GMAT TEST 2 – MATH SECTION

(37 questions, 75 minutes)

1. X is an even number and Y is a positive odd number. Which of the following expressions cannot be even?

(a) $(XY)^Y$
(b) X^3Y^3
(c) X^3
(d) XY
(e) Y^2

2. How much interest will $2,400 earn at an annual rate of 8% in one year if the interest is compounded every 4 months?

(a) $141
(b) $150
(c) $197
(d) $234
(e) $312

3. What is the value of P?
(1) P is even.
(2) P is a square of a prime number.

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(c) Statements (1) and (2) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient.
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(e) Statements (1) and (2) TAKEN TOGETHER are NOT sufficient to answer the question, requiring more data pertaining to the problem.

4. If AB = 40, what is the value of AB(A + 2B)?
(1) A – B = -18.
(2) $A^2B = 80$.

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5. If $X^3Y = 24$, what is the value of $(X^3Y^3 – X^2Y^2)$?
(1) $X^2Y^2 = 36$.
(2) $X^3Y^2 = 72$.

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6. X is a prime number bigger than 10. Also, $Y = X+X^3+X^5+X^7$.
What is definitely true about Y?

(a) Y is a prime number.
(b) Y is odd.
(c) Y is even.
(d) Y is divisible by 3.
(e) Y is divisible by 7.

7. What is the least integer that is a sum of four different primes each greater than 20?

(a) 79
(b) 83
(c) 120
(d) 133
(e) 169

8. If X>X, the average of X and Y is Z, and the average of Z and X is W, what is the value of (x-w) / (w-y) = ?

(a) 1/4
(b) 1/3
(c) 1/2
(d) 3
(e) 4

9. One quarter of the workers at the factory are clerical, one fifth are technical, half are administrative and the other 25 are managerial. How many workers total are there in the factory?

(a) 250
(b) 366
(c) 400
(d) 500
(e) 2500

10. The price of a product is $*a*. Bill bought *s* products and then sold 80 percents of them $*b*. which of the following represents the whole deal if Bill's profit was three times the cost?

(a) 0.8sb = 4sa.
(b) (1-0.8)s –ab = 3s.
(c) 3(0.8a – sb) = sa.
(d) (s-0.8s)(b-a) = 3.
(e) (s0.8s) / (b-a) = 3.

11. X equals to Y% of what number?
(1) X = 3Y.
(2) 6Y+2X = 56X/14.

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12. Which expression is larger 1/(5 - X) or X/5?
(1) X < 8.
(2) X > -8.

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13. X is a two-digit number. If the ratio between the units digit and the tens digit is 1 to 2, what is the value of X?
(1) The sum of the digits multiplied by the tens digit is 54.
(2) The product of the digits divided by 2 is 9.

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14. A grocer bought 24Kg of coffee beans at price *X*. After a while one third of the stock got spoiled so he sold the rest for 200$ per Kilo and made a total profit of twice the cost. What must be price X?

(a) 66 2/3$.
(b) 50 1/3$.
(c) 44 4/9$.
(d) 33 1/3$.
(e) 24 1/2$.

15. Kenny is three times older than Bob. In *P* years he will be twice older than Bob will be *Q* years later. Which of the following represents Kenny's age comparing to Bob's? (If X = Kenny's age)

(a) $X + P = 6X(P+Q)$.
(b) $2(X+P) = 3X + Q$.
(c) $(X+P)/2 = X/3 + P + Q$.
(d) $3(X+P+Q) = 2X$.
(e) $3X = 2(P + Q)$.

16. A Cuban cigar would cost 1 dollar less than 1.5 times a French cigar, had the French cigar cost 0.7 dollar less than it does now. An Arabian cigar costs 50 cents more than 1.5 times the Cuban cigar. The three cigars together cost 74.7 dollars. What is the price of the French cigar?

(a) 16.7$.
(b) 23$.
(c) 25.5$.

(d) 35$.
(e) 37.4$.

17. Ashley paid 5 dollars for 1 notebook and 1 pencil. If both prices were integers, how many pencils did Ashley buy if she paid 93 dollars for the pencils and for 15 notebooks?

(a) 6.
(b) 16.
(c) 18.
(d) 21.
(e) 26.

