

Q1: If $3 : 5 = x : 20$, then the value of x is:

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

Solution:

$$\frac{3}{5} = \frac{x}{20} \Rightarrow x = \frac{3 \times 20}{5} = 12$$

Answer: B

Q2: The ratio of 2 hours to 45 minutes is:

- (a) 4:3
- (b) 8:3
- (c) 3:8
- (d) 3:4

Solution:

$$\begin{aligned} 2 \text{ hours} &= 120 \text{ minutes} \\ \text{Ratio} &= \frac{120}{45} = \frac{8}{3} \end{aligned}$$

Answer: B

Q3: 25% of 200 is equal to:

- (a) 40
- (b) 50
- (c) 60
- (d) 70

Solution:

$$25\% \text{ of } 200 = \frac{25}{100} \times 200 = 50$$

Answer: B

Q4: What percentage is 15 of 75?

- (a) 10%
- (b) 20%
- (c) 25%
- (d) 30%

Solution:

$$\frac{15}{75} \times 100 = 20\%$$

Answer: B

Q5: A number is increased by 20% and then decreased by 20%. The net change in the number is:

- (a) 0%
- (b) 4% decrease
- (c) 4% increase
- (d) 20% decrease

Solution: Let the number be x .

$$x \times 1.20 \times 0.80 = 0.96x$$

$$\text{Net change} = (1 - 0.96) \times 100 = 4\% \text{ decrease}$$

Answer: B

Q6: The price of a book is reduced by 15%. If the original price was Rs.200, the new price is:

- (a) Rs.160
- (b) Rs.170
- (c) Rs.180
- (d) Rs.190

Solution:

$$\text{New price} = 200 \times (1 - 0.15) = 200 \times 0.85 = 170$$

Answer: B

Q7: If the cost price of an article is Rs.80 and the selling price is Rs.100, the profit percentage is:

- (a) 15%
- (b) 20%
- (c) 25%
- (d) 30%

Solution:

$$\text{Profit} = 100 - 80 = 20$$

$$\text{Profit percentage} = \frac{20}{80} \times 100 = 25\%$$

Answer: C

Q8: A shopkeeper sells a toy for Rs.120 at a loss of 20%. The cost price of the toy is:

- (a) Rs.140
- (b) Rs.150
- (c) Rs.160
- (d) Rs.180

Solution:

$$\text{Selling price} = 0.80 \times \text{Cost price} \implies 120 = 0.80 \times \text{Cost price}$$

$$\text{Cost price} = \frac{120}{0.80} = 150$$

Answer: B

Q9: The simple interest on Rs.500 for 2 years at 5% per annum is:

- (a) Rs.40
- (b) Rs.50
- (c) Rs.60
- (d) Rs.70

Solution:

$$\text{Simple Interest} = \frac{500 \times 5 \times 2}{100} = 50$$

Answer: B

Q10: If the principal is Rs.1000, the rate is 10% per annum, and the time is 3 years, the simple interest is:

- (a) Rs.200
- (b) Rs.300
- (c) Rs.400
- (d) Rs.500

Solution:

$$\text{Simple Interest} = \frac{1000 \times 10 \times 3}{100} = 300$$

Answer: B

Q11: In a class of 40 students, 25% are absent. The number of students present is:

- (a) 20
- (b) 25
- (c) 30
- (d) 35

Solution:

$$\text{Absent students} = 0.25 \times 40 = 10$$

$$\text{Present students} = 40 - 10 = 30$$

Answer: C

Q12: A car travels 60 km in 1 hour. If it travels at the same speed, the distance covered in 45 minutes is:

- (a) 30 km
- (b) 40 km
- (c) 45 km
- (d) 50 km

Solution:

$$\text{Speed} = 60 \text{ km/h}$$

$$\text{Distance} = 60 \times \frac{45}{60} = 45 \text{ km}$$

Answer: C

Q13: The ratio of boys to girls in a school is 3:2. If there are 1200 students, the number of girls is:

- (a) 400
- (b) 480
- (c) 600
- (d) 720

Solution:

$$\text{Total parts} = 3 + 2 = 5$$

$$\text{Number of girls} = \frac{2}{5} \times 1200 = 480$$

Answer: B

Q14: A man spends 30% of his salary on rent, 20% on food, and saves the rest. If his salary is Rs.15,000, his savings are:

- (a) Rs.5,000
- (b) Rs.6,000
- (c) Rs.7,000
- (d) Rs.8,000

Solution:

$$\text{Total expenditure} = 30\% + 20\% = 50\%$$

$$\text{Savings} = 15000 \times (1 - 0.50) = 7500$$

Answer: C

Q15: The price of a shirt is increased by 10% and then decreased by 10%. The final price is:

- (a) Equal to the original price
- (b) 1% less than the original price

- (c) 1% more than the original price
- (d) 10% less than the original price

Solution: Let the original price be P .

$$P \times 1.10 \times 0.90 = 0.99P$$

Final price = $0.99P$ (1% less than the original price)

Answer: B

www.udgamwelfarefoundation.com