

Chapter 22 GMAT Math and Verbal Warm-Up Test

The purpose of this 60-minute test is to get a rough idea of your current scoring range on the Math and Verbal sections of the GMAT and rough percentiles. Using these scores as a guide, you can then select from the bins of practice questions that follow to improve your performance.

According to the test makers, the computer-adaptive sections of the GMAT hones in on your approximate scoring level after only a few questions. You then spend the rest of the test time answering questions from around that level of difficulty, chosen by the computer from bins of potential questions.

To further refine your assessment of where you are right now, we recommend that you take one of The Princeton Review computer-adaptive tests (available free online). See the So Much More Online section at the beginning of this book for details. We also highly recommend that you take an actual computer-adaptive GMAT, downloadable for free from the GMAT website at www.mba.com.

Math Test Time—30 Minutes 20 Questions

This test is composed of both problem solving questions and data sufficiency questions.

Problem Solving Directions: Solve each problem and choose the best of the answer choices provided.

Data Sufficiency Directions: Data sufficiency problems consist 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 select

- (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.

1. If $(16)(3)^2 = x(2^3)$, then x =

- (A) 81
- (B) 72
- (C) 18
- (D) 16
- (E) 8

2. By how many dollars was the price of a certain portable tape recorder reduced during a sale?

- (1) During the sale, the price of the tape recorder was reduced by 25 percent.
- (2) The price of the tape recorder after the reduction was \$36.
- (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.

- 3. At a certain softball tournament, 65 percent of the players traveled more than 200 miles to participate. If 720 players took part in the softball tournament, what is the difference between the number of participants who traveled more than 200 miles and the number of participants who traveled 200 miles or less?
 - (A) 108
 - (B) 216
 - (C) 252
 - (D) 468
 - (E) 655
- 4. If r s = 240, does r = 320?
 - (1) r = 4s
 - (2) s = 80
- (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.

- 5. If a heavy-load trailer traveled 7 miles in 1 hour and 10 minutes, what was its speed in miles per hour?
 - (A) 6
 - (B) 6.5
 - (C) 8
 - (D) 8.5
 - (E) 10
- 6. Bob purchased 18 cans of soda, some of which contained diet soda. How many of the cans did not contain diet soda?
 - (1) Of the cans Bob purchased, the number containing diet soda is equal to the number not containing diet soda.
 - (2) Of the cans Bob purchased, the number containing diet soda is odd.
- (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

7. If y is an odd integer, which of the following must be an even integer?



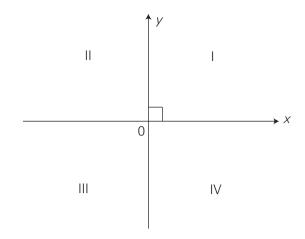
(B)
$$y + 6$$

(C)
$$2y - 1$$

(E)
$$3y + 1$$

8. At Perry High School, the ratio of students who participate in either the band program or the choral program to students who participate in neither program is 3 to 8. If 220 students attend Perry High School, how many of them do NOT participate in either program?





- 9. If $wxyz \neq 0$, in what quadrant of the coordinate system above does point (x, y) lie?
 - (1) (x, z) lies in quadrant I.
 - (2) (w, y) lies in quadrant III.
- (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.

- 10. Laura borrowed \$240, interest free, from her parents to pay for her college education. If she pays back $2\frac{1}{2}$ percent of this amount quarterly, and has already paid \$42.00, for how many months has she been paving back her loan?
 - 6 (A)
 - (B) 7
 - (C) 19
 - (D) 21
 - (E) 24
- 11. If x and y are positive integers, is x a factor of 12?
 - (1) The product xy is a factor of 12.
 - (2) y = 3
- (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.

- 12. A zebra must get water from either a stream or pond. Which of the two sources of water is closer to the zebra's current position?
 - (1) Moving at a constant rate, it takes the zebra 2 hours to reach the stream from its current position.
 - (2) Moving at a constant rate, it takes the zebra 2 hours to reach the pond from the stream.
- (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. What is the value of $x^2 y^2$?

(1)
$$x - y = 0$$

(2)
$$x + y = 4$$

- (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.

