers who were able to reach emergency exits were overcome by toxic gases before they could exit the airplane.

10. In 1960, 10 percent of every dollar paid in automobile insurance premiums went to pay costs arising from injuries incurred in car accidents. In 1990, 50 percent of every dollar paid in automobile insurance premiums went toward such costs, despite the fact that cars were much safer in 1990 than in 1960.

Which of the following, if true, best explains the discrepancy outlined above?

- (A) There were fewer accidents in 1990 than in 1960.
- (B) On average, people drove more slowly in 1990 than in 1960.
- (C) Cars grew increasingly more expensive to repair over the period in question.
- (D) The price of insurance increased more rapidly than the rate of inflation between 1960 and 1990.
- (E) Health-care costs rose sharply between 1960 and 1990.

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

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

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

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

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

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

GO ON TO THE NEXT PAGE.

13. Because postage rates are rising, *Home Decorator* magazine plans to maximize its profits by reducing by one half the number of issues it publishes each year. The quality of articles, the number of articles published per year, and the subscription price will not change. Market research shows that neither subscribers nor advertisers will be lost if the magazine's plan is instituted.

Which of the following, if true, provides the strongest evidence that the magazine's profits are likely to decline if the plan is instituted?

- (A) With the new postage rates, a typical issue under the proposed plan would cost about one-third more to mail than a typical current issue would.
- (B) The majority of the magazine's subscribers are less concerned about a possible reduction in the quantity of the magazine's articles than about a possible loss of the current high quality of its articles.
- (C) Many of the magazine's long-time subscribers would continue their subscriptions even if the subscription price were increased.
- (D) Most of the advertisers that purchase advertising space in the magazine will continue to spend the same amount on advertising per issue as they have in the past.
- (E) Production costs for the magazine are expected to remain stable.

14. A study of marital relationships in which one partner's sleeping and waking cycles differ from those of the other partner reveals that such couples share fewer activities with each other and have more violent arguments than do couples in a relationship in which both partners follow the same sleeping and waking patterns. Thus, mismatched sleeping and waking cycles can seriously jeopardize a marriage.

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

- (A) Married couples in which both spouses follow the same sleeping and waking patterns also occasionally have arguments that can jeopardize the couple's marriage.
- (B) The sleeping and waking cycles of individuals tend to vary from season to season.
- (C) The individuals who have sleeping and waking cycles that differ significantly from those of their spouses tend to argue little with colleagues at work.
- (D) People in unhappy marriages have been found to express hostility by adopting a different sleeping and waking cycle from that of their spouses.
- (E) According to a recent study, most people's sleeping and waking cycles can be controlled and modified easily.

GO ON TO THE NEXT PAGE.

Questions 15-16 are based on the following.

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

Sharon: But a normal, moderate level of unemployment is 5 percent, with 1 out of 20 workers unemployed. So at any given time if a person knows approximately 50 workers, 1 or more will very likely be unemployed.

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

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

16. Sharon's argument relies on the assumption that

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

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 7

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. $\frac{(3)(0.072)}{0.54} =$

- (A) 0.04
(B) 0.3
(C) 0.4
(D) 0.8
(E) 4.0

2. A car dealer sold x used cars and y new cars during May. If the number of used cars sold was 10 greater than the number of new cars sold, which of the following expresses this relationship?

