

Assignment -1

Topic :- percentage and Profit and loss

$$1. \frac{25}{100} \times 200 = 25 \times 2 = 50$$

Answer : b) 50

$$2. \frac{40}{100} \times x = 80$$

$$x = \frac{80 \times 100}{40} = 2 \times 100 = 200$$

Answer: c) 200

$$3. \frac{75}{100} \times x = 150$$

$$x = \frac{150 \times 100}{75} = 2 \times 100 = 200$$

Answer: b) 200

$$4. \frac{15}{100} \times \frac{6}{2} = 3 \times 6 = 18$$

Answer : c) 18

$$5. \frac{30}{100} \times x = 90$$

$$x = \frac{90 \times 100}{30} = 3 \times 100 = 300$$

Answer : c) 300

$$6. \frac{250 - 200}{200} \times 100$$

$$= \frac{50}{200} \times 100$$

Answer: b) 25 %.

$$7. \frac{50000 - 40000}{40000} \times 100$$

$$= \frac{10000}{40000} \times 100$$

Answer: b) 25 %.

$$8. \frac{10000 - 8000}{10000} \times 100$$

$$= \frac{2000}{10000} \times 100$$

= c) 20 %.

$$9. \frac{500 - 400}{500} \times 100$$

$$= \frac{100}{500} \times 100$$

Answer: c) 20 %.

$$10. \% \text{ loss} = \frac{CP - SP}{CP} \times 100$$

$$= \frac{600 - 450}{600} \times 100$$

$$= \frac{150}{600} \times 100 = \frac{150}{6}$$

Answer = c) 25 %.

11. 30% of 400

$$\frac{30}{100} \times 400 = 120$$

40% of 300

$$\frac{40}{100} \times 300 = 120$$

Answer: c) Both are equal

12. 40% of x = 8000

$$\frac{40}{100} \times x = 8000$$

$$x = \frac{8000 \times 100}{40} = \frac{80000}{40} = 20000$$

Answer: c) 20000

13. A = B + 20% of B

$$A = B + 0.2B$$

$$= 1.2B$$

$$\begin{aligned}\text{Percentage decrease} &= \frac{A - B}{A} \times 100 \\ &= \frac{1.2B - B}{1.2B} \times 100 = \frac{0.2B}{1.2B} \times 100 = \frac{0.2}{1.2} \times 100 \\ &= \frac{200}{12} \\ &= 16.67\%\end{aligned}$$

Answer: b) 16.67%

14. Expense = price \times quantity

$$\text{New price} = 1.25p$$

$$p \times c = 1.25p \times c$$

$$= 20\%$$

Answer : a) 20%.

15. let's assume B income = 1000

$$A = B + 40\% \text{ of } B$$

$$A = 1000 + 400 = 1400$$

$$\therefore \text{decrease} = \frac{1400 - 1000}{1400} \times 100$$

$$= \frac{400}{1400} \times 100 = \frac{400}{14}$$

$$= 28.57\%$$

Answer : a) 28.57%.

16. percentage = $a + b + \frac{ab}{100}$

$$= 20 - 10 + \frac{20 \times 10}{100}$$

$$= 10 + 2$$

$$= 8\% \text{ increase}$$

Answer : a) 8% increase.

17. percentage = $a + b + \frac{ab}{100}$

$$= 80 - 20 + \frac{30 \times -20}{100}$$

$$= 10 - 6$$

$$= 4\% \text{ increase}$$

Answer : a) 4% increase.

$$18. \text{ percentage} = 25 - 20 + \frac{25 \times -20}{200} = 5 - \frac{10}{2}$$

$$= 5 - 5$$

$$= 0\%$$

Answer: a) 0%.

$$19. \text{ percentage} = a + b + \frac{ab}{100}$$

$$= 40 - 30 + \frac{40 \times -30}{100}$$

$$= 10 - 12$$

$$= -2\% \text{ decrease.}$$

Answer: d) 2% decrease.

$$20. \text{ percentage} = a + b + \frac{ab}{100}$$

change

$$= 20 - 10 + \frac{20 \times -10}{100}$$

$$= 10 - 2$$

$$= 8\% \text{ increase.}$$

Answer: a) 8% increase.

$$21. Sp = Cp + 25\% \text{ of } Cp$$

$$Sp = Cp + 0.25 Cp$$

$$= 1.25 Cp$$

$$Sp = 125\%.$$

Answer: b) 125%.