- 14. If when a certain integer x is divided by 5 the remainder is 2, then each of the following could also be an integer EXCEPT

 - (B)
 - (C)
 - (D)
 - (E)
- 15. If a mixture of ground meat consists of 2 pounds of veal that costs x dollars per pound, and 5 pounds of beef that costs y dollars per pound, what is the cost, in dollars, per pound of the mixture?
 - (A) 2x + 5y

 - (C) 5(2x + 5y)
 - (D) x + y

16. Is 0 < y < 1?

(1)
$$0 < \sqrt{y} < 1$$

(2)
$$y^2 = \frac{1}{4}$$

- (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.
- 17. If a and b are positive integers, is the product ab odd?
 - (1) b = 3
 - (2) a and b are consecutive integers.
- (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.

18. Last year, an appliance store sold an average (arithmetic mean) of 42 microwave ovens per month. In the first 10 months of this year, the store has sold an average (arithmetic mean) of only 20 microwaves per month. What was the average number of microwaves sold per month during the entire 22-month period?

(A)	21

19. A and B are the end points of the longest line that can be drawn in a circle with center X. If C is a point on the circle such that AC = AX = 3, what is the perimeter of triangle ABC?

(A)
$$\frac{9\sqrt{3}}{2}$$

(C)
$$6 + 3\sqrt{3}$$

(D)
$$9 + 3\sqrt{3}$$

(E)
$$9\sqrt{3}$$

ADVANCED PURCHASE DISCOUNTS FOR AIRLINE TRAVEL	
Days Prior to Departure	Percentage Discount
0–6 days	0%
7–13 days	10%
14–29 days	25%
30 days or more	40%

- 20. The table above shows the discount structure for advanced purchase of tickets at a particular airline. A passenger bought a ticket at this airline for \$1,050. The ticket agent informed her that, had she purchased the ticket one day later, she would have paid \$210 more. How many days before her departure did she purchase her ticket?
 - (A)6 days
 - (B) 7 days
 - (C) 13 days
 - (D) 14 days
 - (E) 29 days

Verbal Test Time—30 Minutes 20 Questions

This test is made up of sentence correction, critical reasoning, and reading comprehension questions.

Sentence Correction Directions: In sentence corrections, 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 the best version and select the corresponding letter.

Reading Comprehension Directions: After reading the passage, choose the best answer to each question. Answer all questions following a passage on the basis of what is stated or implied in that passage.

<u>Critical Reasoning Directions</u>: Select the best of the answer choices given.

- 21. Unseasonable weather in the months before a wine harvest can cool vineyards in the Bordeaux region enough to affect the overall size of the grapes themselves, create unwanted moisture that can cause mold in some grape varieties and deterioration in others.
- (A) to affect the overall size of the grapes themselves,
- (B) to affect the overall size of the grapes themselves, and create
- (C) that the overall size of the grapes themselves are affected, create
- (D) that it affects the overall size of the grapes themselves, creates
- (E) that the size of the grapes are affected and creates

- 22. It is posited by some scientists that the near extinction of the sap-eating gray bat of northwestern America was caused by government-sponsored logging operations in the early 1920s that greatly reduced the species' habitat.
 - Which of the following, if true, most strongly weakens the scientists' claims?
- (A) Logging operations in the 1920s are widely held responsible for the near extinction of other species that lived in the same area.
- (B) A boom in new home construction in the early 1920s led congress to open federal lands to logging operations.
- (C) A 5-year drought in the early 1920s severely reduced the output of sap in trees in northwestern America.
- (D) Numbers of sightings of sap-eating gray bats fell to their lowest numbers in 1926.
- (E) Sightings of sap-eating gray bats in Europe stayed roughly the same during the same period.

