Graduate
Management
Admission
Council®

Educational Testing Service

Graduate Management Admission Test® (GMAT®)

Disclosed Edition

Test Code 55

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 55. If the first two digits of the test code on your answer sheet (item 5 on Side 1) are not 55, 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 55.

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 2	Critical Reasoning
Section 4	Reading Comprehension
Section 6	Sentence Correction

Quantitative Assessment

Section 3	Problem Solving
Section 5	Data Sufficiency
Section 7	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.

Analytical Writing 1

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 sheet. Make sure that you use the answer sheet that goes with this writing task.

"Companies should not try to improve employees' performance by giving incentives—for example, awards or gifts. Incentives encourage negative kinds of behavior instead of encouraging a genuine interest in doing the work well."

Discuss the extent to which you agree or disagree with the opinion stated above. Support your views with 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.

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.

Analytical Writing 2

ANALYSIS OF AN ARGUMENT

Time—30 minutes

Directions: In this section you will he 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 sheet. Make sure that you use the answer sheet that goes with this writing task.

The following appeared as part of a recommendation from the business manager of a department store.

"Local clothing stores reported that their profits decreased, on average, for the three-month period between August 1 and October 31. Stores that sell products for the home reported that, on average, their profits increased during this same period. Clearly, customers are choosing to buy products for their homes instead of clothing. To take advantage of this trend, we should reduce the size of our clothing departments and enlarge our home furnishings and household products departments."

Discuss how well reasoned you find this argument. In you 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 logically sound, 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 he evaluated.

S T O P

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DO NOT TURN TO ANY OTHER SECTION IN THE TEST.

ANSWER SHEET – Test Code 55

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.
6.	6.	6.	6.	6.	6.
7.	7. NOT SCORED	7.	7.	7.	7.
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				22.	

SECTION 2

Time—25 minutes

16 Questions

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

1. In the United States profits from sales of Grainco's biggest selling product, cornflakes, have dropped by 30 percent over the last 3 years. During this same time the value of a share of Grainco stock rose by over 20 percent. This is puzzling because the value of a stock usually decreases when a company's sales decrease.

   Which of the following, if true during the last 3 years, most helps to explain why the value of a share of Grainco stock moved in the way that it did?

   (A) Severe drought in the Midwest destroyed a large percentage of the corn crop, forcing Grainco to buy less corn.

   (B) Grainco closed a food processing plant in a locality that offered cheap labor and low taxes.

   (C) Profits from sales of Grainco oatmeal, which account for a large part of Grainco's total sales and profits, increased dramatically in both the foreign and domestic markets.

   (D) Grainco employees formed a union that helped them get higher salaries and increased medical benefits.

   (E) Several articles in prominent business publications listed Grainco as a company that has poor management.

Questions 2-3 are based on the following.

Dutch elm disease, which is caused by the fungus *C. ulmi* spread by adult scolytid beetles, has already destroyed 70 percent of the elms in Greenwood Forest. Another naturally occurring fungus, *P. oblonga*, kills larvae of the scolytid beetle. Forest rangers plan to introduce *P. oblonga* into Greenwood Forest in order to save the remaining mature elms.

2. Which of the following, if true, would cast the most serious doubt on the plan's prospects for success?

   (A) During the last year, the scolytid beetle population in Greenwood Forest has decreased by 30 percent because of cold-weather conditions.

   (B) Dutch elm disease cannot be abated by introducing chemical compounds used to arrest the diseases of many other species of tree.

   (C) Introduction of *P. oblonga* saved elm trees in neighboring Gatemar and Lavemont forests.

   (D) For *P. oblonga* to control scolytid beetles successfully, it must be established in a forest prior to the beetle infestation.

   (E) Greenwood Forest has lost many maple trees because of a fungus infection.

3. Which of the following, if true about *P. oblonga*, provides the strongest evidence that the plan will succeed?

   (A) It is spread by a variety of birds that nest in trees that are the home of scolytid beetle larvae.

   (B) It has been known to lie dormant within a tree for up to ten years before it begins to reproduce.

   (C) It spreads more slowly than *C. ulmi*, under most climatic conditions.

   (D) It does not destroy some commonly found subspecies of scolytid beetles.

   (E) It has been known to kill maple trees by destroying their root systems.

4. It is well known that human tears often serve to moisten the eye, protect it from infection, and wash away irritants; such tears are called irritant or reflex tears. Dr. Field hypothesizes that emotional tears have a different biological function. She suggests that by shedding tears when under emotional stress people excrete harmful chemicals that build up in such body fluids as blood serum during emotional stress.

   Each of the following, if true, provides some support for Dr. Field's hypothesis EXCEPT:

   (A) The people most likely to cry when undergoing emotional stress are less likely to suffer from stress-related diseases than is the population at large.

   (B) If a local anesthetic is applied to the surface of the eye, irritant and reflex tears are inhibited, but emotional tears are not.

   (C) The chemical composition of tears that are induced by grit in the eye is identical to the composition of tears induced by emotional stress.

   (D) The concentration of a substance that the body produces only under conditions of emotional stress is thirty times greater in tears than in blood serum.

   (E) Patients who suffer from a condition that prevents secretion of tears display a slower than normal physiological recovery from emotional stress.

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5. In theory, Papua New Guinea could be a substantial exporter of tropical crops. In actuality, it is not. The reason is that 97 percent of all land is owned by clans and cannot be bought or sold by individuals, and thus the kinds of realignment of properties that would be necessary to achieve maximum production for export have been impossible to achieve.

The answer to which of the following questions would be most relevant to evaluating the adequacy of the explanation given above?

(A) Who owns the 3 percent of the land in Papua New Guinea that is not owned by clans?

(B) What percentage of Papua New Guinea's current production of tropical crops is consumed within the country?

(C) How much longer is land ownership by clans expected to remain the prevailing cultural pattern in Papua New Guinea?

(D) Which of the tropical crops currently grown in Papua New Guinea could be exported if there were a surplus for export?

(E) How does Papua New Guinea's current production capacity for tropical crops compare with the maximum capacity that property realignment would make possible?

6. Abolition of government regulation of airfares has increased competition among airlines and thus will eventually lead to compromises in airline safety. Anxious to reduce fares in what has, as a result of deregulation, become a highly competitive market, airlines will be tempted to reduce costs by decreasing safety inspections and routine maintenance of aircraft.