22. $S.P. = C.P. - (10\% \text{ of } C.P.)$

$$S.P. = 500 - \left(\frac{10}{100} \times 500 \right)$$

$$= 500 - 50$$

$$= 450$$

Answer: c) 450

23. $C.P. = 100$

$$\text{Profit} = 20$$

$$S.P. = 120$$

Profit % on S.P.

$$= \frac{\text{Profit}}{S.P.} \times 100$$

$$= \frac{20}{120} \times 100 = \frac{200}{12}$$

$$= 16.67$$

Answer: a) 16.67

24. Marked price = 1200

$$\text{Selling price} = 960$$

$$\text{discount} = M.P. - S.P.$$

$$= 1200 - 960$$

$$= 240$$

$$\therefore \frac{240}{1200} \times 100\% = 20\%$$

Answer: b) 20%

25. Cost price = 500 rs
Selling price = 650 rs

$$\text{profit} = \text{Sp} - \text{Cp}$$

$$= 650 - 500$$

$$= 150$$

$$\begin{aligned}\text{profit \%} &= \frac{150}{500} \times 100 \\ &= \frac{150}{5} \\ &= 30\%\end{aligned}$$

Answer: c) 30%

26. B's income = 100

A's income = 120

$$\% \text{ decrease} = \frac{120 - 100}{120} \times 100$$

$$= \frac{20}{120} \times 100 = 16.67\%$$

Answer: a) 16.67 %.

$$27. \frac{B}{G} = \frac{3}{2}$$

$$\begin{aligned}\% \text{ of boys out of total} &= \frac{3}{5} \times \frac{100}{2} \\ &= 60\%\end{aligned}$$

Answer: d) 60 %.

28. $\frac{250000 - 200000}{200000} \times 100$
 $= \frac{50000}{200000} \times 100$
 $= 25\%$.

Answer: b) 25%.

29. Total votes = x
 $65\% \text{ of } x - 35\% \text{ of } x = 3000$

$$\frac{65}{100}x - \frac{35}{100}x = 3000$$

$$\frac{30}{100}x = 3000$$

$$x = \frac{3000 \times 100}{30}$$

$$x = 10,000.$$

30. $P = 100$ After reduction = 70
of 30%.

$$\text{increase required} = 100 - 70 = 30$$

$$\% \text{ increase} = \frac{30}{70} \times 100$$

$$= 42.85\%$$

Answer: b) 42.85%.

$$31. \text{ percentage} = a + b + \frac{ab}{100}$$

$$= 50 - 50 + \frac{50 \times -50}{100}$$

$$= 0 + (-25)$$

$$= -25\%$$

Answer: b) 25% decrease.

$$32. B = 100$$

$$A = 100 + 20 = 120$$

$$\% = \frac{120 - 100}{120} \times 100$$

$$= \frac{20}{120} \times 100$$

$$= \frac{1}{6} \times 100$$

$$= 16.67\%$$

Answer: a) 16.67%

$$33. 30\% \text{ of } x = 90$$

$$\frac{30}{100} \times x = 90$$

$$x = \frac{90 \times 100}{30}$$

$$x = 300$$

$$60\% \text{ of } x$$

$$60\% \text{ of } 300$$

$$= \frac{60}{100} \times 300$$

$$= 60 \times 3$$

$$= 180$$

Answer: c) 180

34. 25% of $x = 5000$

$$\frac{25}{100} \times x = 5000$$

$$x = \frac{5000 \times 100}{25}$$

$$x = 20,000$$

Answer: c) 20,000

35. Initial price = 100

Consumption = 100L

20% increase

New price = 120%

$$\text{Maintain expense} = \frac{100 \times 100}{120}$$

$$= 83.33 \text{ liters}$$

Reduce consumption.