- 23. Upset by the recent downturn in production numbers during the first half of the year, the possibility of adding worker incentives was raised by the board of directors at its quarterly meeting.
- (A) the possibility of adding worker incentives was raised by the board of directors at its quarterly
- (B) the addition of worker incentives was raised as a possibility by the board of directors at its quarterly meeting
- (C) added worker incentives was raised by the board of directors at its quarterly meeting as a possibility
- (D) the board of directors raised at its quarterly meeting the possibility of worker incentives being added
- (E) the board of directors, at its quarterly meeting, raised the possibility of adding worker incentives

24. Whenever a major airplane accident occurs, there is a dramatic increase in the number of airplane mishaps reported in the media, a phenomenon that may last for as long as a few months after the accident. Airline officials assert that the publicity given the gruesomeness of major airplane accidents focuses media attention on the airline industry, and the increase in the number of reported accidents is caused by an increase in the number of news sources covering airline accidents, not by an increase in the number of accidents.

Which of the following, if true, would seriously weaken the assertions of the airline officials?

- (A) The publicity surrounding airline accidents is largely limited to the country in which the crash occurred.
- (B) Airline accidents tend to occur far more often during certain peak travel months.
- (C) News organizations do not have any guidelines to help them decide how severe an accident must be for it to receive coverage.
- (D) Airplane accidents receive coverage by news sources only when the news sources find it advantageous to do so.
- (E) Studies by government regulators show that the number of airplane flight miles remains relatively constant from month to month.

Verbal

Questions 25-28 are based on the following passage:

a company for long-term growth and expansion in a variety of markets by analyzing its strengths and Line weaknesses and examining current and potential (5) opportunities. Based on this information, the company develops strategy for itself. That strategy then

The function of strategic planning is to position

becomes the basis for supporting strategies for its various departments. This is where all too many strategic plans go (10) astray—at implementation. Recent business man-

agement surveys show that most CEOs who have a strategic plan are concerned with the potential breakdown in the implementation of the plan. Unlike 1980s corporations that blindly followed their (15) 5-year plans, even when they were misguided,

today's corporations tend to second-guess.

Outsiders can help facilitate the process, but in the final analysis, if the company doesn't make the plan, the company won't follow the plan. This was (20) one of the problems with strategic planning in the 1980s. In that era, it was an abstract, top-down process involving only a few top corporate officers and hired guns. Number crunching experts came into a company and generated tome-like volumes (25) filled with a mixture of abstruse facts and grand

theories which had little to do with the day-to-day realities of the company. Key middle managers were left out of planning sessions, resulting in lost opportunities and ruffled feelings.

However, more hands-on strategic planning can produce startling results. A recent survey queried more than a thousand small-to-medium sized businesses to compare companies with a strategic plan to companies without one. The survey found (35) that companies with strategic plans had annual revenue growth of 6.2 percent as opposed to 3.8

percent for the other companies.

Perhaps most important, a strategic plan helps companies anticipate—and survive— change.

(40) New technology and the mobility of capital mean that markets can shift faster than ever before. Some financial analysts wonder why they should bother planning two years ahead when market dynamics might be transformed by next quarter.

(45) The fact is that it's the very pace of change that makes planning so crucial. Now, more than ever, companies have to stay alert to the marketplace. In an environment of continual and rapid change, long-range planning expands options and

(50) organizational flexibility.

- 25. The primary purpose of the passage is to
- refute the idea that change is bad for a corporation's long-term health
- (B) describe how long-term planning, despite some potential pitfalls, can help a corporation to grow
- (C) compare and contrast two styles of corporate planning
- evaluate the strategic planning goals of corpo-(D) rate America today
- defend a methodology that has come under (E) sharp attack
- 26. It can be inferred from the passage that, in general, strategic planning during the 1980s had all of the following shortcomings EXCEPT
 - a reliance on outside consultants who did not necessarily understand the nuts and bolts of the business
- a dependence on theoretical models that did not always perfectly describe the workings of the company
- an inherent weakness in the company's own (C) ability to implement the strategic plan
- an excess of information and data that made it (D) difficult to get to key concepts
- (E) the lack of a forum for middle managers to express their ideas
- 27. The author most likely mentions the results of the survey of 1,000 companies in order to
- (A)put forth an opposing view on strategic plans so that she can then refute it
- illustrate that when strategic planning is (B) "hands-on," it produces uninspiring results
- (C) give a concrete example of why strategic planning did not work during the 1980s
- support her contention that strategic planning, (D) when done correctly, can be very successful
- give supporting data to prove that many compa-(E) nies have implemented strategic plans