Which of the following, if true, would cast the most serious doubt on the prediction that deregulation of airfares will ultimately compromise airline safety?

(A) Consumers select an airline as much on the basis of its safety record as on the basis of its fares.

(B) There are a number of mechanical problems that cannot be detected in the routine inspection of aircraft.

(C) The amount of commercial air traffic has increased significantly since the regulation of airfares was abolished.

(D) The number of airline bankruptcies has increased since the regulation of airfares was abolished.

(E) When airfares were regulated, airlines were more inclined to invest in the development of new aircraft.

7. Some manufacturers of computer software have proposed cutting costs by distributing instruction manuals for their programs on computer disk only, so that computer users can refer to them on a computer screen rather than having to deal with unwieldy printed manuals that are costly for manufacturers to produce.

Which of the following, if true, provides the best reason <u>against</u> adopting the proposal described above?

(A) Most computer users are just as comfortable using instructions on a computer screen as they are using printed manuals.

(B) Although instructions on a computer disk can be printed out cheaply using a computer printer, such printouts are less convenient to use than instructions displayed on a computer screen.

(C) Because they are expensive and inconvenient to copy, printed instruction manuals provide one of the best deterrents against the illegal copying of software, which costs manufacturers enormous profits.

(D) Instructions supplied on a computer disk are more appropriate for business and educational programs than for computer games and other entertainment software.

(E) Instructions supplied on a computer disk can be designed to provide more extensive and more easily utilized cross-references than those provided by printed manuals.

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Questions 8-9 are based on the following.

Researchers have concluded from a survey of people aged 65 that emotional well-being in adulthood is closely related to intimacy with siblings earlier in life. Those surveyed who had never had any siblings or who said that at college age they were emotionally distant from their siblings were emotionally less well adjusted at 65 than were those who had been close to at least one brother or sister.

8. If the researchers' conclusion is accurate, it follows that

(A) some people who attended college as young adults are likely as a result to be emotionally better off at age 65

(B) the emotional well-being of people aged 65 depends on the emotional well-being of their siblings

(C) it is closeness to siblings rather than just having siblings that is more relevant to people's emotional well-being at age 65

(D) people who are emotionally well off at college age are more likely to be emotionally well off at age 65 as well

(E) intimacy with siblings is more important to people at college age than it is at age 65

9. Which of the following, if true, most seriously weakens the researchers' argument?

(A) As they get older, many people think more about their mortality and thus must confront feelings of loneliness and isolation.

(B) People suffering from the emotional distress of maladjustment usually remember being less intimate with other people than they actually were.

(C) Memory of one's past plays a greater role in the emotional well-being of older people than it does in that of younger people.

(D) Few people can correctly identify the true sources of their emotional well-being or of their emotional difficulties.

(E) Siblings are more likely to have major arguments and deep differences of opinion at college age than at any other time of their lives.

10. A chemical company claims that, since only one of 520 rats that were given high doses of a new artificial sweetener developed cancer while all the others remained healthy, the sweetener is not carcinogenic for human beings and ought to be approved for human consumption.

Which of the following, if true, most strongly supports the chemical company's claim?

(A) Chemicals that are carcinogenic for rats are usually also carcinogenic for other animals, such as guinea pigs, used in experiments.

(B) The spontaneous incidence of cancer in this particular strain of rat is approximately one in 540.

(C) Tests conducted on a certain strain of mouse show that, of 500 mice given a dose of sweetener similar to that given the rats, 53 developed cancer.

(D) Certain chemicals that are carcinogenic for human beings have been shown not to be carcinogenic for rats.

(E) The average lifespan of the strain of rat used in the experiment is 2 years; the chemical company terminated the experiment when the rats were 13 months old.

11. Since 1941 Los Angeles has drawn water from mountain streams that feed into Mono Lake. If water continues to be drawn from the streams at the present rate, in about 30 years the resulting drop in the water level of Mono Lake will trigger a chain reaction ending in the destruction of the ecosystem of the lake.

Which of the following is an assumption on which the prediction is based?

(A) Since 1941 the ecosystem of Mono Lake has changed significantly as a result of a drop in the lake's water level.

(B) The amount of water that evaporates from Mono Lake has increased annually since at least 1941.

(C) Los Angeles is investigating the availability of a different source of water that could supplement the water it draws from the mountain streams.

(D) Voluntary water conservation will not by itself be sufficient to hold Los Angeles' water needs to present levels.

(E) Any water flowing into Mono Lake from sources other than the mountain streams will be insufficient to prevent the triggering event from occurring.

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12. If new working practices raise a firm's productivity, will the firm respond by paying its workers more? Not in a competitive market. In such a market the firm, to gain a competitive edge, will reduce prices. The workers' real wages, as measured by those wages' purchasing power, will still rise because of lower prices.

In a competitive market which of the following, if true, ensures that the workers of a firm that achieved productivity gains will derive from these gains the benefit of higher real wages?

(A) The workers' firm continues to achieve productivity gains.

(B) Other firms do not achieve comparable productivity gains.

(C) The workers buy products made by the firm that employs them.

(D) The workers prefer the new working practices over the old.

(E) The firm pays its workers at or above the industry's average.

13. Recently political pressure groups have become far more effective at persuading industrial corporations to change. For example, as a result of the efforts of animal rights groups, many pharmaceutical and cosmetics companies have reduced their use of laboratory animals, substituting in their place alternative methods of product testing.

Which of the following, if true, casts the most serious doubt on the connection between pressure group activity and corporate change claimed above?

(A) Many companies in the pharmaceutical industry have increased their public relations spending in order to counter the activity of animal rights groups.

(B) Before the new methods of testing products are used, they have to be calibrated by comparison tests involving experiments on laboratory animals.

(C) When companies stop using laboratory animals, they generally go to some expense to publicize this change of policy.

(D) The pharmaceutical manufacturers who still use laboratory animals are mostly the smaller firms that have been less subject to pressure group activity.

(E) The methods of product testing that do not involve laboratory animals are faster and cheaper than the methods that do.

14. A United States manufacturer of farm equipment reported a 1988 third-quarter net income of $32 million, compared with $25.5 million in the third quarter of 1987. This increase was realized despite a drop in United States retail sales of farm equipment toward the end of the third quarter of 1988 as a result of a drought.

Which of the following, if true, would contribute most to an explanation of the increase in the manufacturer's net income?

(A) During the third quarter of 1988, the manufacturer announced that it would add irrigation systems to its line of products.

