MOCK TEST PAPER -1

- 1. The sum of two numbers is 20 and their geometric mean is 20% lower than their arithmetic mean. Find the ratio of the numbers.

A. 4: 1

B. 9: 1

C. 1: 1

D. 17: 3

E. 5: 1

- 2. A man saves Rs. 100 in January 2002 and increases his savings by Rs. 50 every month. What is the annual saving for the man in the year 2002?

A. 4200

B. 4500

C. 4000

D. 4100

E. None of these

- 3. A certain number of truckds were required to transport 60 tones of steel wire from the TISCO factory in Jamshedpur. However, it was found that since each truck could take 0.5 tones of cargo less, another four trucks were needed. How many trucks were initially planned to be used?

A. 10

B. 15

C. 20

D. 25

E. 30

- 4. A bartender stole champagne from a bottle that contained 50% of spirit and he replaced what he had stolen with champagne having 20% spirit. The bottle then contained only 25% spirit. How much of the bottle did he steal?

A. 80%

B. 83.33%

C. 85.71%

D. 88.88%

E. None of these

- 5. Ram spends 20% of his monthly income on his household expenditure, 15% of the rest on books, 30% of the rest on clothes and saves the rest. On counting, he comes to know that he has finally saved Rs. 9520. Find his monthly income.

A. 10000

B. 15000

C. 20000

D. 12000

E. None of these

- 6. Doctors have advised Renu, a chocolate freak, not to take more than 20 chocolates in one day. When she went to the market to buy her daily quota, she found that if she byts chocolate from the market complex she would have to pay Rs. 3 more for the same number of chocolates than she would have spent had she bought them from her uncle Scrooge's shop, getting two sweets less per rupee. She finally decided to get them from uncle Scrooge's sho paying only in one-rupee coins. How many chocolates did she buy?

A. 12

B. 9

C. 18

D. 15

E. Data Insufficient

- 7.Three amounts x, y and z are such that y is the simples interest on x and z is the simple interest on y. If in all the three cases, rate of interest per annum and the time for which interest is calculated is the same, then find the relation between x, y and z.

A. $xyz = 1$

B. $x^2 = yz$

C. $z = x^2 y$

D. $y^2 = xz$

E. None of these

- 8. A precious stone weighing 35 grams worth Rs. 12,250 is accidentally dropped and gets broken into two pieces having weights in the ratio of 2 :5. If the price varies as the square of the weight then find the loss incurred.

A. 5750

B. 6000

C. 5550

D. 5000

E. 6250

- 9. A, B and C can do some work in 36 days. A and B together do twice as much work as C alone and A and C together can do thrice as much work as B alone. Find the time taken by C to do the whole work.

A. 72 Days

B. 96 Days

C. 108 Days

D. 120 Days

E. None of these

- 10. Tow ducks move along the circumference of a circular pond in the same direction and come alongside each other every 54 minutes. If they moved with same speeds in the opposite directions, they would meet every 9 minutes. It is known that when the ducks moved along the circumference in opposite directions, the distance between them decreased from 54 to 14 feet every 48 seconds. What is the speed of the slower duck?

A. 20 feet/min

B. 15 feet/min

C. 30 feet/min

D. 20.8 feet/min

E. 18.33 feet/min

- 11. Find the area of the triangle inscribed in a circle circumscribed by a square made by joining the mid points of the adjacent sides of a square of side a.
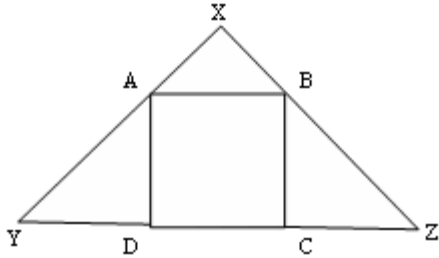
A. $\dfrac{3a^2}{16}$

B. $\dfrac{3\sqrt{3}a^2}{16}$

C. $\dfrac{3a^2(\pi - 1/2)}{4}$

D. $\dfrac{3\sqrt{3}a^2}{32}$

E. None of these

- 12. In the figure given below, XYZ, is a right angled triangle in which Y = 45° and X = 90°. ABCD is a square inscribed in it whose area is . What is the area of triangle XYZ?

A. 100 sqcm

B. 64 sqcm

C. 144 sqcm

D. 81 sqcm

E. None of these

- 13. If $f(x) = \dfrac{1}{g(x)}$, then the minimum value of $f(x) + g(x), f(x) \triangleright 0$ and $g(x) \triangleright 0$, will be

A. 0

B. 1

C. 2

D. Depends on values of **f(x)** and **g(x)**

E. None of these

- 14. Solve the inequality: $\dfrac{x^2 - 9}{3x - x^2 - 24} < 0$

A. $-3 < x < 3$

B. $x < -3$ and $x > 3$

C. $x < -5$ and $x > 5$

D. $x < -7$ and $x > 7$

E. None of these

- 15. If both the roots of the quadratic equation $ax^2 + bx + c = 0$ lies in the interval (0, 3) then a lies in

A. (1, 3)

B. (-1, -3)

C. $\left(\dfrac{-\sqrt{121}}{91}, -\sqrt{8} \right)$

D. (-1, 3)

E. None of these

- 16. Solve for x : $\log \dfrac{12}{13} - \log \dfrac{7}{25} + \log \dfrac{91}{3} = x$

A. 0

B. 1

C. 2

D. 3

E. 4

- 17. The number of ways in which four particular persons A, B, C and D six more persons can stand in a queue so that A always stands before B, B always before C and C always before D is

A. 10!/4!

B. $^{10}P_4$ <c. $^{10}C_4$ </c.

D. 6!/4!

D. 6!/4!

E. None of these

- 18. Eleven books, consisting of five engineering books, four mathematics books and two physics books, are arranged in a shelf at random. What is the probability that the books of each kind are all together?

A. 5/1155

B. 2/1155

C. 3/1155

D. 1/1155

E. None of these

• 19. The extremities of the diagonal of a parallelogram are the points (3, -4) and (-6, 5). If the third vertex is the point (-2, 1), the coordinate of the fourth vertex is

A. (1, 0)

B. (-1, 0)

C. (-1, 1)

D. (1, -1)

E. None of these

• 20. If $A = \{x: x = 2n - 2, n \leq 3, n \in N\}$; $B = \{4n - 1: n \leq 5, n \in N\}$, find $A \cap B$.

A. {0, 2, 4}

B. φ

C. {3, 7}

D. {2, 3}

E. None of these