18. What percent is X of Y?
(1) Y is bigger than 2X by 54.
(2) X is smaller than 3Y by 72.

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19. A store bought Q windows at $150 per window and W shelves at $75 per shelve. What is the total price of the windows and the shelves?
(1) The Q windows cost $600.
(2) Q + W/2 = 12.

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20. What is the perimeter of a rectangle having an area of 60?
(1) The length and width of the rectangle are even integers smaller than 25.
(2) The length of the rectangle is larger than three times the width.

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21. X is a positive integer, is X even?
(1) $9X^2$ is divisible by 4.
(2) 3X + 2 is divisible by 8.

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22. The sum of the ages of 22 boys and 24 girls is 160.What is the sum of ages of one boy plus one girl, if all the boys are of the same age and all the girls are of the same age, and only full years are counted?

(a) 5.
(b) 6.
(c) 7.
(d) 8.
(e) 9.

23. X percents of the rooms are suits, and Y Percents of the rooms are painted light blue?
Which of the following best represents the least Percentage of the light blue painted suits?

(a) X-Y.
(b) Y-X + 100.
(c) 100X-Y.
(d) X+Y-100.
(e) 100-XY.

24. David bought 13 BMW cars for a total price of 1,105,000 dollars. If he wants to make a profit of 39,000 dollars in the deal, at what price should he sell one car?

(a) 85,000$.
(b) 88,000$.
(c) 94,000$.
(d) 124,000$.
(e) 139,000$.

25. Loren bought a roll of cloth and sold it for a 5% profit based on the selling price. If Loren's profit was $45.5 total on the cloth, how much did it cost her to buy the cloth?

(a) $455.
(b) $525.5.
(c) $675.
(d) $810.5.
(e) $864.5.

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27. If 10% of the employees of the state fare are police officers, what is the number of employees who are not police officers?
(1) 5% of the police officers employed in the fare are woman.
(2) 45% of the employees at the state fare are woman.

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28. In a recent tender, X people participated. 35% of the X people, who made an offer won the specific tender they participated in. 70% of the rest, were disappointed from the result of the tender. Which of the following expressions represents the number of people who weren't disappointed although they didn't win the tender?

(a) 39X/200.
(b) 25X/50.
(c) 19.5X/200.
(d) 35X/250.
(e) 90X/200.

29. What is 0.01 x 5 x 0.03 in terms of percent?

(a) 15%
(b) 1.5%
(c) 0.15%
(d) 0.015%
(e) 0.0015%

30. In a barrel of juice there is 30 liters; in a barrel of beer there are 80 liters. If the price ratio between a barrel of juice to a barrel of beer is 3:4, what is the price ratio between one liter of juice and one liter of beer?

(a) 3:2.
(b) 2:1.
(c) 3:1.
(d) 4:3.
(e) 3:4.

31. Is X greater than 1?
(1) $X > X^2$.
(2) $-X < -X^2$.

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32. What is the sum of 7 consecutive integers?
(1) The median of the seven integers is 8.
(2) One of the integers is 7.

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33. M is a positive integer, is M odd?
(1) $2M^3 + 2M$ is divisible by 8.
(2) M + 10 is divisible by 10.

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34. From the starting point in a boat race, one competitor started to sail north at a speed of 1.6 Km/h, the other competitor started to sail west at a speed of 1.2 Km/h. What is the distance in Km between the two competitors after 5 hours?

(a) 10.
(b) 12.
(c) 12.5.
(d) 14.
(e) 15.4.

35. George can fill Q cans of paint in 3 minutes. If there are R cans of paint in one gallon, how many gallons can George fill in 45 minutes?

(a) 30R/Q.
(b) 15R/Q.
(c) 30Q/R.
(d) 5Q/R.

(e) 15Q/R.

36. If (4 # 2 = 14) and (2 # 3 = 6), what can replace (a # b)?

(a) ab.
(b) (a+3)b
(c) $a^2 - b$.
(d) $a^b - 2$.
(e) $b^a + 1$.

37. In a rectangular coordinate system, what is the square root of the area of a trapezoid whose vertices have the coordinates (2, -2), (2, 3), (20, 2), (20, -2)?

(a) 7.5
(b) 9
(c) 10.22
(d) 12.25
(e) 14