(B) In the third quarter of 1988, the manufacturer paid no wages during a six-week strike, but stocks on hand were adequate to supply dealers.

(C) Sales in the United States of farm equipment made and sold by foreign companies were higher in the third quarter of 1988 than in any previous quarter.

(D) Official dealers of the manufacturer had low supplies of farm equipment during the third quarter of 1988.

(E) Eligible United States farmers benefited from a federal drought-relief fund late in the third quarter of 1988.

15. Many television viewers own videocassette recorders (VCR's). Companies that advertise on television complain that VCR ownership hurts their business, since a VCR makes it possible to view television programs without watching the commercials. Indeed, two-thirds of those who tape programs on a VCR edit out the commercials when viewing the programs.

Which of the following, if true, would most strengthen the companies' complaint that VCR ownership is currently hurting their business?

(A) The methods for determining audience size, which in turn determines charges for advertising time, count households that are merely recording a program as households that are watching it.

(B) VCR manufacturers who advertise on television would themselves suffer the damage, if any, to advertisers' interests that is caused by VCR's.

(C) There are VCR's that are in the early stages of development that will automatically edit out commercials during the recording process.

(D) Those who tape programs on VCR's, but who do not edit out commercials when viewing the programs, tape more often than those who do edit out the commercials.

(E) Some television commercials are as entertaining or informative as the programs they interrupt.

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16. According to psychoanalytic theory, people have unconscious beliefs that are kept from becoming conscious by a psychological mechanism termed “repression.” Researchers investigating the nature of this mechanism observed occasions on which a patient undergoing therapy became aware of and expressed a previously unconscious belief. They found that such occasions were marked by an unusual decrease in the patient’s level of anxiety.

If the information above is true, and if the researchers’ investigation was properly conducted, then which of the following must also be true?

(A) Changes in the patient’s anxiety level during therapy can generally be used as an accurate measure of the extent to which the patient is becoming conscious of previously repressed beliefs.

(B) Even when one of a patient’s unconscious beliefs remains unconscious, researchers are sometimes able to discover this belief.

(C) If psychoanalytic theory is correct, then most conscious beliefs originate as unconscious beliefs.

(D) Researchers were able to distinguish expressed beliefs that had previously been unconscious from those that had long been conscious but that the patient had not previously expressed.

(E) Although the beliefs on which the mechanism of repression works are all unconscious, the operation of the mechanism itself is something of which patients are consciously aware.

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 3

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. Maria works 4 days per week and earns d dollars per day. Which of the following represents the amount Maria earns at this job in w weeks?

(A) $4dw$

(B) $\frac{w}{4d}$

(C) $\frac{4d}{w}$

(D) $\frac{4w}{d}$

(E) $\frac{dw}{4}$

2. If 70 percent of 600 is 40 percent of x, then $x =$

(A) 105

(B) 168

(C) $342\frac{6}{7}$

(D) 660

(E) 1,050

3. Of the 60 employees of a certain company, twice as many are in the sales department as are in all of the other departments combined. What is the number of employees in the sales department?

(A) 15

(B) 20

(C) 30

(D) 40

(E) 45

4. $1-\left(\frac{1}{2}-\frac{2}{3}\right)=$

(A) $\frac{6}{5}$

(B) $\frac{7}{6}$

(C) $\frac{6}{7}$

(D) $\frac{5}{6}$

(E) 0

5. In a certain fund, 40 percent of the money is invested in stocks, and of that portion, 20 percent is invested in preferred stocks. If the fund has $576 invested in preferred stocks, what is the total amount of the fund?

(A) $960

(B) $1,440

(C) $2,880

(D) $4,608

(E) $7,200

6. $\left(2^2-1\right)\left(2^2+1\right)\left(2^4+1\right)\left(2^8+1\right)=$

(A) $2^{16}-1$

(B) $2^{16}+1$

(C) $2^{32}-1$

(D) $2^{128}-1$

(E) $2^{16}\left(2^{16}-1\right)$

7. NOT SCORED

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8. If the area of a circle is 64π, then the diameter of the circle is

(A) 8

(B) 16

(C) 32

(D) 8π

(E) 16π

9. To be elected president of a certain organization, a candidate needs the votes of at least $\frac{2}{3}$ of its 1,331 members. What is the least number of votes the candidate needs to be elected?

(A) 443

(B) 444

(C) 887

(D) 888

(E) 889

10. $\frac{(0.0036)(2.8)}{(0.04)(0.1)(0.003)} =$

(A) 840.0

(B) 84.0

(C) 8.4

(D) 0.84

(E) 0.084

11. In a sample of college students, 40 percent are third-year students and 70 percent are not second-year students. What fraction of those students who are not third-year students are second-year students?

(A) $\frac{3}{4}$

(B) $\frac{2}{3}$

(C) $\frac{4}{7}$

(D) $\frac{1}{2}$

(E) $\frac{3}{7}$

12. If x dollars is invested at 10 percent for one year and y dollars is invested at 8 percent for one year, the annual income from the 10 percent investment will exceed the annual income from the 8 percent investment by \$56. If \$2,000 is the total amount invested, how much is invested at 8 percent?

(A) \$280

(B) \$800

(C) \$892

(D) \$1,108

(E) \$1,200

13. The time it took car A to travel 400 miles was 2 hours less than the time it took car B to travel the same distance. If car A's average speed was 10 miles per hour greater than that of car B, what was car B's average speed, in miles per hour?

(A) 20

(B) 30

(C) 40

(D) 50

(E) 80

14. If $\frac{2}{x} + \frac{3}{y} = 4$ and $xy = 5$, then $3x + 2y =$

(A) $\frac{1}{5}$

(B) $\frac{1}{4}$

(C) $\frac{4}{5}$

(D) 4

(E) 20

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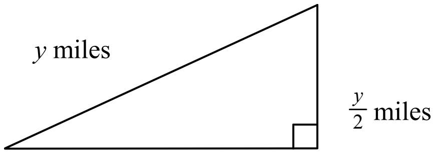

15. A flat triangular cornfield has the dimensions shown in the figure above. If $y^2 = 2$, what is the area of the field in square miles?

(A) $\frac{1}{4}$

(B) $\frac{\sqrt{3}}{4}$

(C) $\frac{1}{2}$

(D) $\frac{\sqrt{3}}{2}$

(E) 1

16. For any numbers a and b, $a \cdot b = a + b - ab$.

If $a \cdot b = 0$, which of the following CANNOT be a value of b?

