

# Assignment - 1

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Q.1 25% of 200 ?

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

② ~~80~~ 40% of number 80

$$\frac{40}{100} \times 80 = 80$$

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

③ 75% of 150

$$\frac{75}{100} \times x = 150 \Rightarrow x = \frac{15 \times 1000}{75} \boxed{x = 200}$$

④ 15% of 120

$$x = \frac{15}{100} \times 120 = 18$$

⑤ 30% of number is 90, then real no.

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

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

$$\textcircled{6} \quad \frac{50}{200} \times 100 = 25\%$$

$$\textcircled{7} \quad \frac{50 \times 100}{50 + 100} = \frac{5000}{150} \times 100 = 25\%$$

$$\textcircled{8} \quad \frac{20\phi}{10,000} \times 100 = 20\%$$

$$\textcircled{9} \quad \frac{100}{500} \times 100 = 20\%$$

$$\textcircled{10} \quad \text{loss \%} = \frac{SP - CP}{CP} = \frac{450 - 600}{600} \times 100 \\ = \frac{150}{600} \times 100 \\ = 25\%$$

### (11) Percentage Comparison

30% of 400 or 40% of 300

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

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

$$[120 = 120]$$

Both are equal

(12) ~~uses 60% of his income & saves 8000~~

$$\text{total income} = \cancel{x \times 60} + 8000 \Rightarrow 20,000$$

$$\begin{aligned} &\text{from options} \\ &= 20 = 12000 + 8000 = 20,000 \end{aligned}$$

$$= \frac{90}{100} \cdot 40\% \text{ of } x = 8000$$

$$\text{then} = 60\% \cdot 60\% = 20$$

$$x = \frac{40 \times 20}{100} = \frac{800}{100} \times 600$$

$$\Rightarrow \frac{20}{100} \times 4800 \times 100$$

$$12000 + 8000 = 12,000$$

$$\Rightarrow 12,000$$

(13) Supposing value

$$\begin{array}{cc} A & B \\ 20 & 5 \end{array} \quad \text{ratio gets } \frac{1}{6} \times 100 = 16.6\%$$

$$\frac{1}{6} : 5$$

(14) Sugar Suppose

$$100 \xrightarrow{25\%} 125\%$$

$$\frac{25}{125} \times 100 = 20\%$$

20% increased

$$100 \rightarrow 150 = \frac{40}{150} \times 100 = \frac{400}{15} = 28.57\%$$

$$\cancel{10} \quad 30 - 20 = 10\%$$

$$\frac{10}{100} \times 100 = 10\%$$

$$\frac{26 - 20}{100} = \frac{25 - 20}{100} = \frac{5}{10} = 5\%$$

$\frac{5}{100} \times 100\% \leftarrow 5\% \text{ increase}$

$\frac{125}{25}$

$$40 - 30 = 10\% = \frac{10}{100} \leftarrow 2\% \text{ decrease}$$

$$20 - 10 + 20 - 10 = 100 - \frac{200}{100} = 80\% \leftarrow 8\% \text{ increase}$$

$$P = 25\% \quad \text{total } \pm 10\%$$

$$\frac{25}{100} \pm 100 = 25\%$$

②2 C P = 500

$$SP = \frac{500 \times 90}{100} = 450$$

$$CP = \frac{450 \times 100}{108} = 416.6$$

②3  $20\% = \frac{1}{5}$       A      B  
                6      5

$$\frac{1}{6} \times 100 = 16.67$$

④ 1200 - 960 = 240

D<sup>20%</sup> Discount =  $\frac{240}{1200} \times 100\% = 20\%$

⑤ CP = 500 SP = 650

P<sup>30%</sup> Percentage =  $\frac{150}{500} \times 100\% = 30\%$

⑥  $\frac{20}{120} = \frac{1}{6} = \frac{1}{6} \times 100 = 16.67$

⑦ 3:2 ratio so total parts  $3+2=5$   
 $\frac{3}{5} \times 100 = 60\%$

$$\textcircled{26} \quad 200,000 \rightarrow 250,000$$

5000

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

$$\textcircled{27} \quad 0.65V - 0.33V = 3000$$

$$0.3V = 3000$$

$$V = \frac{3000}{0.3} = 10,000$$

$$\textcircled{28} \quad A = \frac{120}{100} = B \cdot \frac{B}{102} = 100 - 83.33 \\ = 16.67\%$$

