

College of Admission Tests

Test Taker's Help Series



CAT

Sample Paper

The Sample Paper is provided to familiarize you with the contents of GMAT – Graduate Management Assessment Test. Note; however, this sample paper is not intended to be the actual paper but it is similar to the actual.

GMAT



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Sample Paper for GMAT

Graduate Management Admission Test
For MB, EMBA & PhD. Management Sessions



Purpose of this sample paper is to familiarize the test taker with the question types that appear on the actual test.

Quantitative

37 Questions 75 Minutes

Directions

Problem Solving Questions

For each of the following questions, choose the correct answer. To simulate the experience of taking the CAT, answer each question in order. Do not skip any questions, and do not have back to any questions you have already answered.

Numbers: All numbers used are real numbers.

Figures: The diagrams and figures that

accompany these questions are for the purpose of providing information useful in answering the questions. Unless it is stated that a specific figure is not drawn to scale, the diagrams and figures are drawn as accurately as possible. All figures are in a plane unless otherwise indicated.

Data Sufficiency Questions

Each question is followed by two numbered facts. You are to determine whether the data given in the statements are sufficient for answering the question. Use the data given, plus your knowledge of math and everyday facts, to choose between the five possible answers

Example:

- Which copy machine, X or Y, makes copies at the faster rate?
(1) Machine X makes 90 copies per minute.
(2) In three minutes, X makes 1.5 more copies than Y.
 - statement 1 alone is sufficient to answer the question, but statement 2 alone is not sufficient.
 - statement 2 alone is sufficient to answer the question, but statement 1 alone is not sufficient

- both statements together needed to answer the question, but neither statement alone is sufficient
- either statement by itself is sufficient to answer the question
- not enough facts are given to answer the question

The correct answer is (B).

Start the Question 1 to 37

- Rehana is now 4 years older than Erik and half of that amount older than Iris. If in 2 years, Rehana will be twice as old as Erik, then in 2 years what would be Rehana's age multiplied by Iris's age?
 - 8
 - 28
 - 48
 - 50
 - 52

The correct answer is C.

Translate piece by piece into numbers. R (Rehana) = Erik (E) + 4. The second equation: R = I (Iris) + 2. The third equation: R + 7 = 2(E + 7). We have three equations with three variables. → Rehana is 6, Iris is 4 and Erik is 2. In four years Erik would be 6 and Iris 8, the answer is

- An investment yields an interest payment of \$228 each month. If the simple annual interest rate is 9%, what is the amount of the investment?

- A. \$28,300
 B. \$30,400
 C. \$31,300
 D. \$32,500
 E. \$35,100

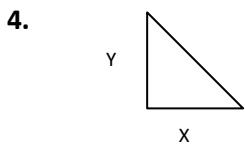
The correct answer is B.

Principal \times percent interest \times time = interest earned
 Principle \times (0.09) \times 1/12 = \$228. Solve to find the principal $(228 \times 12)/0.09 = \$30,400$.

3. X, Y, Z, and W are integers. The expression X-Y-Z is even and the Expression Y-Z-W is odd. If X is even what must be true?
- A. Y-Z must be odd.
 B. W must be even.
 C. W must be odd.
 D. W must be even.
 E. Z must be odd

The correct answer is C.

The first expression is even and the second is odd, the only difference between the expressions is that the first expression has X and the second has W. So, if X is even W must be odd and



X and Y are two sides of a triangle, is the area of the triangle an integer?

- (1) X is a prime number.
 (2) Y is an odd integer.

- A. Statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not.
 B. Statement (2) BY ITSELF is sufficient to answer the question, but statement (1) by itself is not.
 C. Statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient.
 D. Either statement BY ITSELF is sufficient to answer the question.

- E. Statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem.

The correct answer is E.

The area of the triangle is $XY/2$. Statement (1) tells us that X is a prime number, that can be even (2) or odd (3, 5, 7, etc.).

Statement (2) tells us that Y is an odd integer.

The multiplication of X and Y can be an odd number or an even number, thus we cannot determine if the area of the triangle is an integer or not.

5. Fuel tanker A can fill the underground reservoir in 12 minutes. How long will it take fuel tanker A and fuel tanker B to fill up the same reservoir together?
- (1) The reservoir contains 3000 liters of fuel.
 (2) Fuel tanker B alone will require the same number of hours to fill the same reservoir.
- A. Statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not.
 B. Statement (2) BY ITSELF is sufficient to answer the question, but statement (1) by itself is not.
 C. Statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient.
 D. Either statement BY ITSELF is sufficient to answer the question.
 E. Statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem.

The correct answer is B.

Statement (1) is insufficient since the size of the reservoir is irrelevant.

Statement (2) is sufficient since it tells us that the second tanker has the same work rate as the first. So, it will take them both half the time it took the first tanker alone.

6. Q is a prime number bigger than 10. What is the smallest positive number (except 1) that 3Q can be divided by equally?
- A. 3Q.

- B. Q
- C. 3
- D. Q+3
- E. 2Q

The correct answer is C.

3Q is a prime number so it can be divide equally by 3Q, by 1 and by the components 3 and Q. The smallest number therefore is 3.

7. In a box there are A green balls, 3A + 6 red balls and 2 yellow ones. If there are no other colors, what is the probability of taking out a green or a yellow ball?
- A. 1/5.
 - B. 1/2.
 - C. 1/3
 - D. 1/4.
 - E. 2/3

The correct answer is D.

The number of green and yellow balls in the box is A+2. The total number of balls is 4A +8.

The probability of taking out a green or a yellow ball is: $\frac{A+2}{4A+8} = \frac{1}{4}$.

8. Kelly used to get a 30% discount on movie tickets. When the price of the movie ticket increased by 50%, the amount of discount in dollars remained the same. What is Kelly's discount with the new Ticket price in percent terms?
- A. 10%
 - B. 20%
 - C. 25%
 - D. 35%
 - E. 38%

The correct answer is B.

The price of the ticket is unknown. It would be most convenient to plug in 100 as the price of the ticket.

A 30% discount of 100 is \$30, that amount remained

the same after the price of a ticket increased by 50%. The new price of a ticket is \$150, so 30/150 is 20%.

9. Is the square root of A an integer?
- (1) The last digit of A is 8.
 - (2) A is divisible by 6.
- A. Statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not.
 - B. Statement (2) BY ITSELF is sufficient to answer the question, but statement (1) by itself is not.
 - C. Statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient.
 - D. Either statement BY ITSELF is sufficient to answer the question.
 - E. Statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem.

The correct answer is A.

If you square each digit {0, 1, 2,..., 8, 9}, you will see that the possible last digits for a square are 0, 1, 4, 5, 6 and 9. Thus, if the last digit of A is 8, A cannot be a square and the square root of A is not an integer. Statement (1) by itself is sufficient.

Statement (2) by itself is insufficient since there are numbers that are divisible by 6 and have an integer square root and numbers divisible by 6 that do not have an integer square root.

10. If Q and T are integers, what is the value of Q?
- (1) $Q = 2T/7$.
 - (2) $\frac{T+7}{2} = \frac{7(Q+2)}{4}$

- A. Statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not.
- B. Statement (2) BY ITSELF is sufficient to answer the question, but statement (1) by itself is not.
- C. Statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is

sufficient.

- D. Either statement BY ITSELF is sufficient to answer the question.
- E. Statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem.

The correct answer is E.

We want to find the number value of Q. In statement (1) we are given the ratio between Q and T, which is not sufficient. Statement (2) can be simplified:

$$\frac{T+7}{2} = \frac{7(Q+2)}{4} \Rightarrow T+7 = \frac{7Q+14}{2} \Rightarrow T+7 = \frac{7Q}{2}$$

We can see that the same ratio is given in statement (2) also and more data is required to answer the question. Both statements give the same information.