(A) 2

(B) 1

(C) 0

(D) -1

(E) $-\frac{3}{2}$

S T O P

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DO NOT TURN TO ANY OTHER SECTION IN THE TEST.

SECTION 4

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.

A recent study has provided clues to predator-prey dynamics in the late Pleistocene era. Researchers compared the number of tooth fractures in present-day carnivores with tooth fractures in carnivores that lived 36,000 to 10,000 years ago and that were preserved in the Rancho La Brea tar pits in Los Angeles. The breakage frequencies in the extinct species were strikingly higher than those in the present-day species.

In considering possible explanations for this finding, the researchers dismissed demographic bias because older individuals were not overrepresented in the fossil samples. They rejected preservational bias because a total absence of breakage in two extinct species demonstrated that the fractures were not the result of abrasion within the pits. They ruled out local bias because breakage data obtained from other Pleistocene sites were similar to the La Brea data. The explanation they consider most plausible is behavioral differences between extinct and present-day carnivores—in particular, more contact between the teeth of predators and the bones of prey due to more thorough consumption of carcasses by the extinct species. Such thorough carcass consumption implies to the researchers either that prey availability was low, at least seasonally, or that there was intense competition over kills and a high rate of carcass theft due to relatively high predator densities.

1. The primary purpose of the passage is to

(A) present several explanations for a well-known fact

(B) suggest alternative methods for resolving a debate

(C) argue in favor of a controversial theory

(D) question the methodology used in a study

(E) discuss the implications of a research finding

2. The passage suggests that, compared with Pleistocene carnivores in other areas, Pleistocene carnivores in the La Brea area

(A) included the same species, in approximately the same proportions

(B) had a similar frequency of tooth fractures

(C) populated the La Brea area more densely

(D) consumed their prey more thoroughly

(E) found it harder to obtain sufficient prey

3. According to the passage, the researchers believe that the high frequency of tooth breakage in carnivores found at La Brea was caused primarily by

(A) the aging process in individual carnivores

(B) contact between the fossils in the pits

(C) poor preservation of the fossils after they were removed from the pits

(D) the impact of carnivores' teeth against the bones of their prey

(E) the impact of carnivores' teeth against the bones of other carnivores during fights over kills

4. The researchers' conclusion concerning the absence of demographic bias would be most seriously undermined if it were found that

(A) the older an individual carnivore is, the more likely it is to have a large number of tooth fractures

(B) the average age at death of a present-day carnivore is greater than was the average age at death of a Pleistocene carnivore

(C) in Pleistocene carnivore species, older individuals consumed carcasses as thoroughly as did younger individuals

(D) the methods used to determine animals' ages in fossil samples tend to misidentify many older individuals as younger individuals

(E) data concerning the ages of fossil samples cannot provide reliable information about behavioral differences between extinct carnivores and present-day carnivores

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5. The passage suggests that if the researchers had not found that two extinct carnivore species were free of tooth breakage, the researchers would have concluded that

(A) the difference in breakage frequencies could have been the result of damage to the fossil remains in the La Brea pits

(B) the fossils in other Pleistocene sites could have higher breakage frequencies than do the fossils in the La Brea pits

(C) Pleistocene carnivore species probably behaved very similarly to one another with respect to consumption of carcasses

(D) all Pleistocene carnivore species differed behaviorally from present-day carnivore species

(E) predator densities during the Pleistocene era were extremely high

During the nineteenth century, occupational information about women that was provided by the United States census—a population count conducted each decade— became more detailed and precise in response to social changes. Through 1840, simple enumeration by household mirrored a home-based agricultural economy and hierarchical social order: the head of the household (presumed male or absent) was specified by name, whereas other household members were only indicated by the total number of persons counted in various categories, including occupational categories. Like farms, most enterprises were family-run, so that the census measured economic activity as an attribute of the entire household, rather than of individuals.

The 1850 census, partly responding to antislavery and women's rights movements, initiated the collection of specific information about each individual in a household. Not until 1870 was occupational information analyzed by gender: the census superintendent reported 1.8 million women employed outside the home in "gainful and reputable occupations." In addition, he arbitrarily attributed to each family one woman "keeping house." Overlap between the two groups was not calculated until 1890, when the rapid entry of women into the paid labor force and social issues arising from industrialization were causing women's advocates and women statisticians to press for more thorough and accurate accounting of women's occupations and wages.

6. The primary purpose of the passage is to

(A) explain and critique the methods used by early statisticians

(B) compare and contrast a historical situation with a current-day one

(C) describe and explain a historical change

(D) discuss historical opposition to an established institution

(E) trace the origin of a contemporary controversy

7. Each of the following aspects of nineteenth-century United States censuses is mentioned in the passage EXCEPT the

(A) year in which data on occupations began to be analyzed by gender

(B) year in which specific information began to be collected on individuals in addition to the head of the household

(C) year in which overlap between women employed outside the home and women keeping house was first calculated

(D) way in which the 1890 census measured women's income levels and educational backgrounds

(E) way in which household members were counted in the 1840 census

8. It can be inferred from the passage that the 1840 United States census provided a count of which of the following?

(A) Women who worked exclusively in the home

(B) People engaged in nonfarming occupations

(C) People engaged in social movements

(D) Women engaged in family-run enterprises

(E) Men engaged in agriculture

GO ON TO THE NEXT PAGE.

9. The author uses the adjective “simple” in line 5 most probably to emphasize that the

(A) collection of census information became progressively more difficult throughout the nineteenth century

(B) technology for tabulating census information was rudimentary during the first half of the nineteenth century

(C) home-based agricultural economy of the early nineteenth century was easier to analyze than the later industrial economy

(D) economic role of women was better defined in the early nineteenth century than in the late nineteenth century

(E) information collected by early-nineteenth- century censuses was limited in its amount of detail

10. The passage suggests which of the following about the “women’s advocates and women statisticians” mentioned in lines 27-28?

(A) They wanted to call attention to the lack of pay for women who worked in the home.

(B) They believed that previous census information was inadequate and did not reflect certain economic changes in the United States.

(C) They had begun to press for changes in census-taking methods as part of their participation in the antislavery movement.

(D) They thought that census statistics about women would be more accurate if more women were employed as census officials.

(E) They had conducted independent studies that disputed the official statistics provided by previous United States censuses.

