GMAT QUANT PRACTICE PAPER

1. For nonnegative integers x and y, what is the remainder when x is divided by y?

    (1) x/y = 13.8
    (2) The numbers x and y have a combined total of less than 5 digits

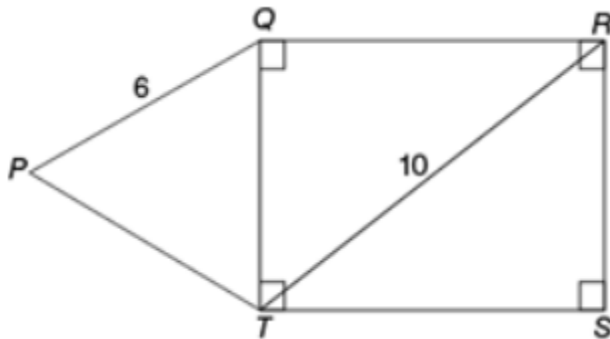2. What is the tens digit of two-digit positive integer w?

    (1) The tens digit of 2w is equal to the tens digit of w.
    (2) The sum of the digits of w+5 is 5.

3. Is X a prime integer?

    (1) x! is not divisible by 5
    (2) |x|! is divisible by 6

4.
    In the figure above, what is the area of region PQRST ?

    (1) PQ = RS
    (2) PT = QT

5. Machine M, working alone at its constant rate, produces x widgets every 4 minutes. Machine N, working alone at its constant rate, produces y widgets every 5 minutes. If machines M and N working simultaneously at their respective constant rates for 20 minutes, does machine M produce more widgets than machine N in that time ?

    (1) x > 0.8y
    (2) y = x + 1

6. Paint X costs $15 per gallon, and Paint Y costs $20 per gallon. If 10 gallons of Mixture M consists of r gallons of Paint X and s gallons of Paint Y, is the total cost of Paint X in Mixture M greater than the total cost of Paint Y in Mixture M?

    (1) s gallons of Paint X costs more than r gallons of Paint Y.

    (2) In Mixture M, the total cost of Paint X is more than 2/5 of the total cost of Paint Y.

7. Of a physician's clients, 120 have health insurance or prescription drug coverage or both. If 40 of the clients do not have description drug coverage, how many of the clients have both health insurance and prescription drug coverage?

(1) A total of 92 of the clients have health insurance.
(2) Of the 120 clients, 28 do not have health insurance.
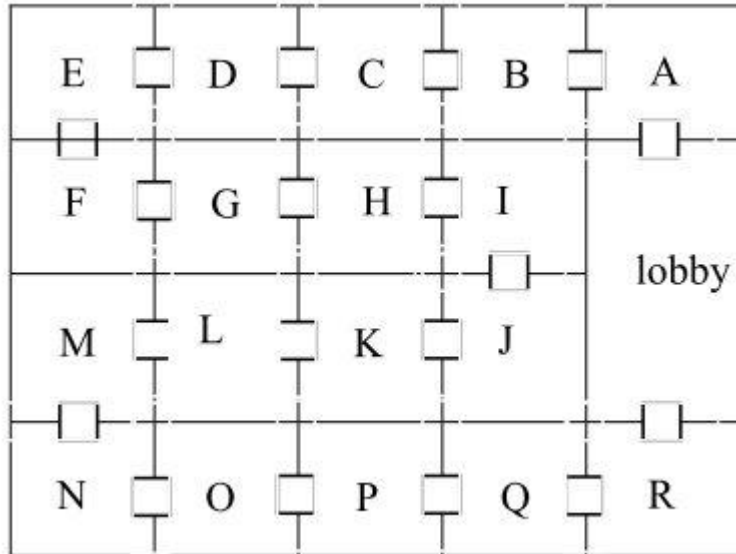
8.

The figure above represents the floor plan of an art gallery that has a lobby and 18 rooms. If Lisa goes from the lobby into room A at the same time that Paul goes from the lobby into room R, and each goes through all of the rooms in succession, entering by one door and exiting by the other, which room will they be in at the same time ?

(1) Lisa spends 2x minutes in each room and Paul spends 3x minutes in each room.
(2) Lisa spends 10 minutes less time in each room than Paul does.

9. What is the greatest number of markers that can be purchased for $18?

(1) 4 markers or 6 pens or 12 pencils can be purchased for $36

(2) If the cost of each marker is increased by $3, 5 less markers can be purchased for $180

10. If n is a positive integer, is (n-1)(n)(n+1) a multiple of 24?

1) (n-1) is an even integer
2) n is a multiple of 3

11. Is xy > 0?

(1) x - y > -2
(2) x - 2y < -6

12. Given A and B are non negative, is $A^5 > B^2$?

(1) $A^\frac{1}{3} > B^2$

(2) $A > B^2$

13. What will be the value of a/b ? Given that a and b are positive integers

    (1) a^2 − b^2 = 169
    (2) a − b = 1

14. If n is a positive integer greater than 1, then p(n) represents the product of all the prime numbers less than or equal to n. The second smallest prime factor of p(12)+11 is

    A. 2
    B. 11
    C. 13
    D. 17
    E. 211

15. How many unique quadrilaterals can be inscribed in the vertices of a nonagon (a 9-sided figure), if points A and B, two vertices in the nonagon, cannot make up the same quadrilateral?