11. In a psychology school the grade of the students is determined by the following method: At the end of the first year the grade equals to twice the age of the student. From then on, the grade is determined by twice the age of the student plus half of his grade from the previous year. If Joey's grade at the end of the first year is 40, what will be his grade at the end of the third year?
- A. 44.
- B. 56.
- C. 62.
- D. 75.
- E. 80.

The correct answer is D.

From the grade 40 at the end of the first year we learn that his age is 20. At the end of the second year, he will be 21 and his grade will be $(21 \times 2 + \frac{1}{2} \times 40 = 62)$.

At the end of the third year, he will be 22 and his grade will be $(22 \times 2 + \frac{1}{2} \times 62 = 75)$.

12. A is a prime number ($A > 2$). If $C = A^3$, by how many different integers can C be equally divided?

- A. 3.
- B. 4.

- C. 5.
- D. 6.
- E. 7.

The correct answer is B.

Factorize C: $C = A \times A \times A$: C can be equally divided into 1, A, A^2 , and $A^3 = C \rightarrow 4$ numbers total.

13. If X is a positive integer and $(405)^4$ is a multiple of 3^X , what is the largest possible value of X?
- A. 5.
- B. 12.
- C. 16.
- D. 20.
- E. 26.

The correct answer is C.

Find the factors of $(405)^4$ and see what the largest value of X can be. $405 = 81 \times 5 = 9 \times 9 \times 5 = 3 \times 3 \times 3 \times 3 \times 5 \rightarrow (405)^4 = (3 \times 3 \times 3 \times 3 \times 5)^4 = 3^{16} \times 5^4$. The largest possible value of 3^X that is still a factor of $(405)^4$ is the largest possible value of X and that is 3^{16} . $X = 16$.

14. $X, Y > 0$, If $X^3 = Y$, is Y a fraction?
- (1) X^2 is a fraction.
- (2) $X > Y$.
- A. Statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not.
- B. Statement (2) BY ITSELF is sufficient to answer the question, but statement (1) by itself is not.
- C. Statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient.
- D. Either statement BY ITSELF is sufficient to answer the question.
- E. Statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem.

The correct answer is D.

Statement (1) is sufficient. If X^2 is a fraction, X must also be a fraction. Meaning that X^3 and Y will also be fractions. Statement (2) is sufficient. If X^3 is a fraction then X must be greater than X^3 , which is also equal to

Y. We get that from $X > Y$, so X^3 and Y are fractions.

15. A turtle is crossing a field, how many meters total did he pass?
- (1) The average speed of the turtle is 2 meters per minute.
- (2) Had the turtle walked 1 meter per minute faster than his average speed it would have finished the same path 40 minutes earlier.
- A. Statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not.
- B. Statement (2) BY ITSELF is sufficient to answer the question, but statement (1) by itself is not.
- C. Statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient.
- D. Either statement BY ITSELF is sufficient to answer the question.
- E. Statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem.

The correct answer is C.

Statement (1) gives us the average speed of the turtle; this statement is insufficient since the time is not given. Statement (2) is also insufficient by itself since we don't know what the average speed is. Both statements combined are sufficient since we can calculate the distance $2 \cdot T = D$ and $3(T - 40) = D$, solve to get $D = 240$ meters.

16. The net value of a certain stock increased at a constant rate during the ten-year period between 1990 and 2000. What was the value of the stock in the year 1998?
- (1) In 1991, the value of the stock was 130 U.S. dollars.
- (2) In 1992, the value of the stock was 149.5 U.S. dollars.
- A. Statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not.
- B. Statement (2) BY ITSELF is sufficient to answer the question, but statement (1) by itself is not.
- C. Statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though

NEITHER statement BY ITSELF is sufficient.

- D. Either statement BY ITSELF is sufficient to answer the question.
- E. Statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem.

The correct answer is C.

We are told that the stock increases its value by a constant rate and therefore we need to find some kind of pattern in order to know the value every year.

Statements (1) and (2) taken together are sufficient since they give us the percent increase of the stock from 1991 to 1992, which is 15%. The value of the stock in 1998 can be easily calculated, add 15% every year until 1998.

17. N is a prime number bigger than 5. Which of the following expressions must be even?
- A. $(N+2)^2$.
- B. N^2+2 .
- C. $N(N+2)$.
- D. $(N+1)(N+2)$.
- E. $(N-2)^2$.

The correct answer is D.

Answer D is a multiplication of two consecutive numbers, therefore one of them must be even, and an even number multiplied by a different number is an even number

18. The original price of a car was \$25,200. Because the car owner thought he could get more money for the car, he increased the price of the car to 110% of its original price. After a week, the car had not sold, so the owner then discounted the price by 10%, and the car was finally sold. What price was the car sold for?
- A. \$25,200
- B. \$25,000
- C. \$24,948
- D. \$24,542
- E. \$23,658

The correct answer is C.

$$25,200 \times 1.1 = 27,720. \quad 27,720 \times 0.9 = 24,948.$$

19. On a map, 1 inch represents 28 miles. How many inches would be necessary to represent a distance of 383.6 miles?
- A. 5.2
B. 7.4
C. 13.7
D. 21.2
E. 28.7

The correct answer is C.

Dividing the requested amount of miles by the reference amount would give us the answer in inches.
 $383.6 / 28 = 13.7$ inches.

20. 15 Java programmers, working in a constant pace, finish a web page in 3 days. If after one day, 9 programmers quit, how many more days are needed to finish the remainder of the job?
- A. 2.
B. 4
C. 5
D. 6
E. 8

The correct answer is C.

The total working days for finishing a web page are (15×3) 45. If after one day 9 programmers quit, only 15 working days are done and the rest of the programmers (6) Need to finish $(45 - 15)$ 30 days of work. It will take them 5 more days.

21. Tim and Élan are 90 miles away from one another. They are starting to move towards each other simultaneously, Tim at a speed of 10 Mph and Élan at a speed of 5 Mph. If every hour they double their speeds, what is the distance that Tim will pass until he meets Élan?
- A. 30 miles.
B. 35 miles.
C. 45 miles.

- D. 60 miles.
E. 65 miles.

The correct answer is D.

Tim is traveling at twice the speed of Élan, and so will be after they double their speeds. The ratio between their velocities will always be 2:1 and the ratio between the distances they will pass will also be 2:1 or 60 miles to 30 miles. Tim will go through 60 miles.

22. A spaceship in orbit rotates around the planet Pluto. How many full rotations can the spaceship complete in 20 hours?
- (1) The radius of a single rotation is 21,000 miles.
(2) The spaceship travels at 35 miles per second.
- A. Statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not.
B. Statement (2) BY ITSELF is sufficient to answer the question, but statement (1) by itself is not.
C. Statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient.
D. Either statement BY ITSELF is sufficient to answer the question.
E. Statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem

The correct answer is C.

In order to calculate the time it would take to complete one rotation, you need the radius and the velocity. Statement (1) provides the radius of rotation and (2) provides the velocity. The distance the spaceship has to travel in order to complete one rotation is $2 \cdot \pi \cdot R = 2 \cdot \pi \cdot (21,000)$ and the speed is 35 miles per second. Divide the first by the second and you'll get the time it would take the spaceship to complete one rotation.

23. Is $X > Y$?
- (1) $12X = 4C$.
(2) $C = 3Y^4$.
- A. Statement (1) BY ITSELF is sufficient to answer

the question, but statement (2) by itself is not.

- B.** Statement (2) BY ITSELF is sufficient to answer the question, but statement (1) by itself is not.
- C.** Statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient.
- D.** Either statement BY ITSELF is sufficient to answer the question.
- E.** Statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem.

The correct answer E.

Since we need to compare between X and Y, look at both statements together.

(1) and (2) state that: $12X = 4C = 12Y^4 \rightarrow X = Y^4$.

Take $Y=-1$, $X=1$: X is bigger than Y.

Take $X=1$ and $Y=1$: X is not bigger than Y.

The answer is not distinct and therefore more data is required in order to solve the question.