The modern multinational corporation is described as having originated when the owner-managers of nineteenth-century British firms carrying on international trade were replaced by teams of salaried managers organized into hierarchies. Increases in the volume of transactions in such firms are commonly believed to have necessitated this structural change. Nineteenth-century inventions like the steamship and the telegraph, by facilitating coordination of managerial activities, are described as key factors. Sixteenth- and seventeenth-century chartered trading companies, despite the international scope of their activities, are usually considered irrelevant to this discussion: the volume of their transactions is assumed to have been too low and the communications and transport of their day too primitive to make comparisons with modern multinationals interesting.

In reality, however, early trading companies successfully purchased and outfitted ships, built and operated offices and warehouses, manufactured trade goods for use abroad, maintained trading posts and production facilities overseas, procured goods for import, and sold those goods both at home and in other countries. The large volume of transactions associated with these activities seems so have necessitated hierarchical management structures well before the advent of modern communications and transportation. For example, in the Hudson’s Bay Company, each far-flung trading outpost was managed by a salaried agent, who carried out the trade with the Native Americans, managed day-to-day operations, and oversaw the post’s workers and servants. One chief agent, answerable to the Court of Directors in London through the correspondence committee, was appointed with control over all of the agents on the bay.

The early trading companies did differ strikingly from modern multinationals in many respects. They depended heavily on the national governments of their home countries and thus characteristically acted abroad to promote national interests. Their top managers were typically owners with a substantial minority share, whereas senior managers’ holdings in modern multinationals are usually insignificant. They operated in a preindustrial world, grafting a system of capitalist international trade onto a premodern system of artisan and peasant production. Despite these differences, however, early trading companies organized effectively in remarkably modern ways and merit further study as analogues of more modern structures.

11. The author’s main point is that

(A) modern multinationals originated in the sixteenth and seventeenth centuries with the establishment of chartered trading companies

(B) the success of early chartered trading companies, like that of modern multinationals, depended primarily on their ability to carry out complex operations

(C) early chartered trading companies should be more seriously considered by scholars studying the origins of modern multinationals

(D) scholars are quite mistaken concerning the origins of modem multinationals

(E) the management structures of early chartered trading companies are fundamentally the same as those of modern multinationals

GO ON TO THE NEXT PAGE.

12. According to the passage, early chartered trading companies are usually described as

(A) irrelevant to a discussion of the origins of the modem multinational corporation

(B) interesting but ultimately too unusual to be good subjects for economic study

(C) analogues of nineteenth-century British trading firms

(D) rudimentary and very early forms of the modern multinational corporation

(E) important national institutions because they existed to further the political aims of the governments of their home countries

13. It can be inferred from the passage that the author would characterize the activities engaged in by early chartered trading companies as being

(A) complex enough in scope to require a substantial amount of planning and coordination on the part of management

(B) too simple to be considered similar to those of a modern multinational corporation

(C) as intricate as those carried out by the largest multinational corporations today

(D) often unprofitable due to slow communications and unreliable means of transportation

(E) hampered by the political demands imposed on them by the governments of their home countries

14. The author lists the various activities of early chartered trading companies in order to

(A) analyze the various ways in which these activities contributed to changes in management structure in such companies

(B) demonstrate that the volume of business transactions of such companies exceeded that of earlier firms

(C) refute the view that the volume of business undertaken by such companies was relatively low

(D) emphasize the international scope of these companies' operations

(E) support the argument that such firms coordinated such activities by using available means of communication and transport

15. With which of the following generalizations regarding management structures would the author of the passage most probably agree?

(A) Hierarchical management structures are the most efficient management structures possible in a modern context.

(B) Firms that routinely have a high volume of business transactions find it necessary to adopt hierarchical management structures.

(C) Hierarchical management structures cannot be successfully implemented without modern communications and transportation.

(D) Modern multinational firms with a relatively small volume of business transactions usually do not have hierarchically organized management structures.

(E) Companies that adopt hierarchical management structures usually do so in order to facilitate expansion into foreign trade.

16. The passage suggests that modern multinationals differ from early chartered trading companies in that

(A) the top managers of modern multinationals own stock in their own companies rather than simply receiving a salary

(B) modern multinationals depend on a system of capitalist international trade rather than on less modern trading systems

(C) modern multinationals have operations in a number of different foreign countries rather than merely in one or two

(D) the operations of modern multinationals are highly profitable despite the more stringent environmental and safety regulations of modern governments

(E) the overseas operations of modern multinationals are not governed by the national interests of their home countries

GO ON TO THE NEXT PAGE.

17. The author mentions the artisan and peasant production systems of early chartered trading companies as an example of

(A) an area of operations of these companies that was unhampered by rudimentary systems of communications and transport

(B) a similarity that allows fruitful comparison of these companies with modern multinationals

(C) a positive achievement of these companies in the face of various difficulties

(D) a system that could not have emerged in the absence of management hierarchies

(E) a characteristic that distinguishes these companies from modern multinationals

18. The passage suggests that one of the reasons that early chartered trading companies deserve comparison with early modern multinationals is

(A) the degree to which they both depended on new technology

(B) the similar nature of their management structures

(C) similarities in their top managements' degree of ownership in the company

(D) their common dependence on political stability abroad in order to carry on foreign operations

(E) their common tendency to revolutionize systems of production

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.

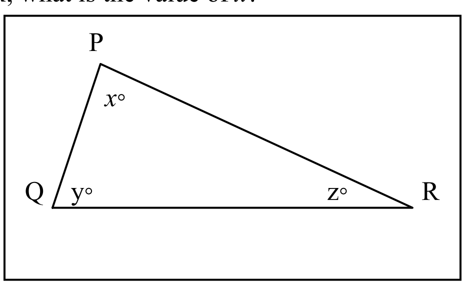
You may assume that the positions of points, angles, regions, etc., exist in the order shown.

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 ΔPQR, what is the value of x?



(1) $PQ = PR$

(2) $y = 40$

Explanation: According to statement (1), $PQ = PR$; therefore, 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. If 9 models participated in a certain fashion show featuring coats, how many different coats did they model?

(1) The fashion show lasted 90 minutes.

(2) The ratio of the number of models who participated in the show to the number of different coats modeled was 1 to 7.

2. Is the value of $x^2 + xy$ equal to 0?

(1) $x = 0$

(2) $y = 0$

3. Is the positive integer p a prime number?

(1) p is odd.

