

Percentage Questions for CAT

Question 1: 64% of a bigger number is 6 more than 75% of a smaller number. The bigger number is 140 more than the smaller one. What is the sum of both numbers?

Answer: 1660

Explanation: Let the smaller number be x , then

The bigger number = $(x + 140)$

According to the question

$$(x + 140) \times 64\% - x \times 75\% = 6$$

$$0.64x + 89.6 - 0.75x = 6$$

$$\Rightarrow x = 760$$

$$\text{Required sum} = \text{Smaller number} + \text{Bigger number} = x + (x + 140) = 760 + 900 = 1660$$

Question 2: If the length of a rectangle is increased by 16% and its breadth is decreased by 25%, find the percentage decrease in the area of the rectangle.

Answer: 13%

Explanation: Let the original length and breadth of the rectangle be 100 units and 40 units respectively.

$$\text{Increased length} = 100 \times \frac{116}{100} = 116 \text{ units}$$

$$\text{Decreased breadth} = 40 \times \frac{75}{100} = 30 \text{ units}$$

$$\text{Area decreased by} = (100 \times 40) - (116 \times 30) = 520 \text{ square units}$$

$$\text{Required percentage} = \frac{520}{100 \times 40} \times 100\% = 13\%$$

Question 3: The total salary of A and B is Rs 60,000. If the salary of A increases by 8% and the salary of B increase by 6%, then their total salary would increase to Rs 64,100. Find the salary of B

Answer: Rs 35000

Explanation: Let the salary of B be x .

So, the salary of A = $60000 - x$

\therefore According to the question:

$$8\% \text{ of A's salary} + 6\% \text{ of B's salary} = 64100 - 60000$$

$$\Rightarrow \frac{8}{100} \times (60000 - x) + \frac{6}{100} \times x = 4100$$

$$\Rightarrow 480000 - 8x + 6x = 410000$$

$$\Rightarrow 2x = 480000 - 410000$$

$$\Rightarrow x = \text{Rs. } 35000$$

Question 4: The number of seats in a stadium is decreased by 15% and also the price of the ticket is increased by 20%. What is the effect on the revenue collected?

Answer: 2% increase

Explanation: Let the number of seats in the stadium initially be 100.

Let the price of each ticket initially be Rs. 10.

Initial revenue of the stadium = $100 \times 10 = \text{Rs. } 1000$

New number of seats in the stadium = 85% of 100 = 85

New price of each ticket = 120% of 10 = Rs. 12

New revenue of the stadium = $85 \times 12 = \text{Rs. } 1020$

Increase in revenue of stadium = $1020 - 1000 = \text{Rs. } 20$

Percent increase in revenue of the stadium = $(20/1000) \times 100 = 2\%$

Question 5: A man spent 40% of his monthly income on food items. Of the remaining amount, he spent 80% on E.M.I. Now he saves $\frac{5}{6}$ of the remaining amount and then he saves 78,600 yearly. Find the monthly income of a man.

Answer: 65500

Explanation: Let the monthly income of a man be $100x$.

Amount spent on food items = $\frac{40}{100} \times 100x = 40x$

Amount spent of E.M.I. = $\frac{80}{100} \times (100x - 40x) = \frac{80}{100} \times 60x = 48x$

Remaining amount = $60x - 48x = 12x$

Amount saved by man = $\frac{5}{6} \times 12x = 10x$

Amount saved monthly = $\frac{78600}{12} = \text{Rs. } 6550$

\therefore Using the data provided in the question, we get:

$10x = 6550$

Monthly income of man = $100x = \text{Rs. } 65500$