- 24.** What is the circumference of circle O?
(1) The circle inscribes a square.
(2) The perimeter of the square is 10.
- A.** Statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not.
- B.** Statement (2) BY ITSELF is sufficient to answer the question, but statement (1) by itself is not.
- C.** Statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient.
- D.** Either statement BY ITSELF is sufficient to answer the question.
- E.** Statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem.

The correct answer is C.

If a circle inscribes a square then the diagonal of the square is the diameter of the circle, which is sufficient to find the perimeter. Statement (1) tells us about the square that is inscribed with out any further data.

Statement (2) gives us the perimeter, which is equal to 4 times the side of the square. If we know the side

of the square, we know its diagonal. Both statements, taken together, are sufficient.

- 25.** In a rectangular coordinate system, what is the area of a triangle whose vertices have the coordinates (4, 0), (6, 3), and (6, -3)?
- A.** 7.5
- B.** 7
- C.** 6.5
- D.** 6
- E.** 5.5

The correct answer is D.

Draw the x and y-axes, then plot the points and connect them. The length of the base is 6 units [from (6, 3) to (6, -3)] and the height is 2 units [from (6, 0) to (4, 0)]. Area of a triangle = (base \times height) / 2, so $(6 \times 2)/2$ is 6.

- 26.** For every X, the action [X] is defined: [X] is the greatest integer less than or equal to X. What is the value of $[6.5] \times [2/3] + [2] \times 7.2 + [8.4] - 6.6$?
- A.** 12.6.
- B.** 14.4.
- C.** 15.8.
- D.** 16.2.
- E.** 16.4.

The correct answer is C.

$[6.5] \times [2/3] + [2] \times 7.2 + [8.4] - 6.6 = 6 \times 0 + 2 \times 7.2 + 8 - 6.6 = 15.8$.

- 27.** What is the decimal equivalent of $\frac{4}{5^4}$?
- A.** 0.0032
- B.** 0.032
- C.** 0.00625
- D.** 0.003125
- E.** 0.0016

The correct answer is E.

$$\frac{2^4}{5^4} = \frac{2^4}{10^4} = \frac{2^4}{10^4} = 16 \times 10^{-4} = 0.0016 .$$

28. How many four-digit numbers that do not contain the digits 3 or 6 are there?

- A. 2401
- B. 3584
- C. 4096
- D. 5040
- E. 7200

The correct answer is B.

The first digit has 7 possibilities (10 – 0,3 and 6). The other three digits have 8 possibilities each. $7 \times 8 \times 8 \times 8 = 3584$.

29. How many of the girls in a group of 200 children have an average score of 80 in their final exams?

(1) 45% of the children have an average score of 80 in their final exams.

(2) 50% of the children in the group are girls.

- A. Statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not.
- B. Statement (2) BY ITSELF is sufficient to answer the question, but statement (1) by itself is not.
- C. Statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient.
- D. Either statement BY ITSELF is sufficient to answer the question.
- E. Statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem.

The correct answer is E.

From (1) by itself we can only learn that 90 kids have good grades. This statement is insufficient.

From (2) we can learn that there are 100 girls in the group. Combining the statements doesn't help much since we know nothing about the overlapping of (1) and (2) and more data is required.

30. A paint shop sells spray cans at a flat charge of 50 cents per can. If a customer bought 10 cans and the owner decided to give that customer a special discount on the last two cans, what was the price of the two discounted cans?

(1) The customer paid four dollars and twenty cents total for the ten cans.

(2) The customer bought the ten cans for an average price of 42 cents per can.

- A. Statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not.
- B. Statement (2) BY ITSELF is sufficient to answer the question, but statement (1) by itself is not.
- C. Statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient.
- D. Either statement BY ITSELF is sufficient to answer the question.
- E. Statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem.

The correct answer is D.

Statement (1) tells us that 10 cans cost 4.2 dollars instead of 5 dollars and therefore the last two cans were sold for 20 cents. This statement is sufficient.

Statement (2) also tells us that the entire amount of cans cost 4.2 and therefore this statement is also sufficient.

31. Does the product of $XYZW = 16$?

(1) $Y = 1$.

(2) $X = 4Y$ and $ZW = 4Y^2$

- A. Statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not.
- B. Statement (2) BY ITSELF is sufficient to answer the question, but statement (1) by itself is not.
- C. Statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient.
- D. Either statement BY ITSELF is sufficient to answer the question.
- E. Statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question,

requiring more data pertaining to the problem.

The correct answer is C.

From (1) we know the value of Y only, which is 1.

From (2) and (1) we know the value of all the other parameters, $X = 4$ and $ZW = 4$.

Therefore, (1) and (2), together are sufficient.

- 32.** The telephone company wants to add an area code composed of 2 letters to every phone number. In order to do so, the company chose a special sign language containing 124 different signs. If the company used 122 of the signs fully and two remained unused, how many additional area codes can be created if the company uses all 124 signs?

- A. 246
- B. 248
- C. 492
- D. 15,128
- E. 30,256

The correct answer is C.

The phone company already created 122×122 area codes, now it can create 124×124 . $124^2 - 122^2 = (124 + 122)(124 - 122) = 246 \times 2 = 492$ additional codes.

- 33.** The average (arithmetic mean) of seven numbers is 12.2. If the sum of four of these numbers is 42.8, what is the average of the other 3 numbers?

- A. 12.4
- B. 14.2
- C. 16.8
- D. 18.6
- E. 19.2

The correct answer is B.

If the average of 7 numbers is 12.2, we can solve for their sum: $7 \times 12.2 = 85.4$. If four of these numbers total 42.8, then by subtracting 42.8 from 85.4, we get the sum of the other three numbers, 42.6. To find the average of these three numbers, we divide their sum by their number: $42.6/3 = 14.2$.

- 34.** If $A = 2B$, is $A^4 > B^4$?

- (1) $A^2 = 4B^2$.
- (2) $2A + B < A/2 + B$.

- A. Statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not.
- B. Statement (2) BY ITSELF is sufficient to answer the question, but statement (1) by itself is not.
- C. Statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient.
- D. Either statement BY ITSELF is sufficient to answer the question.
- E. Statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem.

The correct answer is B.

Statement (1) is insufficient. Take $A=0$ and $B=0$, (1) is correct yet A^4 is not bigger than B^4 . Take different numbers, $A=6$ and $B=12$ A^4 is larger than B^4 . Statement (2) is sufficient. The only possible way that A will not be larger than B is if they are both zero. (2) Claims that $A < 0$ and therefore A cannot be zero and this statement is sufficient, A^4 is bigger than B^4 .

- 35.** 5 numbers are randomly chosen. If their average is 20, how many of the numbers are larger than 15?

- (1) One of the numbers is 15.
- (2) The average of three of the numbers is 15.

- A. Statement (1) BY ITSELF is sufficient to answer the question, but statement (2) by itself is not.
- B. Statement (2) BY ITSELF is sufficient to answer the question, but statement (1) by itself is not.
- C. Statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient.
- D. Either statement BY ITSELF is sufficient to answer the question.
- E. Statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem.

The correct answer is E.

Lets look at two cases, where each one will give out

different results. One of the numbers is 15 and three more are 15, 15 and 15 (with an average of 15). The sum of all the numbers should be $(20 \times 5 = 100)$.

The sum of the numbers we picked up is $(15 \times 4 = 60)$ and therefore the last number should be 40 which is greater than 15. The answer in this case is 1. Take another case: One of the numbers is 15 and three more are 14, 15 and 16 (with an average of 15). In this case there will be 2 numbers over 15. More data is required.

36. A drawer holds 4 red hats and 4 blue hats. What is the probability of getting exactly three red hats or exactly three blue hats when taking out 4 hats randomly out of the drawer and immediately returning every hat to the drawer before taking out the next?
- A. $1/8$
 B. $1/4$
 C. $1/2$
 D. $3/8$
 E. $7/12$

The correct answer is C.