(2) $2 < p < 17$

4. How many books did the author write?

(1) Of the books the author wrote, 3 were best-sellers.

(2) Of the books the author wrote, 80 percent were not best-sellers.

5. Does nm =40?

(1) $\frac{10}{n} = \frac{m}{4}$

(2) $5n = 20$ and $8m = 80$

6. What is the area of rectangular floor X?

(1) The length of floor X is 2 meters more than its width.

(2) The perimeter of floor X is 16 meters.

7. Is $x > 0$?

(1) $x^2 > 0$

(2) $| x | > 0$

$$d = 0.43t7$$

8. If t denotes the thousandths digit in the decimal representation of d above, what digit is t?

(1) If d were rounded to the nearest hundredth, the result would be 0.44

(2) If d were rounded to the nearest thousandth, the result would be 0.436

9. When car X pulled into a service station, its gasoline tank was $\frac{1}{3}$ full. How many liters of gasoline did the attendant add to the tank at the station?

(1) The attendant added enough gasoline to fill the tank to $\frac{9}{10}$ of its capacity.

(2) When car x pulled into the station, its gasoline tank contained 32 liters of gasoline.

10. If $y > 0$, then x is what percent of y?

(1) $y = 5x$

(2) $x = 5$

11. If all boxes of brand X candy are equally priced and all boxes of brand Y candy are equally priced, what is the price of a box of brand X candy?

(1) The total price of 5 boxes of brand X candy is \$4.50 more than the total price of 5 boxes of brand Y candy.

(2) The total price of 5 boxes of brand Y candy is \$0.40 more than the total price of 4 boxes of brand X candy.

12. In the telephone number 936-215X, what digit does X represent?

(1) Only one digit in the telephone number is greater than X.

(2) X is the greatest of the digits not among the telephone number's first six digits.

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.

13. If $pq \neq 0$, is x an integer?

(1) $x = 3p - 2q$

(2) $p = q$

14. If k is a positive integer and $n = 7.049 \times 10^k$, what is the value of k?

(1) $7{,}500 < n < 75{,}000$

(2) $10^4 < n < 10^5$

15. Machines X and Y produced identical bottles at different constant rates. Machine X, operating alone for 4 hours, filled part of a production lot; then machine Y, operating alone for 3 hours, filled the rest of this lot. How many hours would it have taken machine X operating alone to fill the entire production lot?

(1) Machine X produced 30 bottles per minute.

(2) Machine X produced twice as many bottles in 4 hours as machine Y produced in 3 hours.

16. What is the value of x?

(1) $x^4 = 625$

(2) $x^3 < x^2$

17. If $a + b = 200$ and $a < b$, is $a + b > c + d$?

(1) $c + d < 200$

(2) $b + c + d = 300$

18. In isosceles ΔRST, what is the measure of $\angle S$?

(1) The measure of $\angle R$ is 100°.

(2) The measure of $\angle T$ is 40°.

19. If $\sqrt{n}$ is a positive integer, what is the value of n?

(1) $1 < \sqrt{n} < 5$

(2) $10 < n < 24$

20. All of the members of club Y are either Democrats or Republicans. If $\frac{1}{2}$ of the male members and $\frac{3}{5}$ of the female members are Democrats, what is the ratio of the number of males to the number of females in the club?

(1) In club Y the number of female members is one less than the number of male members.

(2) In club Y the number of male Republican members is equal to the number of female Democratic members.

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

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. Seeking to spur science education, elementary and secondary schools will receive $25 million over the next ten years from the National Science Foundation to promote science.

(A) elementary and secondary schools will receive $25 million over the next ten years from the National Science Foundation to promote science

(B) $25 million will be spent by the National Science Foundation over the next ten years to promote science in elementary and secondary schools

(C) over the next ten years $25 million will be spent on elementary and secondary schools by the National Science Foundation for promoting science

(D) the National Science Foundation is to spend $25 million over the next ten years for promoting science in elementary and secondary schools

(E) the National Science Foundation will spend $25 million over the next ten years to promote science in elementary and secondary schools

2. Consumer confidence levels, which many economists consider an early indication of the economy's direction, sagged as the stock market tumbled, but not dramatically enough for giving a clear picture of new spending patterns.

(A) tumbled, but not dramatically enough for giving

(B) tumbled, but not dramatically enough to give

(C) tumbled, and not so dramatically as to have given

(D) has tumbled, and not dramatically enough to give

(E) has tumbled, but not so dramatically as to give

3. Although no proof yet exists of electromagnetic fields generated by household appliances posing any health threat, mounting scientific evidence has convinced many experts that there is cause for concern.

(A) of electromagnetic fields generated by household appliances posing any health threat

(B) of electromagnetic fields generated by household appliances that pose any threat to health

(C) that electromagnetic fields generated by household appliances pose any threat to health

(D) that poses any threat to health from electromagnetic fields generated by household appliances

(E) for any health threat posed by electromagnetic fields generated by household appliances

4. Some archaeologists claim that the tablets found at Ebla could force a revision of current theories on the origins of Judaism and Christianity, alter many scriptural interpretations, make all current Bible translations obsolete, and scholars may be required to credit the Old Testament with greater historical accuracy.

(A) scholars may be required to credit the Old Testament with greater historical accuracy

(B) crediting the Old Testament with greater historical accuracy may be required of scholars

(C) require that scholars are to credit the Old Testament with greater historical accuracy

(D) crediting the Old Testament with greater historical accuracy may be a scholarly requirement

(E) require scholars to credit the Old Testament with greater historical accuracy

GO ON TO THE NEXT PAGE.

5. The Immigration Service now has the discretionary power to keep families united even though all their members do not meet the five-year residency requirement.

(A) all their members do not meet the five-year residency requirement

(B) not all their members meet the five-year residency requirement

(C) all their members have not met the requirement for a five-year residency

(D) not all their members have resided for five years, a requirement

(E) all their members have not resided for five years, as required

6. Many economists predict that the next recession, when it comes, will be caused by Federal Reserve action taken to prevent an inflationary upsurge that would result if the economy were to expand at an annual rate of three percent or more.

