1

(d) Profit or loss

$$=\left[\frac{ad-bc}{bc}\times 100\%\right]=\left[\frac{11\times 11-10\times 10}{10\times 10}\times 100\right]\Rightarrow \quad 21\%$$

2

(c) Resultant profit

$$=\left[x+y+\frac{x.y}{100}\right]=\left[20+25+\frac{20\times 25}{100}\right]$$

$$=50\%$$

$$\therefore \quad \text{C.P.}=\left(\frac{100}{100+P}\right)\times S\cdot P=\left(\frac{100}{100+50}\right)\times 225=\frac{100}{150}\times 225$$

C.P. = ₹150

3

(d) $$\text{Profit }\%=\left[\frac{\text{True weight}-\text{False weight}}{\text{False weight}}\right]\times 100$$

$$25=\left[\frac{1000-\text{False weight}}{\text{False weight}}\right]\times 100$$

25 false weight = 100000 – 100 false weight
125 false weight = 100000
false weight = 800 gram.

4

(b) $$\left(\text{Profit or loss}=\frac{y-x}{100-y}\times 100\right)$$

$$=\left(\frac{30-10}{100-30}\right)\times 100=\frac{2000}{70}=28\frac{4}{7}\%\,(\text{profit})$$

5

(a) Total percentage profit

$$=\left[\frac{\text{Profit}\%-\text{loss in wt}\%}{100-\text{loss in wt}\%}\right]\times 100$$

$$=\left(\frac{20+20}{100-20}\right)\times 100=\frac{40}{80}\times 100=50\%$$

6

(b) $\text{Profit \%} = \left[100 - \text{x}\ \frac{\text{z}}{\text{y}}\right] + 100$

$$= \left[\left[100 - 5\ \frac{1000}{900} - 100\right]\right] = 95 \times \frac{10}{9} - 100$$

$$\Rightarrow \quad \frac{950 - 900}{9} = \frac{50}{9} = 5\frac{5}{9}\%$$

7

(c) $\text{Profit or loss} = \left[\frac{2xy}{z(x+y)} - 1\right] \times 100$

$$= \left[\frac{2 \times 4 \times 5}{4(4+5)} - 1\right] \times 100$$

$$= \left[\frac{40 - 36}{36}\right] \times 100 = \frac{4}{36} \times 100 = \frac{100}{9} = 11\frac{1}{9}\%$$

8

(c) $\text{Profit or loss} = (100 + x)\left[\frac{1000}{\text{X}}\right] - 100$

$$= (100 + 20)\left[\frac{1000}{800}\right] - 100 = \frac{120 \times 5 - 400}{4} = \frac{200}{4}$$

$= 50\%$ (Profit)

9

(d) Number of items

$$= \left[\left(\frac{100 - x}{100 + y}\right)\text{X}\right] = \left[\frac{100 - 4}{100 + 44}\right] \times 9 = 6$$

10

(b) Let the discount % = y %

$$\text{Profit or loss} = \left(\text{x} - \text{y} - \frac{\text{xy}}{100}\right)$$

$$0 = \left(40 - \text{y} - \frac{40\text{y}}{100}\right)$$

$$\text{y} + \frac{40\text{y}}{100} = 40$$

$$\text{y} = \frac{4000}{140} = 28.5\%$$

11

(d) If any two transactions of SP is the same and also gain % and loss % are same then there is always a loss

$\therefore$ loss % =

$$\left(\frac{\text{Common gain or loss\%}}{10}\right)^2$$

$$=\left(\frac{10}{10}\right)^2=1\%$$

12(b)

13

(d) Applying successive discounts of 10%, 12% and 15% on 100, we get

$100\times0.9\times0.88\times0.85$

$=67.32$

$\Rightarrow$ Single discount

$=100-67.32=32.68\%$

14(a)

15(c)

16

(d) Here, $SP_1=SP_2$

$\Rightarrow 140\,CP_1=60CP_2$

$$\Rightarrow \frac{CP_1}{CP_2}=\frac{6}{14}=\frac{3}{7}$$

$$\therefore\ CP_1=\frac{3}{(3+7)}\times8000$$

$=₹\ 2400$

and $CP_2=8000-2400$

$₹\ 5600$

17(c)

18(b)

19

(d) For same article,

$$\frac{100-d_1}{100-d_2}=\frac{100+g_1}{100+g_2}$$

$$\Rightarrow \quad \frac{100-25}{100-10}=\frac{100+25}{100+g_2}$$

$$\Rightarrow \quad \frac{75}{90}=\frac{125}{100+g_2}$$

$$\Rightarrow \quad 100+g_2=\frac{90\times125}{75}$$

$$=150$$

$$\Rightarrow \quad g_2=50\%$$

20

(d) Let C.P. of one metre of cloth = ₹ 1
then C.P. of 66 metres of cloth = ₹ 66
Gain = C.P. of 22 metres = ₹ 22
% gain

$$=\frac{22}{66}\times100=33\frac{1}{3}\%$$

21(A)

$$25=\frac{(20-x)100}{x}$$
$$\Rightarrow x=4(20-x)$$
$$\Rightarrow 5x=80$$
$$\Rightarrow x=16$$

22(D)

$$(2\text{ sp - cp})=3(\text{sp - cp})$$
$$\Rightarrow \text{sp}=2\text{ cp}$$
$$\Rightarrow \text{sp - cp = cp}$$
$$\Rightarrow \text{profit = cp}$$
$$\Rightarrow \text{profit percent}=100\%$$

23(A)

Let required number $= x$

$$20 = \left(\frac{6 \times 1}{x \times 1} - 1\right) 100$$
$$\Rightarrow \frac{1}{5} = \frac{6}{x} - 1$$
$$\Rightarrow \frac{6}{5} = \frac{6}{x}$$
$$\Rightarrow x = 5$$

24(C)

$$\text{cost price} = \frac{1920 + 1280}{2} = 1600$$

Required selling price
$$= 1600 + 1600 \times \frac{1}{4} = 2000$$

25(D)

$$\text{cost price} = \frac{100 \times 392}{122.5} = \frac{1000 \times 392}{1225}$$
$$= \frac{40 \times 392}{49} = \frac{40 \times 56}{7} = 320$$

$$\text{profit} = 392 - 320 = 72$$