Getting three red out of 4 that are taken out has 4 options $(4!/(3! \cdot 1!))$ each option has a probability of $(1/2)^4$ since drawing a red or blue has a 50% chance. $4 \cdot 1/16 = 1/4$ to get three red hats. The same goes for three blue hats so $1/4 + 1/4 = 1/2$.

37. If $4XZ + YW = 3$ and $XW + YZ = 6$, what is the value of the expression $(2X + Y)(2Z + W)$?
- A. 9
 B. 12
 C. 15
 D. 16
 E. 18

The correct answer is C.

$(2X + Y)(2Z + W) = 4XZ + 2XW + 2ZY + WY$. No, plug in this data to get: $3 + 2 \times 6 = 15$.

41 Questions 75 Minutes

Directions

Sentence correction Questions

In questions of this type, either part or all of a sentence is underlined. The sentence is followed by five ways of writing the underline part. Choice (A) repeats the original; the other answer choices vary. If you think that the original phrasing is the best, choose (A). If you think one of the other answer choices is the best, select the choice. Sentence Correction questions test your ability to recognize correct and effective expression. Follow the requirements of Standard Written English: grammar, choice of words, and sentence construction. Choose the answer that results in the clearest, most exact sentence, but does not change the meaning of the original sentence.

Example

1. The possibility of massive earth quakes are regarded by most area residents with a mixture of skepticism and caution.
- A. are regarded by most area residents with
 B. is regarded y most area residents with
 C. is regarded by most area residents as
 D. is mostly regarded by area residents with
 E. by most area residents is regarded with

The correct answer is (B).

Critical reasoning Questions

Questions of this type ask you to analyze and evaluate the reasoning in short paragraphs or passages. For some questions, all of the answer choices may conceivably be answers to the question asked. You should select the *best* answer to the question, that is, an answer that does not require you to make assumptions that violate common-sense standards by being implausible, redundant, irrelevant, or inconsistent.

Example

2. In an extensive study of the reading habits of magazine subscribers, it was found that an average of between four and five people actually read each copy of the most popular weekly news magazine. On this basis, we estimate that the 12,000 copies of *Poets and*

Poetry that are sold each month are actually read by 48,000 to 60,000 people.

The estimate above assumes that

- A. individual magazine readers generally enjoy more than one type of magazine
- B. most of the readers of *Poets and Poetry* subscribe to the magazine
- C. the ratio of readers to copies is the same for *Poets and Poetry* as for the weekly news magazine
- D. the number of readers of the weekly news magazine is similar to the number of readers of *Poets and Poetry*
- E. most readers enjoy sharing copies of their favorite magazines with friends and family members.

The correct answer is (C).

Reading Comprehension questions

Each passage is followed by questions or incomplete statements about the passage. Each statement or question is followed by lettered words or expressions. Select the word or expression that most satisfactorily completes each statement or answers each question in accordance with the meaning of the passage.

Start the Question 1 to 41

1. Government policies should ensure that network owners charge nondiscriminatory prices to any client who wants to use their home network to distribute information
 - A. who wants to use their home network to distribute information
 - B. who wants to be using his home network to distribute information
 - C. who wants to use his home network to distribute information
 - D. which wants to use his home network to distribute information
 - E. which wants to use their home network to distribute information

1

The best answer is C.

The pronoun *there* is inappropriate because it refers

to the singular noun phrase: *any client*, and must be replaced by *his*.

2. Common stocks, which are shares of ownership in a corporation, is the most direct way to participate in the fortunes of a company.
 - A. is the most direct way to participate in the fortunes of a company
 - B. is the most direct way for participating in the fortunes of a company.
 - C. is the most direct way of participating in the fortunes of a company
 - D. . are the most direct way to participate in the fortunes of a company
 - E. are the most direct way for participating in the fortunes of a company

The best answer is D.

The sentence has a plural subject, *common stocks*, therefore it needs the plural form of the verb: *are*.

Statement for 3

Organic farmers are looking for non-chemical methods to rid their crops of pests. Giving crops a slight electric shock has no ill effect on crops but rids them of caterpillars. This method should be employed by organic farmers all over the country.

3. Which of the following, if true, most strongly supports the view that it would not be advisable to try to eradicate agricultural pests with the method mentioned above?
 - A. Most species of caterpillar are subject to some natural predators.
 - B. Many agricultural pests do not go through a caterpillar stage.
 - C. This method also kills insects that are agriculturally beneficial.
 - D. Since caterpillars of different species appear at different times of the year, several shocks would be necessary.
 - E. No large-scale production facilities exist today for the product that electrifies crops.

The best answer is C.

If electrifying crops kills beneficial insects along with the pests, it may do as much or more harm than good.

GMAT Sample Paper

Statement for 4

A study of business partnerships in which one partner's management style differs from that of the other partner reveals that such partnerships are more likely to be fraught with problems and to ultimately end in dissolution. Thus, mismatched management styles can seriously jeopardize a business partnership.

4. Which of the following, if true, most seriously weakens the argument above?
- A. Business partnerships in which both partners have the same management style also occasionally have disagreements that can jeopardize the partnership.
 - B. The management style of individuals tends to vary from year to year
 - C. The individuals who have management style that differ significantly from those of their partners tend to argue little with spouses at home.
 - D.) Partners who are considering dissolution have been found to express hostility by adopting a different management styles from that of their partners
 - E. According to a recent study, most people's management styles can be controlled and modified easily.

The best answer is D.

If partners who are considering dissolution have been found to express hostility by adopting a different management style from that of their partners, then the different management styles are the *result* and not the cause of the discordance between the partners.

Statement for 5

A report on the use of monosodium glutamate in food concluded, "Most Americans who consume monosodium glutamate regularly are not being harmed." Critics of the report insist the conclusion be changed to, "Most Americans who consume monosodium glutamate do not show visible symptoms of harm by the substance, such as abnormal rashes or slower rates of metabolism."

5. Which of the following, if true, provides the best logical justification for the critics' insistence that the report's conclusion be changed?
- A. Some Americans who consume monosodium glutamate regularly are being harmed by the substance.
 - B. Monosodium glutamate could be causing long term damage for which symptoms have not yet become visible
 - C. The report does not compare harm caused to Americans who consume monosodium glutamate with harm caused to people in other countries.
 - D. Monosodium glutamate has been added to a growing number of commonly consumed foods during the past fifteen years.
 - E. The severity of damage by monosodium glutamate differs from person to person.

The best answer is B.

If there is a possibility that monosodium glutamate will cause long-term harm, then the absence of symptoms cannot be taken as proof that Americans who consume monosodium glutamate regularly are not being harmed.

Passage 1

(Question 6 to 9)

On May 5th, 1997, the European edition of *Business Tech Magazine* led with Hoffman's cover story "Internet Communities: How They're Shaping Electronic Commerce". This cover story highlights the extent to which the term virtual community has become almost synonymous with various forms of group-CMCs (computer mediated communication), including email-list forums, chat-systems such as IRC, web-based discussion areas and UseNet news-groups. There was no debate in the *Business Tech Magazine* article as to whether the group-CMC discussions are really 'communities', rather how community as opposed to content can be used to encourage people to return to a particular part of cyberspace for commercial gain. In a similar vein, Simpson and Armstrong in "Internet Gain" argue that ignoring virtual communities would be a great loss of a marketing tool for businesses. They define virtual communities as computer mediated space where

there is an integration of content and communication with an emphasis on member-generated content.

