

BLOGS

Sectional Test on Quantitative Techniques for CLAT UG [Part 11]

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1. The average of 8 numbers is 42. If one number is increased by 16, what is the new average?

- a) 44
- b) 42
- c) 40
- d) 46

2. A shop owner increases an article's price by 25% over its cost price before offering a 20% discount. Find the net profit or loss percentage.

- a) 5% loss
- b) No profit no loss
- c) 10% profit
- d) 15% profit

3. Two numbers are in the ratio 7 : 11 and their sum is 324. What is the larger number?

- a) 126
- b) 154
- c) 198
- d) 176

4. A car travels the first 60 km at 30 km/h and the next 60 km at 60 km/h. What is the average speed of the car?

- a) 40 km/h
- b) 45 km/h
- c) 48 km/h
- d) 36 km/h

5. If 12 men can complete a work in 15 days, how many days will 10 men take?

- a) 16
- b) 18
- c) 20
- d) 22

6. The selling price of an article is ₹1,320 after a loss of 12%. What is its cost price?

- a) ₹1,400
- b) ₹1,500
- c) ₹1,200
- d) ₹1,600

7. Out of a total of 20 balls (4 white, 5 black, and 11 red) in a bag, one ball is randomly selected. Determine the likelihood that the chosen ball is not red.

- a) $\frac{9}{20}$
- b) $\frac{11}{20}$
- c) $\frac{4}{20}$
- d) $\frac{5}{20}$

8. Five students have an average age of 16 years. If a teacher is included, the new average age rises to 20 years. Determine the age of the teacher.

- a) 36
- b) 40
- c) 44
- d) 50

9. Two trains start from the same point in opposite directions at speeds of 54 km/h and 36 km/h. How far apart will they be after 10 minutes?

- a) 10 km
- b) 12 km
- c) 15 km
- d) 18 km

10. A sum amounts to ₹2,420 in 2 years at 10% simple interest. What is the principal?

- a) ₹2,000
- b) ₹2,200
- c) ₹2,100
- d) ₹1,800

11. If the side of a square is increased by 20%, by what percentage does its area increase?

- a) 20%
- b) 40%
- c) 44%
- d) 48%

12. The mean of 15 data points is 30. Given that the mean of the initial 9 data points is 26, calculate the mean of the final 6 data points.

- a) 34
- b) 36
- c) 38
- d) 40

13. A mixture of milk and water has a ratio of 5:3. When 16 litres of water are added, the ratio changes to 5:7. Determine the starting quantity of the mixture.

- a) 32 litres
- b) 40 litres
- c) 48 litres
- d) 56 litres

14. A number when divided by 5 leaves a remainder 2. What will be the remainder when its square is divided by 5?

- a) 1
- b) 2
- c) 4
- d) 0

15. The ratio of the present ages of A and B is 4 : 5. After 8 years, the ratio becomes 6 : 7. What is A's present age?

- a) 24
- b) 32
- c) 40
- d) 48

Correct Answers with their Explanation

1. Correct Answer: A

Increase in total = 16

New average = $42 + (16/8) = 44$

2. Correct Answer: B

$125\% \times 80\% = 100\% \rightarrow$ No gain, no loss

3. Correct Answer: C

Total parts = 18

1 part = $324/18 = 18$

Larger = $11 \times 18 = 198$

4. Correct Answer: A

Total distance = 120 km

Total time = 3 hrs

Avg speed = $120/3 = 40$ km/h

5. Correct Answer: B

Men $\times$ Days = Men $\times$ Days

$12 \times 15 = 10 \times x$

$x = 18$ days

6. Correct Answer: B

CP = $1320/0.88 = ₹1500$

7. Correct Answer: A

Non-red = $4 + 5 = 9$

Total = 20

Probability = $9/20$

8. Correct Answer: B

$$\text{Old total} = 5 \times 16 = 80$$

$$\text{New total} = 6 \times 20 = 120$$

$$\text{Teacher's age} = 120 - 80 = 40$$

9. Correct Answer: C

$$\text{Relative speed} = 54 + 36 = 90 \text{ km/h}$$

$$\text{Time} = 10 \text{ min} = \frac{1}{6} \text{ hr}$$

$$\text{Distance} = 90 \times \frac{1}{6} = 15 \text{ km}$$

10. Correct Answer: A

$$\text{SI} = 20\%$$

$$2420 = 120\%$$

$$\text{Principal} = 2420 \times 100 / 120 = ₹2000$$

11. Correct Answer: C

$$\text{Area} \propto \text{side}^2$$

$$\text{Increase} = (1.2)^2 - 1 = 1.44 - 1 = 44\%$$

12. Correct Answer: B

$$\text{Total} = 15 \times 30 = 450$$

$$\text{First 9 total} = 9 \times 26 = 234$$

$$\text{Remaining} = 216$$

$$\text{Average} = 216/6 = 36$$

13. Correct Answer: A

Milk constant

Water increases from 3 parts to 7 parts $\rightarrow$ increase = 4 parts = 16 L

$$1 \text{ part} = 4 \text{ L}$$

$$\text{Total original parts} = 8$$

$$\text{Quantity} = 8 \times 4 = 32 \text{ litres}$$

14. Correct Answer: C

$$\text{Number} = 5k + 2$$

$$\text{Squaring it: } (5k+2)^2 = 25k^2 + 20k + 4$$

$$\text{Remainder} = 4$$

15. Correct Answer: B

Let ages = $4x$ and $5x$

$$(4x+8)/(5x+8) = 6/7$$

Cross-multiply $\rightarrow x = 8$

$$A = 4 \times 8 = 32$$