

CLAT 2019

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Maths Questions for CLAT Exam.

CLAT Maths Quiz 46

Directions: Read the following Questions carefully and choose the right answer:

1. If $x = a + 2/3$, then find the value of 'a' from the equation $3x - 2 = 2x + 4$

- A. 14 B. 12 C. 18 D. 16

2. Perpendicular distance of a point from the three sides of an equilateral triangle is 6 cm, 9 cm and 12 cm. If the point is inside the triangle, then find out the perimeter of the triangle.

- A. $42\sqrt{2}$ cm B. $42\sqrt{3}$ cm C. $51\sqrt{3}$ cm D. $54\sqrt{3}$ cm

3. The cost of levelling a square ground at the rate of Rs. 0.80 per 100 m^2 is Rs. 28.80. Find the cost of fencing the same at Rs. 0.60 per m.

- A. Rs. 72 B. Rs. 144 C. Rs. 36 D. Rs. 21.60

4. Tickets are numbered from 1 to 100 one ticket is drawn at random. What is the probability of getting a number exactly divisible by 3 or 7.

- A. $\frac{47}{100}$ B. $\frac{23}{50}$ C. $\frac{11}{25}$ D. $\frac{43}{100}$

5. Find the value of in place of '?' mark

$$4.8 \left(\frac{8.8}{2.2} - \frac{10.2}{3.4} \right) - 2.4 \times ? + 2.4 = -2.16$$

- A. 1.9 B. 2.9 C. 3.9 D. 4.9

6. The sum of two numbers is 36 and their H.C.F. and L.C.M. are 3 and 105 respectively. The sum of the reciprocals of two numbers is

- A. $\frac{2}{35}$ B. $\frac{3}{25}$ C. $\frac{4}{35}$ D. $\frac{2}{25}$

7. The average of four numbers is 60. If the first number is one - fourth of the sum of the last three numbers, then the first number is :

- A. 15 B. 45 C. 48 D. 60.25

8. A cricket team won 40% of the total number of matches it played during a year. If it lost 50% of the matches played and 20 matches were drawn, the total number of matches played by the team during the year was

- A. 100 B. 150 C. 200 D. 225

9. Prabhat took a loan from a bank at the rate of 8% p.a. S.I. and gave the same amount to Ashish as a loan at the rate of 12% p.a. If at the end of 12 years, he made a profit of Rs. 320 in the deal, what was the original amount that he had taken as loan from the bank?

A. Rs. 666.67

B. Rs. 550.33

C. Rs. 633.45

D. Rs. 575.55

10. Sheetal removed a certain quantity from a solution of 70% milk and replaced it by pure water. The concentration of the resulting mixture is now 60%. What fraction of milk did Sheetal remove?

A. $\frac{1}{5}$ th part

B. $\frac{1}{7}$ th part

C. $\frac{2}{5}$ th part

D. $\frac{3}{7}$ th part

Correct Answers:

1	2	3	4	5	6	7	8	9	10
D	D	B	D	C	C	C	C	A	B

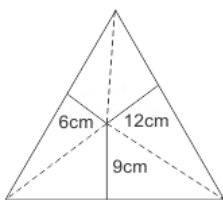
Explanations:

1. As $3x - 2 = 2x + 4$ (i)
 $\Rightarrow x = 6$

Now $\frac{a+2}{3} = 6 \Rightarrow a = 16$.

Hence, option D is correct.

2.



Let the side of the triangle be a then area of the triangle

$$\frac{1}{2} \times 12 \times a + \frac{1}{2} \times 9 \times a + \frac{1}{2} \times 6 \times a = \frac{\sqrt{3}}{4} a^2$$

$$\Rightarrow \frac{27}{2} a = \frac{\sqrt{3}}{4} a^2$$

$$\Rightarrow a = \frac{54}{\sqrt{3}} = 18\sqrt{3} \text{ cm}$$

Perimeter of the triangle = $3 \times 18\sqrt{3} = 54\sqrt{3} \text{ m}$.