Not all virtual community commentators agree with the Spartan position taken by Hoffman. Rheingold, one of the prime popularizers of the term virtual community, provides us with a more emotive definition in his book *The Virtual Community: Homesteading on the Electronic Frontier*. According to Rheingold, "virtual communities are social aggregations that emerge from the Net when enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace". Rheingold's definition is extremely popular and has been quoted in many discussions about virtual communities. As discussed below, for social scientists, particularly sociologists, Rheingold's definition raises many issues, especially concerning the notion of community. This is because Rheingold argues via a variety of analogies from the real world such as homesteading that virtual communities are indeed new forms of "community". In fact, Rheingold implies that virtual communities are actually "a kind of ultimate flowering of community". Moreover, Rheingold maintains that whenever computer mediated communications technology becomes available; people inevitably create communities with it. Rheingold can thus be labeled as a technological determinist as he holds that there is a predictable relationship between technology and people's behavior. The debate over the validity of Rheingold's position has raised doubts about the existence of virtual communities and the appropriate use of the term. Weinreich claims that the idea of virtual communities must be wrong because community is a collective of kinship networks that share a common geographic region, a common history, and a shared value system, usually rooted in a common religion. In other words, Weinreich rejects the existence of virtual communities because group-CMC discussions cannot possibly meet his definition. In Weinreich's view, anyone with even a basic knowledge of sociology understands that information exchange in no way constitutes a community.

6. The primary purpose of the passage is to
- A. suggest an alternate definition for the term virtual communities
 - B. challenge the validity of group-CMCs in the virtual community
 - C. discuss whether group-CMCs constitute real communities

- D. present two opposing hypotheses and presents research and evidence to support them
- E. emphasize the unsuitability of traditional definitions of community in light of the recent establishment of virtual communities on the Net

The best answer is C.

The passage begins by presenting the viewpoint of those that believe that group-CMCs are true communities and continues by presenting an opposing view. D is incorrect because definitions, not hypotheses are discussed in the passage.

7. According to Simpson and Armstrong, virtual communities
- A. are not as effective as content in encouraging people to return to a particular part of the Internet.
 - B. emphasize attracting new members through their use of absorbing content
 - C. are not really communities, but simply group-CMC discussions
 - D. has become almost synonymous with various forms of group-CMCs
 - E. are an invaluable marketing tool for businesses.

The best answer is E.

According to Simpson and Armstrong ignoring virtual communities would be a loss. In other word, virtual communities are invaluable. The word invaluable means very useful.

8. Weinreich rejects Rheingold's inclusion of virtual communities in the definition of communities for all of the following reasons EXCEPT
- A. virtual communities do not usually exchange information
 - B. virtual communities do not usually share the same territory
 - C. virtual communities do not usually share values
 - D. virtual communities do not usually share a

common history

- E. virtual communities are not usually rooted in a common religion

The best answer is A.

The question asks you to identify what does NOT stop Weinreich from considering a virtual community a real community. An exchange of information is not problematic for Weinreich.

9. . The author says 'there was no debate in the *Business Tech Magazine* article' to emphasize which of the following points?
- A. It is not content but community that can be used to entice the public to go back to a commercial website
- B. It is not community but content that can be used to entice the public to go back to a commercial website
- C. It would be a great loss of a business-marketing tool if virtual communities were ignored.
- D. There are various forms of group-CMCs, including email-list forums, chat-systems, web-based discussion areas and UseNet news-groups.
- E. *Business Tech Magazine* had already assumed that group-CMCs are communities.

The best answer is E.

The passage discusses whether group-CMCs are communities. *Business Tech Magazine* does not debate this issue because it has already assumed that they are.

10. We now have wireless computer networks, direct-broadcast satellite television, digital wireless cable television networks, global telephone service, and global positioning systems that can pinpoint an individual's location to a few inches.
- A. that can pinpoint an individual's location to a few inches
- B. that can pinpoint an individual's location in a few inches

- C. which can pinpoint an individual's location to a few inches
- D. which can pinpoint an individual's location of a few inches
- E. which should pinpoint an individual's location to a few inches

The best answer is A.

Choices B and D are incorrect because *in a few inches* is unidiomatic. In C, D and E the pronoun which is incorrectly used for a non-restrictive relative clause.

11. To deal with this explosion of data, one can use the computer and communications technology to help us sort, store, transport, and most important, understand the information.
- A. to help us sort, store, transport, and most important, understand the information.
- B. to help us sort, store, transport, and most important, to understand the information.
- C. to help us to sort, store, transport, and most important, understand the information.
- D. to help one to sort, store, transport, and most important, understand the information.
- E. to help one sort, store, transport, and most important, understand the information.

The best answer is E.

The plural pronoun *us* was incorrect because it has the same referent as the pronoun *one* earlier in the sentence.

12. . It will improve education, make government at all levels more cost-effective and user friendly, reduce health-car costs while improving quality, and give communities new ways to address problems such as crime and pollution.
- A. It will improve education, make government at all levels more cost-effective and user friendly, reduce health-car costs while improving quality
- B. It will improve education, make government at all levels more cost-effective and user friendly, health-car costs will be reduced while

improving quality,

- C. It will improve education, make government at all levels more cost-effective and user friendly, reduce health-car costs while improve quality,
- D. It will improve education, make government at all levels more cost-effective and user friendly, reducing health-car costs while improving quality
- E. It will improve education, making government at all levels more cost-effective and user friendly, reducing health-car costs while improving quality,

The best answer is A.

The sentence makes correct use of a parallel structure. It *will improve...*, *will make..*, *will reduce...*, *will give...*

Until recently, most automobile manufacturers minimized the weight of their cars to maximize mileage. The safest chassis were heavy, so few manufacturers equipped their cars with the safest chassis. This year the chassis metal that has sold best to automobile manufacturers has been the safest one—a clear indication that manufacturers are assigning a higher priority to safety than to mileage.

13. Which of the following, if true, most seriously weakens the argument above?
- A. Last year's best-selling chassis metal was not the safest chassis metal on the market.
 - B. No automobile manufacturer has announced that it would be making safe chassis a higher priority this year.
 - C. The price of gas was higher this year than it had been in most of the years when the safest chassis sold poorly.
 - D. Because of increases in the cost of materials, all car chassis were more expensive to manufacture this year than in any previous year
 - E. Because of technological innovations, the safest chassis on the market this year weighed less than some other chassis on the market.

The best answer is E.

- 1 The conclusion is based on an assumption that the safest chassis are still the heaviest ones, as they have been in the past. Choice E proves this assumption to

be erroneous.

The CEO of Black's International has proposed replacing their Marmacil semiconductor manufacturing equipment with Fasttech equipment since it costs 30 percent less to train new staff on the Fasttech equipment. Those opposed to the change have pointed out the savings in training cost does not justify the change. Instead, they suggested that the company hire only people who already know how to use the Marmacil equipment.

14. Which of the following, if true, most seriously undermines the objection to the replacement of Marmacil semiconductor manufacturing equipment with Fasttechs?
- A. Currently all employees in the company are required to attend workshops on how to use Marmacil semiconductor manufacturing equipment in new applications.
 - B. Once employees learn how to use semiconductor-manufacturing equipment, they tend to change employers more readily than before
 - C. Experienced users of Marmacil equipment command much higher salaries than do prospective employees who have no experience in the use of such equipment.
 - D. The average productivity of employees in the general manager's company is below the average productivity of the employees of its competitors.
 - E. The high costs of replacement parts make Marmacil computers more expensive to maintain than Fasttech semiconductor manufacturing equipment

The best answer is C.

Those objecting to the change claim that the advantage of Fasttech's relatively low cost can be mitigated by hiring experience users of Marmacil semiconductor manufacturing equipment. However, if such people command much higher salaries as choice C states, doing so would not result in savings to the company.

Statement for 15

A pharmaceutical company developed a new diuretic reported to cause fewer side effects than their old diuretic, which was still being manufactured. During

the first year that both were sold, the earlier medication far outsold the new one; the manufacturer thus concluded that reducing side effects was not the customers' primary consideration.

15. Which of the following, if true, would most seriously weaken the manufacturer's conclusion?
- A. Both hospitals and patients buy diuretics from this pharmaceutical company.
 - B. Many customers consider older medications a better safety risk than new ones, since more is usually known about the safety of the earlier drugs.
 - C. Many customers of this pharmaceutical company also bought medications from companies who did not produce new diuretics reported to cause fewer side effects
 - D. The newer diuretic can be used by all the patients who could use the earlier diuretic.
 - E. There was no significant difference in price between the newer diuretic and the earlier diuretic.