$$100 - 83.33 = 16.67\%$$

Answer: a) 16.67%

36. percentage change = $20 - 10 + \frac{20 \times 10}{100}$

$$= 10 - 2$$

= 8% increase

Answer: a) 8% increase

$$37. CP = 100$$

$$MP = 100 + 25 = 125$$

Selling price after 20% discount

$$SP = 125 - (20\% \text{ of } 125)$$

$$= 125 - 25$$

$$= 100$$

$$\text{Profit / loss} = SP - CP$$

$$= 100 - 100 = 0\%$$

Answer : a) 0%.

$$38. CP = 500$$

Sold at loss at 20%.

$$\text{Loss} = 20\% \text{ of } 500$$

$$= \frac{20}{100} \times 500$$

$$= 100$$

$$SP = 500 - 100 = 400$$

Answer : c) 400

$$39. \text{percentage change} = 10 - 10 + \frac{10\% - 10}{100}$$

$$= 0 - \frac{10\%}{100} = 0 - 0.1$$

$$= -1\%$$

Answer : b) 1% decrease.

40. passing marks = $200 + 20$

Total marks = x

$$\frac{40}{100} \times x = 220$$

$$x = \frac{220 \times 100}{40}$$

40

$$x = \frac{22 \times 100}{4}$$

$$x = 550$$

Answer: b) 550

41. 20% rent + 30% food + 10% transport

Saves = 18000

x = Salary

Total Spend = 60%

$$40\% \cdot x = 18000$$

$$\frac{40}{100} \times x = 18000$$

$$x = \frac{18000 \times 100}{40}$$

$$x = 45000$$

Answer: b) 45000

42. Price = 100.

$$\text{percentage change} = a + b + \frac{ab}{100}$$

$$= 80 - 30 + \frac{80 \times -30}{100}$$

$$= 0 - 9$$

$$= -9\%$$

Answer : b) 9% decrease

43. Current population = 10,000

$$\text{after 1 year} = 11000$$

$$\begin{aligned}\text{after 2 years} &= 11000 + \frac{10}{100} \times 11000 \\ &= 12,100\end{aligned}$$

$$\begin{aligned}\text{after 3 years} &= 12100 + 10\% \cdot 12100 \\ &= 13,310\end{aligned}$$

Answer : a) 13,310

44. 15% of A = 20% of B

A : B : ?

$$\frac{15}{100} A = \frac{20}{100} B$$

$$\frac{A}{B} = \frac{20}{100} \times \frac{100}{15}$$

$$\frac{A}{B} = \frac{20}{15} = \frac{4}{3}$$

$$A:B = 4:3$$

Answer : b) 4:3.

$$\begin{aligned}45. \quad SP &= CP(100 + \% \text{ Profit}) \\&= \frac{100}{100} \times 800(100 + 25) \\&= \frac{100}{100} \times 800 \times (125) \\&= 1000\end{aligned}$$

Answer : b) 1000

$$46. \quad CP = 200$$

$$SP = 250$$

$$\begin{aligned}\text{Profit \%} &= \frac{250 - 200}{200} \times 100 \\&= \frac{50}{200} \times 100 \\&= 25\%\end{aligned}$$

Answer : b) 25%.

$$47. CP = n$$

$$SP = n + 20\% \text{ of } n = 1.20n$$

$$1.20n = 720$$

$$n = \frac{720}{1.20} = 600$$

Answer: a) 600

$$48. SP = \frac{CP (100 - \% \text{ loss})}{100}$$

$$= \frac{500 (100 - 15)}{100}$$

$$= \frac{500 \times 85}{100}$$

$$= 425$$

Answer: b) 425

$$49. SP = \frac{CP (100 - \% \text{ loss})}{CP}$$

$$= \frac{1500 (100 - 10)}{1500}$$

$$= 15 \times 90$$

$$= 1350$$

Answer: c) 1350

50.

$$CP = 100$$

$$MP = 100 + 13\% \text{ of } 100 = 100 + \frac{13}{100} \times 100$$

$$= 100 + 30$$

$$= 130$$

$$SP = MP - 10\% \text{ of } MP$$

$$= 130 - \left(\frac{10}{100} \times 130 \right)$$

$$SP = 130 - 13 = 117$$

$$117 - 100 = 17$$

Answer : a) 17%