- (A) $x > 10y$
(B) $x > y + 10$
(C) $x > y - 10$
(D) $x = y + 10$
(E) $x = y - 10$

3. What is the maximum number of $1\frac{1}{4}$ -foot pieces of wire that can be cut from a wire that is 24 feet long?

- (A) 11
(B) 18
(C) 19
(D) 20
(E) 30

4. If each of the two lines l_1 and l_2 is parallel to line l_3 , which of the following must be true?

- (A) Lines l_1 , l_2 , and l_3 lie in the same plane.
(B) Lines l_1 , l_2 , l_3 lie in different planes.
(C) Line l_1 is parallel to line l_2 .
(D) Line l_1 is the same line as l_2 .
(E) Line l_1 is the same line as l_3 .

$$\frac{61.24 \times (0.998)^2}{\sqrt{403}} =$$

5. The expression above is approximately equal to

- (A) 1
(B) 3
(C) 4
(D) 5
(E) 6

6. Car X and car Y traveled the same 80-mile route. If car X took 2 hours and car Y traveled at an average speed that was 50 percent faster than the average speed of car X , how many hours did it take car Y to travel the route?

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

7. If the numbers $\frac{17}{24}$, $\frac{1}{2}$, $\frac{3}{8}$, $\frac{3}{4}$, and $\frac{9}{16}$ were ordered from greatest to least, the middle number of the resulting sequence would be

- (A) $\frac{17}{24}$
(B) $\frac{1}{2}$
(C) $\frac{3}{8}$
(D) $\frac{3}{4}$
(E) $\frac{9}{16}$

GO ON TO THE NEXT PAGE

8. If a 10 percent deposit that has been paid toward the purchase of a certain product is \$110, how much more remains to be paid?
- (A) \$880
(B) \$990
(C) \$1,000
(D) \$1,100
(E) \$1,210
9. Kim purchased n items from a catalog for \$8 each. Postage and handling charges consisted of \$3 for the first item and \$1 for each additional item. Which of the following gives the total dollar amount for Kim's purchase, including postage and handling, in terms of n ?
- (A) $8n + 2$
(B) $8n + 4$
(C) $9n + 2$
(D) $9n + 3$
(E) $9n + 4$
10. $(\sqrt{7} + \sqrt{7})^2 =$
- (A) 98
(B) 49
(C) 28
(D) 21
(E) 14
11. If the average (arithmetic mean) of the four numbers K , $2K + 3$, $3K - 5$ and $5K + 1$ is 63, what is the value of K ?
- (A) 11
(B) $15\frac{3}{4}$
(C) 22
(D) 23
(E) $25\frac{3}{10}$
12. A rabbit on a controlled diet is fed daily 300 grams of a mixture of two foods, food X and food Y . Food X contains 10 percent protein, and food Y contains 15 percent protein. If the rabbit's diet provides exactly 38 grams of protein daily, how many grams of food X are in the mixture?
- (A) 100
(B) 140
(C) 150
(D) 160
(E) 200
13. A company that ships boxes to a total of 12 distribution centers uses color coding to identify each center. If either a single color or a pair of two different colors is chosen to represent each center and if each center is uniquely represented by that choice of one or two colors, what is the minimum number of colors needed for the coding? (Assume that the order of the colors in a pair does not matter.)
- (A) 4
(B) 5
(C) 6
(D) 12
(E) 24
14. If $x + y = a$ and $x - y = b$, then $2xy =$
- (A) $\frac{a^2 - b^2}{2}$
(B) $\frac{b^2 - a^2}{2}$
(C) $\frac{a - b}{2}$
(D) $\frac{ab}{2}$
(E) $\frac{a^2 + b^2}{2}$
15. A rectangular circuit board is designed to have width w inches, perimeter p inches, and area k square inches. Which of the following equations must be true?
- (A) $w^2 + pw + k = 0$
(B) $w^2 - pw + 2k = 0$
(C) $2w^2 + pw + 2k = 0$
(D) $2w^2 - pw - 2k = 0$
(E) $2w^2 - pw + 2k = 0$
16. On a certain road 10 percent of the motorists exceed the posted speed limit and receive speeding tickets, but 20 percent of the motorists who exceed the posted speed limit do not receive speeding tickets. What percent of the motorists on the road exceed the posted speed limit?
- (A) $10\frac{1}{2}\%$
(B) $12\frac{1}{2}\%$
(C) 15%
(D) 22%
(E) 30%