The best answer is B.

The manufacture's conclusion was that reducing side effects was not the customers' primary consideration. Choice B states that customers consider older medication a better safety risk, so those customers bought the older diuretic out of safety considerations.

16. Republicans also benefited from the enthusiastic and well-organized support of conservative Christians concerning about social issues, including abortion.
- A. concerning about social issues, including abortion.
 - B. concerning on social issues, including abortion.
 - C. concerned about social issues, including abortion
 - D. concerned on social issues, including abortion
 - E. concerned social issues, including abortion

The best answer is C.

The word *concerned* modifies the noun *Christians*. The preposition that goes with it is *about*.

Passage 2

(Question 17 to 20)

Take a very commonplace, often discussed and critical topic: Are we detecting a greenhouse effect, and related to this, is it exacerbated by "homogenic factors," i.e., human actions? Most would be inclined to give a positive answer to both of these questions. But, if pushed, what would be the evidence, and how well grounded would it be for such affirmations?

Within scientific communities and associated scientifically informed circles, the answers have to be somewhat more ambiguous, particularly when rigorous questions concerning evidence are raised. Were scientific truth to be a matter of consensus, and some argue that scientific truth often turns out to be just that, then it is clear that there is beginning to be a kind of majority consensus among many earth science practitioners that the temperature of the Earth, particularly of the oceans, is indeed rising and that this is a crucial indicator for a possible greenhouse effect. Most of these scientists admit that the mean oceanic temperature has risen globally in the last several decades. But this generalization depends upon how accurate measurements may be, not just for samples, but also for the whole Earth. Hot spots, for example the now four year old hot spot near New Guinea which is part of the El Niño cycle, does not count by itself because it might be balanced by cold spots elsewhere. And the fact of the matter is that "whole earth measurements" are still rare and primitive in the simple sense that we simply do not have enough thermometers out. Secondly, even if we had enough thermometers, a simply synchronic whole earth measurement over three decades is but a blip in the diachronic history of ice age cycles over the last tens of thousands of years. Thirdly, even if we know that the earth is now heating up, has an ever increasing ozone hole, and from this strange weather effects can be predicted, how much of this is due to homorganic factors, such as CFCs, CO₂ increases, hydrocarbon burning, and the like? Is it really the case, as *Science* magazine claimed in 1990, "24% of greenhouse encouraging gases are of homorganic origin"?

17. In this passage the author is primarily interested in
- A. Whether scientific truths are simply a matter of consensus
 - B.) Determining how well established the greenhouse effect is and to what degree it is

worsened by human actions

- C. Whether the hot spot El Niño is balanced elsewhere by cold spots
- D. Determining if most scientists would be inclined to give a positive answer to the question of whether there is a greenhouse effect and if it is worsened by human actions
- E. Making a simple synchronic whole earth measurement more than a blip in the diachronic history of Ice Age cycles over the last tens of thousands of years

The best answer is B.

The author questions the claim that there is indeed a greenhouse effect that is made worse by human actions. (A) is too general an answer, while (D) is too specific. (D) is wrong because it is probing whether scientists agree, not whether there the phenomenon actually exists.

18. The author of the passage would be most likely to agree with which of the following statements about the greenhouse effect?
- A. 24% of greenhouse encouraging gases are of homogenic origin.
 - B. There is a greenhouse effect that is exacerbated by homogenic factors.
 - C. The ozone hole is increasing due to homogenic factors, such as CFCs, CO₂ increases, hydrocarbon burning, and the like.
 - D. One can determine if mean oceanic temperatures have risen globally in the last several decades only if measurements of ocean temperatures are precise.
 - E. Hot spots, such as the El Niño cycle, should not be counted as a factor in the greenhouse effect.

The best answer is D.

Scientists are basing their claims on global warning on rising ocean temperatures. One can tell if temperatures have in fact risen only by measuring them correctly.

- 1 19. It can be inferred from the passage that
- A. We cannot be certain that strange weather effects are a result of the earth heating up and

an ever-increasing ozone hole.

- B. The greenhouse effect is the most widely discussed topic in the scientifically informed circles
- C. If the temperature of the oceans has ceased to rise at an ever-increasing rate, then the rate of global warming has increased.
- D. Strange weather effects have been shown to be due to the diachronic effects of hydrocarbon burning and not to increases in CFC.
- E. Strange weather effects are caused by the increase use of CFCs, CO₂, and similar gasses.

The best answer is A.

The author is questioning the cause and effect relationship between the increasingly large ozone hole and global warming, as well as cause and effect relationship between global warming and strange weather effects.

20. The author's claim that, a simply synchronic whole earth measurement over three decades is but a blip in the diachronic history of ice age cycles over the last tens of thousands of years would be strengthened if the author
- A. Indicated the minimum number of thermometers necessary for a whole earth measurement.
 - B. Described the factors that precipitated the start of a new ice age.
 - C. Compare synchronic whole earth measurements with diachronic whole earth measurements.
 - D. Proved that the mean number of years required to detect significant changes in weather patterns is greater than thirty.
 - E. Specified the exact location and quantity of thermometers placed by scientists around the globe.

The best answer is D.

If one knows that change can be detected only after much more than thirty years, then measurements taken over a thirty-year period is insignificant

21. By necessary, munitions plants hired many young woman during the war; at least as much as 500,00 and more others who had not any previous experience in factory work of any kind.

- A. at least as much as 500,000 and more others who had not any
- B. at least as much as more than 500,000 others who had no
- C. more than 500,000 had not any
- D. more than 500,000 had not no
- E. there were at least 500,000 or more others without any

The best answer is D.

It is idiomatic, clear, and concise. Both A and B incorrectly use *much* rather than *many*. In A and C, *not any* is wordy and awkward. E redundantly uses *at least* and *more*.

22. The expansion of the influence of the Gregorian calendar system in non-European regions can be traced from European colonies such as India and Egypt, and the independent countries, replacing traditional calendars at least for official purposes.

- A. and
- B. to
- C. and to
- D. with
- E. in addition to

The best answer is B.

The construction *can be traced from x* must be completed by *to y*, as in choice B.

Statement for 23

Canadian wheat farmers produced so much wheat over the last season that wheat prices plummeted. The government tried to boost wheat prices by offering farmers who agreed not to harvest 20 percent of their wheat field compensation up to a specified maximum per farm.

23. The Canadian government's program, if successful, will not be a net burden on the

budget. Which of the following, if true, is the best basis for an explanation of how this could be so?

- A. If prices were allowed to remain low, the farms would be operating at a loss, causing the government to lose tax revenue on farm profits.
- B. Wheat production in several countries declined the year that the compensation program went into effect in Canada
- C. The first year that the compensation program was in effect, wheat acreage in Canada was 5% below its level in the base year for the program.
- D. The specified maximum per farm meant that for very large wheat farms the compensation was less per acre for those acres than they were for smaller farms
- E. Farmers who wished to qualify for compensation program could not use the land not harvested for wheat to grow another crop.

The best answer is A.

The program will not be a net burden on the budget because money spent on compensation can be made up by money collected through taxation of the farms.

Statement for 24

Eclampsia in pregnancy is especially prevalent among women who are seriously malnourished. In order to achieve early detection of eclampsia in these individuals, public health officials distributed pamphlets explaining the importance of early detection of this potentially fatal disease.

- 24. Which of the following, if true, is the best criticism of the use of the pamphlet as a method of achieving the public health officials' goal?
- A. Many prenatal diseases produce symptoms that cannot be detected by the patient.
- B. Once Eclampsia has been detected, the effectiveness of treatment can vary from person to person.
- C. The pamphlet was sent to all town residents, including those individuals who are not pregnant.

