GMAT TEST 1 – Maths Section

(37 questions, 75 minutes)

1. Roy is now 4 years older than Erik and half of that amount older than Iris. If in 2 years, Roy will be twice as old as Erik, then in 2 years what would be Erik's age multiplied by Iris's age?

(a) 8
(b) 28
(c) 48
(d) 50
(e) 52

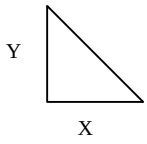
2. An investment yields an interest payment of $228 each month. If the simple annual interest rate is 9%, what is the amount of the investment?

(a) $28,300
(b) $30,400
(c) $31,300
(d) $32,500
(e) $35,100

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

4.



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.

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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.

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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

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.

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%

9. Is the square root of A an integer?
(1) The last digit of A is 8.
(2) A is divisible by 6.

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

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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.

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.

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.

14. X, Y>0, If $X^3 = Y$, is Y a fraction?
(1) X^2 is a fraction.
(2) X > Y.

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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.

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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.

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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) $(N-2)^2$.

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

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

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.

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.

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.

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23. Is X > Y?
(1) 12X = 4C.
(2) $C = 3Y^4$.

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24. What is the circumference of circle O?
(1) The circle inscribes a square.
(2) The perimeter of the square is 10.

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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

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] x [2/3] + [2] x 7.2 + [8.4] – 6.6?

(a) 12.6.
(b) 14.4.
(c) 15.8.
(d) 16.2.
(e) 16.4.

27. What is the decimal equivalent of $(1/5)^4$?

(a) 0.0032
(b) 0.032
(c) 0.00625
(d) 0.003125
(e) 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

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.

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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.

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31. Does the product of XYZW = 16?
(1) Y = 1.
(2) X = 4Y and ZW = $4Y^2$

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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

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

34. If A = 2B, is $A^4 > B^4$?
(1) $A^2 = 4B^2$.
(2) 2A + B < A/2 + B.

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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.

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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

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.