(A) taken to prevent an inflationary upsurge that would result

(B) they took for preventing an inflationary upsurge that would result

(C) taken to prevent an inflationary upsurge resulting

(D) they took to prevent an inflationary upsurge resulting

(E) taken for preventing an inflationary upsurge that will result

7. Cartographers have long struggled with the problem of having the spherical Earth to draw on a flat sheet of paper.

(A) having the spherical Earth to draw on a flat sheet of paper

(B) having a flat sheet of paper on which to draw the spherical Earth

(C) how can one draw the spherical Earth on a flat sheet of paper

(D) how they could use a flat sheet of paper to draw the spherical Earth

(E) how to draw the spherical Earth on a flat sheet of paper

8. Contrary to the scholarly wisdom of the 1950's and early 1960's that predicted the processes of modernization and rationalization would gradually undermine it, ethnicity is a worldwide phenomenon of increasing importance.

(A) would gradually undermine it

(B) to be a gradual undermining of it

(C) would be a gradual undermining of ethnicity

(D) to gradually undermine ethnicity

(E) gradually undermining it

9. In a leveraged buyout, investors borrow huge sums of money to buy companies, hoping to pay off the debt by using the company's earnings and to profit richly by the later resale of the companies or their divisions.

(A) by using the company's earnings and to profit

(B) by using the companies' earnings and by profiting

(C) using the companies' earnings and profiting

(D) with the company's earnings, profiting

(E) with the companies' earnings and to profit

10. Tektites, which may have been propelled to Earth from lunar volcanoes, are much like the volcanic glass obsidian, but their chemical composition is different than any terrestrial lava; they contain far less water than obsidian does and none of its characteristic microcrystals.

(A) is different than any terrestrial lava; they contain

(B) is different than any terrestrial lava's, containing

(C) is different from that of any terrestrial lava; they contain

(D) differs from any terrestrial lava in containing

(E) differs from that of any terrestrial lava's, containing

11. The rise in the price of crabmeat and an increase in demand has convinced some Floridians they should try to harvest and sell a species of large crab that lives deep in the waters of the Gulf of Mexico.

(A) has convinced some Floridians they should try to harvest and sell a species of large crab

(B) has convinced some Floridians to try harvesting and selling a large crab species

(C) has convinced some Floridians that they should try the harvest and sale of a large crab species

(D) have convinced some Floridians to try to harvest and sell a species of large crab

(E) have convinced some Floridians to try and harvest and sell a large crab species

GO ON TO THE NEXT PAGE.

12. In the late nineteenth century Annie Besant was widely regarded as one of the greatest living public orators, second only to Gladstone in a culture where oratory was the dominant public medium.

(A) as one of the greatest living public orators, second only

(B) to be one of the greatest living public orators, secondary only

(C) that she was one of the greatest living public orators, secondary only

(D) as being one of the greater living public orators she was only second

(E) to be greater than most other living public orators, and she was second only

13. A large and increasingly influential sector of publishing, 20 percent of all the National and American Book awards since 1950 have gone to university-press books.

(A) A large and increasingly influential sector of publishing, 20 percent of all the National and American Book awards since 1950 have gone to university-press books.

(B) A large and increasingly influential sector of publishing, university-press books have won 20 percent of all the National and American Book awards since 1950.

(C) Increasingly influential as a large sector of publishing, 20 percent of all the National and American Book awards since 1950 have gone to university-press books.

(D) Since 1950, a large and increasingly influential sector of publishing, 20 percent of all the National and American Book awards have gone to university-press books.

(E) Since 1950, university-press books, a large and increasingly influential sector of publishing, won 20 percent of all the National and American Book awards from then on.

14. With cloning technology, scientists are approaching what has long been the ultimate goal of modern husbandry: achieving a consistency of quality and production in farm animals as once thought to be limited to manufactured goods.

(A) achieving a consistency of quality and production in farm animals as once thought to be

(B) achieving farm animals with a consistency of quality and production as were once thought of as

(C) achieving in farm animals a consistency of quality and production that was once thought to be

(D) achievement of farm animals whose consistency of quality and production are the same as what were once thought to he

(E) achievement of farm animals at a consistency of quality and production once thought of as

15. Under the 1986 tax law, interest payments on a refinanced home loan are deductible only if the amount of the loan does not exceed the purchase price of the home, the cost of improvements, and any additional amount borrowed against the home to pay for medical or educational expenses.

(A) any additional amount borrowed against the home to pay for medical or educational expenses

(B) borrowing any additional amount against the home for payment of medical or educational expenses

(C) also borrowing any additional amount against the home to pay for medical or educational expenses

(D) any additional payment of medical or educational expenses that were borrowed against the home

(E) any additional payment borrowed against the home for medical or educational expenses

16. No matter how patiently they explain their reasons for confiscating certain items, travelers often treat customs inspectors like wanton poachers rather than government employees.

(A) travelers often treat customs inspectors like wanton poachers rather than government employees

(B) travelers often treat customs inspectors as wanton poachers instead of government employees

(C) travelers often treat customs inspectors as if they were not government employees but wanton poachers

(D) customs inspectors are often treated by travelers as if they were wanton poachers rather than government employees

(E) customs inspectors are often treated not like government employees but wanton poachers by travelers

GO ON TO THE NEXT PAGE.

17. Asset allocators create portfolios, often in the form of of mutual funds, with the intention to turn in good results in both “bull” and “bear” markets.

(A) with the intention

(B) the intention of which is

(C) intended

(D) and intending

(E) so intended as

18. Many environmentalists believe that the widespread planting of trees, along with the conservation of existing forests, would be one of the surest, easiest, and least expensive ways to begin to halt or even to reverse the buildup of carbon dioxide in the air.

(A) one of the surest, easiest, and least expensive ways to begin to halt or even to reverse

(B) one of the most sure, easy, and least expensive ways to begin a halt or even reverse

(C) one of the surest, easiest, and least expensive ways that would begin halting or even reversing

(D) a most sure, easy, and inexpensive way beginning the halting and even reversing of

(E) the most sure, easiest, and inexpensive way that would begin halting or even reversing

19. Turkey’s economy has grown prodigiously over the past ten years, averaging an annual increase each year that is about eight percent —one of the highest growth rates in the world.

(A) averaging an annual increase each year that is about eight percent

(B) with an annual average each year which is about eight percent

(C) eight percent is what it averages out to each year

(D) with an average annual increase of about eight percent

(E) the average of the annual increase each year is about eight percent

20. The skill and the precision of the Anasazi, ancient inhabitants of the Southwest, in measuring the movements of the Sun and Moon is evidenced not only at Chaco Canyon but at a number of other sites.