- D. Eclampsia is much more common in very young and very old mothers, rather than in those at the height of their productive years
- E. Pregnant women who are seriously malnourished are often homeless and thus unlikely to receive and read the pamphlet.

The best answer is E.

The pamphlet is incapable of achieving the public health officials' goal if it does not reach its target audience.

Statement for 25

Technological improvements have made electric cars far more cost-efficient in the last decade. However, the threshold of economic viability for electric cars (that is, the cost of running an electric car compared to a gasoline powered car) has remained unchanged.

25. Which of the following, if true, does most to help explain why the increased cost-efficiency of electric cars has not decreased its threshold of economic viability?
- A. The cost of manufacturing gasoline-powered cars has fallen dramatically.
- B. The reduction in the cost of manufacturing electric cars has occurred despite increased raw material costs for those cars.
- C. Technological changes have increased the efficiency of gasoline-powered cars.
- D. Most electricity is generated by coal-fired or nuclear, rather than oil-fired, power plants.
- E. When the price of oil increases, reserves of oil not previously worth exploiting become economically viable

The best answer is C.

Improvements in electric cars have been matched by improvements in gasoline-powered cars so that their economic viability has not improved.

26. It seemed that hardly any vote was cast on the Senate or House floor without some calculation as to how it might affect the midterm election.
- A. without some calculation as to how
- B. without there is some calculation as to how

- C. without that there is some calculation as to how
- D. without some calculation as how
- E. without some calculation to how

The best answer is A.

The construction *as to* is idiomatic. In d and E, the use of *as* alone or *to* alone is incorrect.

27. The acrimony in Washington, communicated to the general public to a large degree in sound-bite epithets from the principals on evening television newscasts, contributed to a sour mood between the electorate.
- A. contributed to a sour mood between the electorate.
- B. contributing to a sour mood between the electorate.
- C. contributed to a sour mood among the electorate.
- D. contributing to a sour mood among the electorate.
- E. contributing to a sour mood inside the electorate.

The best answer is C.

A and B are incorrect because of the use of *between* for more than two. B, D and E are incorrect because of the use of the gerund form of the word where the past form, *contributed*, is needed.

Statement for 26

Generally, marine biologists enter their field with the goal of doing important new research. They expect their colleagues to have similar goals. Therefore, when any marine biologist becomes a household name in the field of documentary nature films, most other scientists conclude that this biologist should no longer be regarded as a true colleague.

28. The explanation offered above for the low esteem in which marine biologists who make documentary films are held by research scientists assumes that
- A. Serious scientific research is not a solitary activity, but relies on active cooperation among a group of colleagues
- B. Research scientists tend not to regard as

colleagues those scientists whose renown they envy

- C. A scientist can become famous as a marine biologist who makes documentary films without having completed any important research
- D. Research scientists believe that those who are well known as marine biologists who make documentary films are not motivated to do important new research
- E. No important new research can be accessible to or accurately assessed by those who are not themselves scientists

The best answer is D.

The conclusion that biologists who make documentaries should no longer be regarded as true colleagues is based on the assumption that such biologists will not longer do important new research

Passage 1

(Question 29 to 32)

An Australian group named Action Council on Smoking and Health (ACSH) has recently lobbied to make warnings on cigarette packets more graphic. The council proposed that striking visual photos of diseased organs should be put on at least 50% of outside packaging, in conjunction with health warnings outlining smoking hazards enumerated in a separate leaflet placed inside the cigarette packet. The ACSH claim that bland and ineffectual warnings like "Smoking is a health hazard" currently found on cigarette packets are not nearly sufficient.

Substituting those inadequate admonitions with explicit photos will provide a powerful visual stimulus to help smokers relinquish their habit. The current cautions on cigarette packets have little or no impact on smokers who have grown immune to the warnings that focus on abstract tobacco related risks and illnesses from which smokers can easily disassociate themselves. The proposed new tactics would concentrate on the perspective of the individual smoker through a demonstration of what is occurring in his body each time he reaches for a cigarette, rather than a generic cautionary word of advice.

The ACSH cited the results of recent studies conducted by psychologists at McKean University confirming that evidence related to one's own experience is more effective at influencing future

behavior than a presentation of facts and figures. An further rationale for the addition of pictures to cigarette packages is the finding that smokers handle their packets 20-30 times a day, on average, thus, if graphic pictures on cigarette packets were introduced, smoker would have 20-30 chances to face the harsh reality of what damage they are doing to themselves each time they light up.

Even more essential than the pictures on the outside label, ACSH strongly advocate including warnings and helpful information in a leaflet inserted into the packet of cigarettes. Even an analgesic, ACSH adds, found in every bathroom cabinet has all possible side effects enumerated in the insert. How much more imperative is it then when the substance in question is tobacco, a dried weed that contains highly noxious nicotine that society still accepts even though it kills one of every two of its users.

Fundamentally, what is at stake here is consumer rights. Smokers should know what substances they are inhaling, and what damage they are inflicting to their bodies, though surprisingly, even today, many do not. For this reason alone, the recommendation for more graphic pictures and warnings on cigarette packets, which many seem excessive, is being seriously considered.

29. It can be inferred from the passage

- A. That cigarette manufacturers would comply with regulations ordering them to add graphic pictures of diseased organs to their outside packaging.
- B. That society will not continue to condone smoking if it is proven even more dangerous than was previously assumed
- C. That smoking cigarettes causes damage to the internal organs of the body.
- D. That if the written warnings were less bland and ineffectual, smokers would not take more notice of them.
- E. That smokers look at their cigarette packages each time they take out a cigarette.

The best answer is C.

We do not have information about (A) (B) and (D) from the passage. (E) is incorrect because the passage claims that smokers have an opportunity to look at their cigarette packages, not that they actually do.

cigarette.

The best answer is B.

If smokers were more convinced of the dangers of smoker by pictures than by text, they would be more likely to be influenced by the pictures that the ACSH is proposing

- 32.** The passage does NOT state which of the following about smoking warnings.
- A. Current graphic warnings are effective.
 - B. The addition of graphic warnings would be an impetus to smokers to relinquish their habit.
 - C. Current written warnings are not adequate.
 - D. Current written warnings are not effective.
 - E. Current written warnings are not as exhaustive as those that accompany common analgesics.

The best answer is A.

The passage does not say that *current* graphic warnings are effective since there are currently no graphic warnings, only written ones.

- 33.** According to a recent survey, the establishment of natural parks to preserve existing plant and animal life in Colorado is still a priority of a majority of residents, like that of earlier test groups.
- A. like that of earlier test groups
 - B. at that for earlier test groups
 - C. just as earlier test groups did
 - D. as have earlier test groups
 - E. as it was of earlier test groups

The best answer is E.

The intended comparison should be completed by a clause beginning with *as* and containing a subject and verb that correspond to the subject and verb of the main clause.

- 34.** Named a member of the committee to draw up a Declaration of Independence, the basic draft was completed by Thomas Jefferson in a week.
- A. the basic draft was completed by Thomas

- 30.** The author cites studies conducted at McKean University to account for why
- A. A presentation of facts and figures is more effective at influencing future behavior than evidence related to one's own experience.
 - B. A presentation of facts and figures is less effective at influencing future behavior than evidence related to one's own experience.
 - C. Evidence related to one's own experience has a more long-lasting effect than future behavior.
 - D. The ACSH claim that graphic visual pictures of diseased organs would not be more effective than stating facts about the consequences to the body of long-term smoking.
 - E. The ACSH claim that graphic visual pictures of diseased organs would not be less effective than stating facts about the consequences to the body of long-term smoking.

The best answer is E.

The author mentions the study as evidence presented by the ACSH to back their claim that visual pictures would be more effective than the present warning found on cigarette boxes.