$$A = 1.2B \quad B = 0.833A$$

$\textcircled{29}$  Increased 50% Decreased by 50%

$$50 \\ (100 + 50)$$

$$= 150$$

$$150 \times \frac{50}{100} = 75\%$$

= original value of 100% then  $100 - 75$   
 $= -25\%$

decreased 25%

$\textcircled{30}$  A is taller than B

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

(33)

$$\frac{3}{10} \times a = 90$$

$$\frac{6}{100} \times 300$$

$$\frac{3}{10} \times a = 90 = [a \geq 300] = 180$$

(34)

$$\frac{75}{100} \times x + 5000 = 2x$$

$$\frac{3}{4}x + 5000 = 2x = 20,000$$

$$\frac{4x - 3x}{4} = 5000$$

$$x = 5000 \times 4$$

$$x = 20,000$$

35) Suppose = 100

$$\text{price increase} = 100 + 20 \\ = 120$$

consumption reduced be 16.67%

(36)

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

$$10 - \frac{200}{100}$$

8% increased

0% percent

80  
100  $\times 5\%$  = 400 selling price

10 - 10  $\times 10\%$  ~~20~~  
~~100~~  
= ~~0~~  $\frac{100}{100}$  = 0%

10% increase = 110  
decreased by 10%  
~~110~~

~~100  $\times 10\%$~~   $\frac{100-10}{100} \times 110\%$  = 110

original to 1% increase

$\frac{20 \times 2 + 30}{100} \text{ ru} + \frac{10}{10} \text{ ru} + 18000 = 2$

~~220 + 3000 + 18000 = 2~~

~~100~~  
2245000

200 30 increased then decreased 30%.

130%  $\frac{30}{100} \times 130\%$

=  $\frac{390}{10} = 39\%$

original 30% increased.

to = 50 & decreased to 39-30 = 9 increased

43) increased each year

$$\text{first year } 10000 \times \frac{10}{100}$$

$$\text{second year} = \frac{(10000 + 1000) \times 10}{100}$$
$$= \frac{11000 \times 10}{100}$$
$$= 1100$$

$$\begin{array}{r} 11000 \\ 1100 \\ \hline 12100 \end{array} \quad \text{3rd year} \quad \frac{1,21,000 \times 10}{100}$$
$$= \frac{1210000}{100}$$
$$= 12100$$
$$1000$$
$$1100$$
$$1210$$
$$\text{3rd year population} \boxed{13,310}$$

44)

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

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

$$A:B = 4:3$$

1) CP = 800 profit 25% of 800

$$= \frac{25}{100} \times 800 = 200 \text{ profit} = 200 \text{ rupees}$$

$$= \text{Selling price} = 800 + 200 = 1000 \text{ rupees}$$

2)  $250 - 200 = 50 = \frac{50}{200} \times 100 = 25\%$

3)  $\frac{20}{100} \text{ % profit} = \frac{1}{5} \text{ of } 720$

$$= \frac{20}{100} \times 720 = \frac{20}{120} \times 720 = 120 \text{ rupees profit}$$

$$= 720 - 120 = 600 \text{ rupees}$$

4)  $\frac{15}{100} \times 500 = 75 \text{ rupees loss}$

$$= 500 - 75 = 425 \text{ rupees}$$

5)  $\frac{10}{100} \times 1500 = 150 \text{ rupees loss}$

$$1500 - 150 = 1350 \text{ rupees}$$

6) cost price = ~~100% - 10% = 90%~~ trade mark  
~~100% - 10% = 90%~~ discount gives 10% 10% 10%

(gaining percent will be 20%)