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 25

Section 1	Section 2	Section 4	Section 5	Section 6	Section 7
1. B	1. C	1. A	1. D	1. E	1. C
2. D	2. C	2. B	2. D	2. C	2. D
3. B	3. D	3. D	3. D	3. A	3. C
4. A	4. A	4. B	4. C	4. B	4. C
5. C	5. E	5. C	5. E	5. A	5. B
6. D	6. E	6. C	6. B	6. B	6. C
7. E	7. C	7. D	7. E	7. E	7. E
8. A	8. E	8. E	8. A	8. B	8. B
9. E	9. C	9. B	9. D	9. A	9. C
10. C	10. A	10. C	10. E	10. E	10. C
11. A	11. A	11. E	11. C	11. C	11. D
12. B	12. B	12. D	12. A	12. B	12. B
13. D	13. B	13. A	13. C	13. D	13. B
14. Not Scored	14. A	14. C	14. E	14. D	14. A
15. B	15. D	15. E	15. A	15. A	15. E
16. A	16. D	16. A	16. D	16. B	16. B
17. E		17. C	17. C		
18. E		18. B	18. A		
19. A		19. B	19. D		
20. B		20. E	20. B		
21. C		21. A			
22. E		22. A			
		23. C			

CONVERSION TABLE FOR VERBAL AND QUANTITATIVE SCORES

Graduate Management Admission Test, Code 25

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
			36	33	40	11	16	21
60	51		35	33	39	10	15	20
59	50		34	32	38	9	15	20
58	49		33	31	37	8	14	19
57	48		32	30	37	7	13	18
56	47		31	30	36	6	12	17
55	46		30	29	35	5	12	17
54	46		29	28	34	4	11	16
53	45		28	28	34	3	10	15
52	44	51	27	27	33	2	10	14
51	44	50	26	26	32	1	9	13
50	43	50	25	26	31	0	8	12
49	42	49	24	25	31			
48	42	49	23	24	30			
47	41	48	22	24	29			
46	40	47	21	23	29			
45	39	46	20	22	28			
44	39	45	19	21	27			
43	38	45	18	21	26			
42	37	44	17	20	26			
41	37	43	16	19	25			
40	36	43	15	19	24			
39	35	42	14	18	23			
38	35	41	13	17	23			
37	34	40	12	17	22			

CONVERSION TABLE FOR TOTAL SCORES
Graduate Management Admission Test, Code 25

Corrected Raw Score	Total Scaled Score	Corrected Raw Score	Total Scaled Score	Corrected Raw Score	Total Scaled Score	Corrected Raw Score	Total Scaled Score
		83	660	53	500	23	350
112	800	82	650	52	500	22	350
111	800	81	650	51	490	21	340
110	800	80	640	50	490	20	340
109	800	79	640	49	480	19	330
108	790	78	630	48	480	18	330
107	780	77	630	47	470	17	320
106	780	76	620	46	470	16	320
105	770	75	620	45	460	15	310
104	760	74	610	44	460	14	310
103	760	73	610	43	450	13	300
102	750	72	600	42	450	12	300
101	750	71	600	41	440	11	290
100	740	70	590	40	440	10	290
99	740	69	590	39	430	9	280
98	730	68	580	38	430	8	280
97	730	67	580	37	420	7	270
96	720	66	570	36	420	6	270
95	720	65	570	35	410	5	260
94	710	64	560	34	410	4	250
93	710	63	560	33	400	3	240
92	700	62	550	32	400	2	230
91	700	61	550	31	390	1	220
90	690	60	540	30	390	0	210
89	690	59	530	29	380		
88	680	58	530	28	380		
87	680	57	520	27	370		
86	670	56	520	26	370		
85	670	55	510	25	360		
84	660	54	510	24	360		

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 31, 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.

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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 32 and 33 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.

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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 or 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 examinees 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 scaled 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 higher 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.

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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.