- 31.** Which of the following, if true, would be most useful in supporting the claims made by the ACSH?
- A. There is firm evidence that information communicated in a textual format is more convincing than the same information conveyed in the form of visual depictions.
 - B. There is firm evidence that information conveyed in the form of visual depictions is more convincing than the same information communicated in a textual format
 - C. A study of over 3000 individuals shows a statistically significant relationship between levels of nicotine in cigarettes and pulmonary damage.
 - D. A study of over 3000 individuals shows a statistically significant relationship between smoking and pulmonary damage.
 - E. A survey reveals that 79% of smokers look at their cigarette packages when taking out a

Jefferson in a week.

- B. the basic draft Thomas Jefferson completed in a week.
- C. the basic draft was completed by Thomas Jefferson in a week.
- D. Thomas Jefferson completed the basic draft in a week.
- E. Thomas Jefferson in a week completed the basic draft.

The best answer is D.

The sentence starts with the adjectival phrase, *Named a member of the committee to draw up a Declaration of Independence*. That phrase is supposed to modify the noun that comes immediately after it, making A, B, and C incorrect. E is incorrect because *in a week* incorrectly comes between the noun and verb.

35. Dr. Kevorkian, the so-called suicide doctor, on November 5 was imprisoned in Wayne County Jail in Detroit for his alleged role in the suicides of two men, and he then began a hunger strike.
- A. the so-called suicide doctor, on November 5 was imprisoned in Wayne County Jail in Detroit for
 - B. the so-called suicide doctor, was imprisoned on November 5 in Wayne County Jail in Detroit for
 - C. the called so suicide doctor, on November 5 was imprisoned in Wayne County Jail in Detroit for
 - D. the called so suicide doctor, was imprisoned on November 5 in Wayne County Jail in Detroit for
 - E. the so-called suicide doctor, on November 5 in Detroit was imprisoned in Wayne County Jail for

The best answer is B.

B correctly removes *on November 5* out from its incorrect place between the subject, *Dr. Kevorkian*, and the verb, *was imprisoned*.

New stores financed by investors have a much lower failure rate than stores financed by other means. Source of financing, therefore, must be a more important causative factor in the success of a new

store than are such factors as the location of the store, the quality of the staff, or the choice of merchandise.

36. Which of the following, if true, most seriously weakens the argument above?
- A. Investors tend to be more responsive than others to changes in a new store's financial needs.
 - B. The strategic planning of a new store is a less important factor in the long-term success of the business than are the personal characteristics of the owner.
 - C. More than half of all new stores close within three years.
 - D. The management of new stores is generally less formal than the management of ongoing stores.
 - E. Investors base their decisions to fund new stores on such factors as the personal characteristics of the owner, location of the store, and marketing goals.

The best answer is E.

The argument is that source of financing must be a more important *causative* factor in the success of a new store than other factors. Choice E suggests that it is not the source of financing that makes the difference, rather that investors are more likely to finance new stores in which the other factors - good locations, good quality of staff etc. - are good.

Statement for 37

The proportion of Afro-American students enrolled in Gilmore Community College has increased over the past decades. This is partly shown by the fact that in 1965, only 6 percent of Afro-American between twenty and twenty-three in the town of Gilmore were enrolled in college, while in 1997, 13 percent of the Afro-Americans between twenty and twenty-three were enrolled in Gilmore Community College.

37. To evaluate the argument above, it would be most useful to compare 1965 and 1997 with regard to which of the following characteristics?
- A. The percentage of Afro-American students between twenty and twenty-three who were not enrolled in Gilmore Community College

- B. The percentage of Afro-American students between twenty and twenty-three who graduated from Gilmore Community College
- C. The percentage of Afro-American students who, after attending Gilmore Community College, entered highly paid professions
- D. The non-Afro-American students between twenty and twenty-three who were enrolled in Gilmore Community College
- E. The percentage of -Afro-American students who graduated from high school

The best answer is D.

The argument presents a substantial increase in the proportion of Afro-Americans between twenty and twenty-three who were enrolled in Gilmore Community College as evidence that there was an increase in the *proportion* of Gilmore Community College students who were Afro-Americans. This evidence would lack force if a similar increase in college enrollment had occurred among students who are not Afro-American.

Statement for 38

When three Indian-owned trains purchased from Transcontinental Trains crashed within a two month time period, the Indian parliament ordered the acquisition of three new Transcontinental trains as replacements. This decision surprised many because it is customary for users to shun a product after it is involved in accidents.

- 38. Which of the following, if true, provides the best indication that the decision of the Indian government was well supported?
 - A. Although during the previous year only one transcontinental train crashed, competing manufacturers had a perfect safety record.
 - B. The Transcontinental-built trains crashed due to sabotage, but because of the excellent quality of the trains, fire was averted increasing the number of survivors.
 - C. The Indian Railway Commission issued new guidelines for trains in order to standardize safety requirements governing inspections.
 - D. Consumer advocates pressured two major railway companies into purchasing safer trains so that the public would be safer.

- E. Many Transcontinental Train employees had to be replaced because they found jobs with the competition.

The best answer is B.

If the train crashes were caused by a factor that had nothing to do with the train itself, such as sabotage, and the quality of the train decreased the number of fatalities, then there is good reason to purchase additional trains from Transcontinental.

- 39. The National Institute on Drug Abuse Warning Network reported an increase both in the number of admissions to hospital emergency rooms nationwide that involved drug abuse and a change in procedures used in rehabilitation clinics.
 - A. reported an increase both in the number of admissions to hospital emergency rooms nationwide that involved drug abuse and a change in procedures used in rehabilitation clinics.
 - B. reported both an increase in the number of admissions to hospital emergency rooms nationwide that involved drug abuse and a change in procedures
 - C. reported an increase both in the number of admissions to hospital emergency rooms nationwide that involved drug abuse and procedures that changed
 - D. reported an increase both in the numbers of admissions to hospital emergency rooms nationwide that involved drug abuse and a change in procedures
 - E. reported both an increase in the number of admissions to emergency rooms of nationwide hospitals that involved drug abuse and a change in procedures

The best answer is B.

Choice B correctly places the word *both* after the verb.

Statement for 40

Recently, a court ruled that current law allows tour operators that travel to potentially dangerous locations, such as the Amazon, to reject a potential customer if there is a 50 percent chance that the

traveler would contract malaria on the trip. The presiding judge justified the ruling, saying that it protected both travelers and tour operators.

40. This use of his court ruling as part of the law could not be effective if which of the following were true?
- A. The best interests of travelers often conflict with the interests of tour operators.
 - B. There is currently no legally accepted method existing for calculating the risk of contracting malaria as a result of being exposed to it in a particular location.
 - C. Some trips might involve health risks other than the risk of malaria.
 - D. Travelers who have a 50 percent chance of contracting malaria may be unaware that their risk is so great.
 - E. The number of people signing up to take trips with a tour company might decline if the company, by screening applicants for risk of malaria, seemed to suggest that the trip entailed high risk of getting the disease.

The best answer is B.

The use of the court ruling as part of the law could not be effective if there were no accepted way of determining who the people susceptible to malaria were. Choice b states that there is no accepted method of calculating the risk of contracting malaria

41. The World Bank, the only one of its kind, provides loans to developing member countries, gives technical assistance for development projects, and for projects from other public and private sources encourages co-financing.
- A. provides loans to developing member countries, gives technical assistance for development projects, and for projects from other public and private sources encourages co-financing.
 - B. provides loans to developing member countries, gives technical assistance for development projects, and for projects from other public and private sources encouraging co-financing.
 - C. provides loans to developing member countries, gives technical assistance for

development projects, and for projects from other public and private sources encouraged co-financing.

- D. provides loans to developing member countries, gives technical assistance for development projects, and encourages co-financing for projects from other public and private sources.
- E. provides loans to developing member countries, gives technical assistance for development projects, but encourages co-financing for projects from other public and private sources.

The best answer is B.

Choices A, B and C all violate parallelism by putting the indirect object ahead of the verb, *and for project from other public and private sources...* The use of *but* in choice E is incorrect because *encourages* is not contrast to *provides* and *gives*.

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