Hence, option D is correct.

3. Cost of 100 sq. m. = Rs. 0.80

$$\text{Cost of 1 sq. m.} = \frac{0.8}{100} = \text{Rs. } \frac{80}{10000}$$

$$\text{Area of square ground} = \frac{\text{Total cost}}{\text{Cost per m}^2}$$

$$= \frac{28.8}{80} \times 10000 = 3600 \text{ m}^2$$

$$\text{Side of square} = \sqrt{\text{Area of sq.}} = \sqrt{3600} = 60 \text{ m}$$

$$\text{Perimeter of square} = 4 \times \text{side} = 4 \times 60 = 240 \text{ m}$$

$$\text{Cost of fencing} = 0.6 \times 240 = \text{Rs. } 144$$

Hence, option B is correct.

4. $n(S) = {}^{100}C_1 = 100$

The number of divisors of 3 = 33

The number of divisors of 7 = 14

The number of common 2 divisors of 3 and 7 = 4

Numbers divisible by 3 or 7 = $33 + 14 - 4 = 43$

$$\therefore P(E) = \frac{33 + 14 - 4}{100} = \frac{43}{100}$$

Hence, option D is correct.

5. $4.8 \left(\frac{8.8}{2.2} - \frac{10.2}{3.4} \right) - 2.4 \times ? + 2.4 = -2.16$

$$\Rightarrow 4.8(4 - 3) - 2.4 \times (?) + 2.4 = -2.16$$

$$\Rightarrow 7.2 + 2.16 = 2.4 \times (?)$$

$$\Rightarrow (?) = \frac{9.36}{2.4} = 3.9$$

Hence, option C is correct.

6. Let the two numbers be x and y.

$$\therefore x + y = 36 \dots\dots(i)$$

We know

$$x \times y = \text{L.C.M.} \times \text{H.C.F.}$$

$$= 3 \times 105 = 315$$

$$\text{So, sum of reciprocals : } \frac{1}{x} + \frac{1}{y} = \frac{x+y}{xy} = \frac{36}{315}$$

$$\Rightarrow \frac{1}{x} + \frac{1}{y} = \frac{4}{35}$$

Hence, option C is correct.

7. Let the numbers be a, b, c and d.

$$\frac{a + b + c + d}{4} = 60$$

$$\Rightarrow a + b + c + d = 240 \dots\dots(i)$$

$$\text{Also, } a = \frac{1}{4}(b + c + d) \dots\dots(ii)$$

From (i) and (ii)

$$5a = 240 \Rightarrow a = 48$$

Hence, option C is correct.

8. 40% of x + 50% of x + 20 = x, where x = Total number of matches

$$\Rightarrow \frac{40}{100}x + \frac{50}{100}x + 20 = x \Rightarrow x = 200$$

Hence, option C is correct.

9. Let the original amount be Rs. x. Then

$$\frac{x \times 12 \times 12}{100} - \frac{x \times 8 \times 12}{100} = 320 \Rightarrow x = \frac{2000}{3} = \text{Rs. } 666.67$$

Hence, option A is correct.

10. Pure water is 0% milk solution :

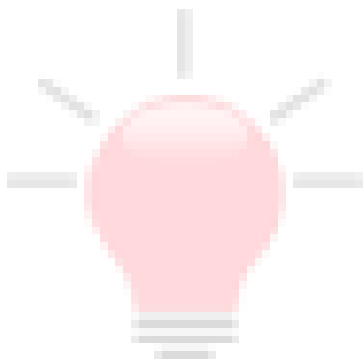
∴ Using alligation :

$$\begin{array}{ccc} 0\% & & 70\% \\ & \backslash & / \\ & 60\% & \\ & / & \backslash \\ 10 & & 60 \end{array}$$

Thus, the ratio of water to that of original solution is = 1 : 6.

Thus, fraction removed = $\frac{1}{7}$ th part.

Hence, option B is correct.



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