- 28. The passage suggests which of the following about the "financial analysts" mentioned in lines 41-44?
- They believe that strategic planning is the key to weathering the rapid changes of the marketplace.
- (B) They are working to understand and anticipate market developments that are two years
- (C) Their study of market dynamics has led them to question the reliability of short-term planning
- (D) They might not agree with the author that one way to survive rapidly changing conditions comes from long-range planning.
- (E) They consider the mobility of capital to be a necessary condition for the growth of new technology.
- 29. The Internal Revenue Service has directed that taxpayers who generate no self-employment income can no longer deduct home offices, home office expenses, or nothing that was already depreciated as a business expense the previous year.
- (A) or nothing that was already
- (B) or that was already
- (C) or anything that was already
- (D) and anything
- and nothing that already was (E)

30. Informed people generally assimilate information from several divergent sources before coming to an opinion. However, most popular news organizations view foreign affairs solely through the eyes of our State Department. In reporting the political crisis in foreign country B, news organizations must endeavor to find alternative sources of information.

Which of the following inferences can be drawn from the argument above?

- To the degree that a news source gives an (A)account of another country that mirrors that of our State Department, that reporting is
- (B) To protect their integrity, news media should avoid the influence of State Department releases in their coverage of foreign affairs.
- (C) Reporting that is not influenced by the State Department is usually more accurate than are other accounts.
- (D) The alternative sources of information mentioned in the passage might not share the same views as the State Department.
- A report cannot be seen as influenced by the (E) State Department if it accurately depicts the events in a foreign country.

Verbal

- 31. When automatic teller machines were first installed in the 1980s, bank officials promised they would be faster, more reliable, and less prone to make errors than their human counterparts.
- (A) they would be faster, more reliable, and less prone to make errors
- (B) they would be faster, more reliable, and that they would be less prone for making errors
- (C) the machines would be faster, more reliable. and less prone to make errors
- (D) the machines were faster, more reliable, and errors would occur much less
- faster, more reliable machines, and that errors (E) would be less prone
- 32. With its plan to create a wildlife sanctuary out of previously unused landfill, Sweden is but one of a number of industrialized nations that is accepting its responsibility to protect endangered species and promote conservation.
- is accepting its responsibility to protect endan-(A) gered species and promote
- is accepting its responsibility for protecting (B) endangered species and promoting
- are accepting its responsibility to protect en-(C) dangered species and promoting
- (D) are accepting of their responsibility to protect endangered species and to promote
- (E) are accepting their responsibility to protect endangered species and promote

33. A decade after a logging operation in India began cutting down trees in a territory that serves as a sanctuary for Bengal tigers, the incidence of tigers attacking humans in nearby villages has increased by 300 percent. Because the logging operation has reduced the number of acres of woodland per tiger on average from 15 acres to approximately 12 acres, scientists have theorized that tigers must need a minimum number of acres of woodland in order to remain content.

Which of the following statements, if true, would most strengthen the scientists' hypothesis?

- (A)In other wildlife areas in India where the number of acres of woodland per tiger remains at least 15 acres, there has been no increase in the number of tiger attacks on humans.
- Before the logging operation began, there were many fewer humans living in the area.
- The largest number of acres per tiger before the (C) logging operation began was 32 acres per tiger in one area of the sanctuary, whereas the smallest number of acres per tiger after the logging operation was 9 acres.
- (D) Other species of wild animals have begun competing with the Bengal tigers for the dwindling food supply.
- The Bengal tiger has become completely ex-(E) tinct in other areas of Asia.

- 34. The machine press union and company management were not able to communicate effectively, and it was a major cause of the 1999 strike in Seattle
- (A) The machine press union and company management were not able to communicate effectively, and it
- (B) Communications between the machine press union and company management were not effective, and it
- (C) For the machine press union and company management, to be unable to communicate effectively
- (D) The inability of the machine press union and company management to communicate effectively
- (E) The machine press union, being unable to communicate effectively with company management,
- 35. A greater number of fresh vegetables are sold in City X than in City Y. Therefore, the people in City X have better nutritional habits than those in City Y.

