

CLAT 2019

TEST SERIES PLAN

BY NLU & NUJS TOPPERS

35
FULL LENGTH
TESTS

₹ **2499/-**

JOIN NOW

by

TestZone

INDIA'S LEAST PRICED TEST SERIES

- ✓ Brilliant Test Analysis
- ✓ Excellent Content
- ✓ Unmatched Explanations

JOIN NOW

Maths Questions for CLAT Exam.

CLAT Maths Quiz 43

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

1. Divide 300 into two parts so that half of one part is less than the other part by 48.

- A. 160, 140 B. 168, 132 C. 150, 150 D. 120, 180

2. Find the value of x in $\frac{1}{x-1} + \frac{1}{x-2} = \frac{3}{x-3}$

- A. ± 2 B. ± 3 C. $\pm \sqrt{3}$ D. 4

3. Find the area of the triangle whose vertices are (x, x), (0, 2x), (2x, 0).

- A. $4x^2$ units B. 0 units C. $2x^2$ units D. x^2 units

4. A roller with diameter 84 cm and length 120 cm, makes 500 complete rotation to flat a field. If cost to flat the field is Rs. 5 per m², then what will be the complete cost to flat the field?

- A. Rs. 7920 B. Rs. 8270 C. Rs. 6850 D. Rs. 7380

5. A person has 3 shares in a lottery containing 2 prizes and 8 blanks. The chance of getting a prize is

- A. $\frac{8}{13}$ B. $\frac{12}{15}$ C. $\frac{7}{15}$ D. $\frac{6}{15}$

6. $5.6 \left[\frac{19.6}{4.9} - \frac{25.2}{8.4} \right] - 2.8 \times 1.7 + 1.4 \times 0.5 = ?$

- A. 0.84 B. 1.54 C. 0.7 D. 2.45

7. Each person in a Residents' Welfare Meeting contributed as many rupees as there were members present. If the Chairman, apart from his share, contributed Rs. 49 more to have the total collection Rs. 625, how many persons were present in the meeting?

- A. 8 B. 20 C. 24 D. 25

8. A student's marks were wrongly entered as 83 instead of 63. As a result, the average marks of the class increased by 0.5. The number of students in the class is

- A. 10 B. 20 C. 40 D. 73

9. Water tax is increased by 20% but its consumption is decreased by 20%, then the increase or decrease in the expenditure is

A. 5%

B. 4%

C. 6%

D. 8%

10. Anil buys two varieties of sugar costing Rs. 15 per kg and Rs. 20 per kg. He mixes these two varieties in a certain ratio that costs him Rs. 18 per kg. Find the ratio of the cheaper quantity to that of the dearer quantity.

A. 1 : 2

B. 2 : 1

C. 3 : 2

D. 2 : 3

Correct Answers:

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

Explanations:

1. Let one part be x and the other part be $(300 - x)$. It is given that half of one part is 48 less than the other

$$\Rightarrow \frac{1}{2}x = (300 - x) - 48$$

$$\Rightarrow \frac{x}{2} = 300 - x - 48$$

$$\Rightarrow \frac{x}{2} + x = 300 - 48$$

$$\Rightarrow \frac{3x}{2} = 252$$

$$\Rightarrow x = \frac{504}{3}$$

$$\Rightarrow x = 168$$

Hence, one part is 168 and the other part is $= 300 - 168 = 132$.

Hence, option B is correct.

2.

$$\frac{1}{x-1} + \frac{1}{x-2} = \frac{3}{x-3}$$

$$\Rightarrow \frac{x-2+x-1}{x^2-2x-x+2} = \frac{3}{x-3}$$

$$\Rightarrow \frac{2x-3}{x^2-3x+2} = \frac{3}{x-3}$$

$$\Rightarrow 3x^2 - 9x + 6 = 2x^2 - 6x - 3x + 9$$

$$\Rightarrow x^2 = 3$$

$$\Rightarrow x = \pm \sqrt{3}$$

Hence, option C is correct.

3. Area of the triangle

$$= \frac{1}{2} [x(2x-0) + 0(0-x) + 2x(x-2x)]$$

$$= \frac{1}{2} [2x^2 + 0 - 2x^2] = 0$$

Note. : (x, x) is midpoint of $(2x, 0)$ and $(0, 2x)$. Hence, these three points are co-linear.
Hence, option B is correct.

4. Surface area of the roller = $2\pi rh$

$$= 2 \times \frac{22}{7} \times \frac{84}{2} \times 120$$

$$= 316.80 \text{ cm}^2 = 3.1680 \text{ m}^2$$

$$\text{Total distance travel in 500 rotation} = 500 \times 3.1680 = 1584 \text{ m}^2$$

$$\text{Hence, required cost} = 5 \times 1584 = \text{Rs. } 7920$$

Hence, option A is correct.

5. $n(S) = {}^{10}C_3$

$$n(E) = {}^2C_1 \cdot {}^8C_2 + {}^2C_2 \cdot {}^2C_1$$

$$\therefore P(E) = \frac{2 \times 28 + 1 \times 8}{120} = \frac{8}{15}$$

Hence, option A is correct.

6.

$$5.6 \left[\frac{19.6}{4.9} - \frac{25.2}{8.4} \right] - 2.8 \times 1.7 + 1.4 \times 0.5$$

$$= 5.6 [4 - 3] - 2.8 \times 1.7 + 1.4 \times 0.5$$

$$= 5.6 - 2.8 \times 1.7 + 1.4 \times 0.5$$

$$= 1.4 (4 - 2 \times 1.7 + 0.5)$$

$$= 1.4 (4.5 - 3.4) = 1.4 \times 1.1 = 1.54$$

Hence, option B is correct.

7. Number of person present = $\sqrt{625 - 49} = \sqrt{576}$

$$= \sqrt{(24)^2} = 24$$

Hence, option C is correct.

8. Let T be the total marks obtained by all the students in the class and n be the number of students.

A be the average of marks obtained with wrong entry

$$\Rightarrow A = \frac{T}{n} \quad \dots\dots(i)$$

$$\text{and } A - \frac{1}{2} = \frac{T - 83 + 63}{n} \quad \dots\dots(ii)$$

Subtracting (i) from (ii), we get

$$-\frac{1}{2} = -\frac{20}{n} \Rightarrow n = 40.$$

Hence, option C is correct.

9. Let the original consumption = 100 units and tax = Rs. 100 per unit.

Then the original expenditure = Rs. 100×100

New expenditure = 80×120 = Rs. 9600

$$\text{Decrease in expenditure} = \frac{400}{100 \times 100} \times 100 = 4\%$$

Hence, option B is correct.

- 10.** Rs. 18 per kg is the mean cost price.

Using alligation :

$$\begin{array}{ccc} 15 & & 20 \\ & \backslash & / \\ & 18 & \\ & / & \backslash \end{array}$$
$$(20 - 18) : (18 - 15) = 2 : 3$$

Thus the ratio of cheaper quantity to dearer quantity is $= (20 - 18) : (18 - 15) = 2 : 3$

Hence, option D is correct.



SmartKeeda
The Question Bank

CLAT 2019

TEST SERIES PLAN

BY NLU & NUJS TOPPERS

35
FULL LENGTH
TESTS

₹ **1799**

JOIN NOW

by

TestZone

INDIA'S LEAST PRICED TEST SERIES

- ✓ Brilliant Test Analysis
- ✓ Excellent Content
- ✓ Unmatched Explanations

JOIN NOW