(A) in measuring the movements of the Sun and Moon is evidenced not only at

(B) in measuring the movements of the Sun and Moon are evidenced not only at

(C) in measuring the movements of the Sun and Moon is evidenced at not only

(D) to measure the movements of the Sun and Moon is evidenced at not only

(E) to measure the movements of the Sun and Moon are evidenced not only at

21. Art historians are using a process known as infrared scanning in analyzing the Mona Lisa to determine if it has been altered since completion and if Leonardo da Vinci first sketched the figure in black, as done by many artists of the time.

(A) if it has been altered since completion and if Leonardo da Vinci first sketched the figure in black, as done

(B) if it had been altered since completion and if Leonardo da Vinci first sketched the figure in black, a practice employed

(C) whether it has been altered since completion and whether Leonardo da Vinci first sketched the figure in black, a practice employed

(D) whether it was altered since completion and whether Leonardo da Vinci first sketched the figure in black, as was done

(E) whether it had been altered since completion and whether Leonardo da Vinci first sketched the figure in black, a practice done

GO ON TO THE NEXT PAGE.

22. For people who have never worked for a living, any job <u>may instill a valuable sense of self-worth and open doors to better jobs in the future</u>.

(A) may instill a valuable sense of self-worth and open doors to better jobs in the future

(B) might instill for them a valuable sense of self-worth and to open doors to better jobs in the future

(C) may, in them, instill a valuable sense of self-worth, opening their doors to better jobs in the future

(D) opening the door later for a better job and giving them a valuable sense of self-worth now

(E) may open the door for a better job later and giving them a valuable sense now of their self-worth

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: 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. The number 0.756 is how much greater than $\frac{3}{4}$?

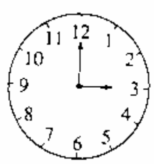
(A) $\frac{6}{25}$

(B) $\frac{3}{125}$

(C) $\frac{3}{250}$

(D) $\frac{3}{500}$

(E) $\frac{1}{250}$



2. Between 3:00 am. and 3:00 p.m. of the same day, the minute hand of a properly operating clock, indicated by the figure above, will turn through how many degrees?

(A) 0

(B) 1,200

(C) 2,160

(D) 4,320

(E) 8,640

3. $(n+k)^2 - 2nk =$

(A) $n^2 + k^2$

(B) n^2

(C) 0

(D) $n^2 - k^2$

(E) $(n-k)^2$

4. If Jake loses 8 pounds, he will weigh twice as much as his sister. Together they now weigh 278 pounds. What is Jake's present weight, in pounds?

(A) 131

(B) 135

(C) 139

(D) 147

(E) 188

5. Ms. Jiminez plans an automobile trip of 7,000 to 9,000 miles. The cost of gasoline will be 85 to 95 cents per gallon, and her automobile will average 20 to 30 miles per gallon. What is the maximum possible cost of the gasoline for the trip?

(A) \$485.00

(B) \$427.50

(C) \$382.50

(D) \$297.50

(E) \$256.00

6. If x is a prime number greater than 2, which of the following could be a prime number?

(A) x^2

(B) $\frac{x}{2}$

(C) $3x$

(D) x - 4

(E) $x^2 + 1$

GO ON TO THE NEXT PAGE.

7. A merchant made a gross profit of $40 from the sale of a vase. If this gross profit was 25 percent of the cost of the vase to the merchant, for how many dollars more should the merchant have sold the vase for the gross profit to have been 30 percent of the cost?

(A) $2

(B) $5

(C) $8

(D) $10

(E) $12

8. If the ratio of 4 to $5\frac{1}{2}$ is equal to the ratio of y to $2\frac{3}{8}$, then $y =$

(A) $\frac{11}{8}$

(B) $\frac{3}{2}$

(C) $\frac{14}{9}$

(D) $\frac{19}{11}$

(E) $\frac{15}{8}$

9. If the sum of the lengths of the edges of a cube is 60, the volume of the cube is

(A) 1,000

(B) 422

(C) 216

(D) 150

(E) 125

10. Ann can have her bicycle repaired for $50, or she can trade it in, as is, and receive $22 credit toward the purchase of a new bicycle that sells for $107. If Ann trades in her current bicycle, the cost to her of purchasing the new bicycle is what percent greater than the cost of having her current bicycle repaired?

(A) 44%

(B) 60%

(C) 70%

(D) 114%

(E) 170%

11. At a constant speed of 72 kilometers per hour, a vehicle travels how many kilometers per second?

(A) 0.02

(B) 0.2

(C) 0.6

(D) 1.2

(E) 6.0

12. Kim has 40 percent more money than Sal and Sal has 20 percent less money than Phil. If Sal and Phil have a combined total of $1.80, how much money does Kim have?

(A) $1.00

(B) $1.12

(C) $1.20

(D) $1.32

(E) $1.40

13. A company wants to spend equal amounts of money for the purchase of two types of computer printers costing $600 and $375 per unit, respectively. What is the fewest number of computer printers that the company can purchase?

(A) 13

(B) 12

(C) 10

(D) 8

(E) 5

14. The average (arithmetic mean) of 9 scores is N. If a 10th score is then included with the original 9, the average of the 10 scores is T. Which of the following expressions represents the value of the 10th score?

(A) $10(T - N)$

(B) $10T - 9N$

(C) $\frac{10T - 9N}{10}$

(D) $\frac{10T - 9N}{9}$

(E) $\frac{10T - 9N}{2}$

GO ON TO NEXT PAGE.

15. If n is a positive integer, the sum of the integers from 1 to n, inclusive, equals $\frac{n(n+1)}{2}$. Which of the following equals the sum of the integers from 1 to $2n$, inclusive?

(A) $n(n + 1)$

(B) $\frac{n(2n+1)}{2}$

(C) $n(2n + 1)$

(D) $2n(n + 1)$

(E) $2n(2n + 1)$

16. If x is the average (arithmetic mean) of 5 consecutive even integers, which of the following must be true?

I. x is an even integer.

II. x is a nonzero integer.

III. x is a multiple of 5.

(A) I only

(B) III only

(C) I and II only

(D) I and III only

(E) I, II, and III

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.

ANSWER KEY – Test Code 55

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

CONVERSION TABLE FOR VERBAL AND QUANTITATIVE SCORES

Graduate Management Admission Test, Code 55

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

CONVERSION TABLE FOR TOTAL SCORES

Graduate Management Admission Test, Code 55

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

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 33, 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 34 and 35 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 ate 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.