Each of the following, if true, weakens the conclusion above EXCEPT:

- (A)City *X* has more people living in it than City *Y*.
- Most of the people in City Y work in City X and (B) buy their vegetables there.
- The people in City X buy many of their vegeta-(C) bles as decorations, not to eat.
- (D) The per capita consumption of junk food in City X is three times that of City Y.
- (E) The average price per pound of vegetables in City *Y* is lower than the average price per pound of vegetables in City X.

- 36. Heavy metals, toxic waste by-products that can cause tumors in fish, are generally found in the waters off industrial shorelines, but have been discovered in trace amounts even in the relatively pristine waters of the South Pacific.
 - (A)are generally found in the waters off industrial shorelines, but have been discovered in trace amounts even
 - (B) are generally to be found in the waters off industrial shorelines, and have even been discovered in trace amounts
 - can, in general, be found in the waters off in-(C) dustrial shorelines, and have been discovered in trace amounts even
 - (D) had generally been found in the waters off industrial shorelines, but have even been discovered in trace amounts
- are found generally in the waters off industrial (E) shorelines, but have been discovered in a trace amount even

Verbal

Questions 37-40 are based on the following passage:

In Roman times, defeated enemies were generally put to death as criminals for having offended the emperor of Rome. In the Middle Ages, howev-Line er, the practice of ransoming, or returning prisoners (5) in exchange for money, became common. Though some saw this custom as a step toward a more humane society, the primary reasons behind it were economic rather than humanitarian.

In those times, rulers had only a limited ability to (10) raise taxes. They could neither force their subjects to fight nor pay them to do so. The promise of material compensation in the form of goods and ransom was therefore the only way of inducing combatants to participate in a war. In the Middle

(15) Ages, the predominant incentive for the individual soldier was the expectation of spoils. Although collecting ransom clearly brought financial gain, keeping a prisoner and arranging for his exchange had its costs. Consequently, procedures were de-(20) vised to reduce transaction costs.

One such device was a rule asserting that the prisoner had to assess his own value. This compelled the prisoner to establish a value without too much distortion; indicating too low a value would (25) increase the captive's chances of being killed, while indicating too high a value would either ruin him financially or create a prohibitively expensive ransom that would also result in death.

- 37. The primary purpose of the passage is to
- (A)discuss the economic basis of the medieval practice of exchanging prisoners for ransom
- (B) examine the history of the treatment of prisoners of war
- emphasize the importance of a warrior's code (C) of honor during the Middle Ages
- explore a way of reducing the costs of ransom (D)
- demonstrate why warriors of the Middle Ages (E) looked forward to battles
- 38. It can be inferred from the passage that a medieval soldier
- was less likely to kill captured members of opposing armies than was a soldier of the Roman Empire
- (B) operated on a basically independent level and was motivated solely by economic incentives
- (C) had few economic options and chose to fight because it was the only way to earn an adequate living
- (D) was motivated to spare prisoners' lives by humanitarian rather than economic ideals
- (E) had no respect for his captured enemies since captives were typically regarded as weak

- 39. Which of the following best describes the change in policy from executing prisoners in Roman times to ransoming prisoners in the Middle Ages?
- (A) The emperors of Rome demanded more respect than did medieval rulers, and thus Roman subjects went to greater lengths to defend their nation.
- It was a reflection of the lesser degree of direct control medieval rulers had over their subiects.
- (C) It became a show of strength and honor for warriors of the Middle Ages to be able to capture and return their enemies.
- (D) Medieval soldiers were not as humanitarian as their ransoming practices might have indi-
- (E) Medieval soldiers demonstrated more concern about economic policy than did their Roman counterparts.

- 40. The author uses the phrase "without too much distortion" (lines 23-24) in order to
- indicate that prisoners would fairly assess their (A)
- (B) emphasize the important role medieval prisoners played in determining whether they should be ransomed
- explain how prisoners often paid more than an (C) appropriate ransom in order to increase their chances for survival
- (D) suggest that captors and captives often had understanding relationships
- show that when in prison a soldier's view could (E) become distorted

END OF WARM-UP TEST