    (A) 126

    (B) 105

    (C) 96

    (D) 65

    (E) 21

16. There are 101 students in a school. The students are split into 3 teams. Team A contains 70 students, team B contains 75 students and team C contains 80 students. What is maximum number of students who can be present in all three teams?

    A. 70
    B. 65
    C. 63
    D. 62
    E. 61

17. There is a tribal area in Australia called Xiamer and the existing tribal population is concentrated in that area. It is found that 45 percent of the men (above 18 years adult men) in that area are married to 25 percent of the women (who are above 18 and considered adult) in that area. What percentage of the total adult population is married?(One man marries one woman)

    A 35
    B 32.1
    C 30.9
    D 25
    E Cannot be Determined

18. A number of saplings are lying at a place by the side of a straight road. These are to be planted in a straight line at a distance interval of 10 meters between two consecutive saplings. John, the forester, can carry only one sapling at a time and has to move back to the original point to get the next sapling. In this manner he covers a total distance of 1320 meters. How many saplings does he plant in the process if he ends at the starting point?

(Note- He plants first sapling at the starting point.)

A. 10
B. 11
C. 12
D. 13
E. 14

19. What is the sum of the first 20 term of the sequence 0.7, 0.77, 0.777, ... ?

A. $\frac{7}{81}(\frac{179-10^{-20}}{})$ 781(179−10−20)

B. $\frac{7}{9}(\frac{99-10^{-20}}{})$ 79(99−10−20)

C. $\frac{7}{81}(\frac{179+10^{-20}}{})$ 781(179+10−20)

D. $\frac{7}{9}(\frac{99+10^{-20}}{})$ 79(99+10−20)

E. $\frac{7}{9}(\frac{99+10^{-20}}{})$ 79(99+10−20)

20. If 4-digit numbers greater than 5,000 are randomly formed from the digits 0,1,3,5 and 7, what is the probability of forming a number divisible by 5, when the repetition of digits is not allowed ?

A. 1/4

B. 3/8

C. 1/2

D. 1/3

E. 7/8

21. The function $f(x)$ f(x) is defined as $x - 10\lfloor \frac{x}{10}\rfloor$ x−10[x10]. ([x x] is the greatest integer less than or equal to x x). What is $f(7) + f(7^2) + f(7^3) + \ldots + f(7^{2020})$

f(7)+f(72)+f(73)+...+f(72020)?

A. 10036 10036

B. **10039** 10039

C. **10040** 10040

D. **10100** 10100

E. **10107** 10107

22. The annual birth and death rate in a country per 1000 are 39.4 and 19.4 respectively . the number of years in which the population would be doubled assuming there is no emigration or immigration is

    A. 20
    B. 25
    C. 30
    D. 35
    E. 40

23. If john makes a contribution to a charity fund at school, the average contribution size will increase by 50% reaching $75 per person. If there were 5 other contributions made before john's, what is the size of his donation?

    A. $100
    B. $150
    C. $200
    D. $250
    E. $450

24. In an apartment complex, the number of people aged 51 years and above is 30 and there are at most 39 people whose ages are below 51 years. The average age of all the people in the apartment complex is 38 years. What is the largest possible average age, in years, of the people whose ages are below 51 years?

    A. 25
    B. 26
    C. 27
    D. 28
    E. 29

25. Three athletes A, B and C run a 1000 m race. When A is at a finish line, B is 50 m left to run and C is 88 m left to run. If all three athletes run at a constant speed, how many meters will C have to run to finish the race when B is at the finish line?

    A. 19
    B. 36
    C. 38

D. 39

E. 40

26. An alloy of gold, silverand bronze contain 90% bronze, 7% gold and3% silver.a second alloy of bronze and silver only is melted with the first and mixture contain 85% of bronze,5% of gold,10% of silver find the percentage of bronze in second alloy?

a. 75%

b. 72.5%

c. 70%

d. 67.5%

e. 65%

27. What is the remainder when 4^96 is divided by 6?

A. 0

B. 1

C. 2

D. 3

E. 4

28. Two types of tea, A and B, are mixed and then sold at $40 per kg. The profit is 10% if A and B are mixed in the ratio 3 : 2, and 5% if this ratio is 2 : 3. The cost prices, per kg, of A and B are in the ratio

A. 21 : 25

B. 19 : 24

C. 18 : 25

D. 17 : 25

E. 13 : 25

29. There were 2 classes A& B, with a total of 45 students in them. Students of both the classes were asked to go on a school trip but only 1/5th of the students from class A and 2/3rd of the students from class B agreed to go. What is the minimum possible number of students who did not agree to go on the trip?

A. 8

B. 16

C. 17

D. 22

E. 23

30. The average score in an examination of 10 students of a class is 60. If the scores of the top five students are not considered, the average score of the remaining students falls by 5. The pass mark was 40 and the maximum mark was 100. It is also known that none of the

students failed. If each of the top five scorers had distinct integral scores, the maximum possible score of the topper is

A) 87

B) 95

C) 99

D) 100

E) 103