Assignment no. 2

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1) → Loss = 25%
SP = 450 Rs.
CP = ?

$L\% = \frac{L}{CP} \times 100$ i.e. $L = CP - SP$

$L\% = \frac{CP - SP}{CP} \times 100$

$25 = \frac{CP - 450}{CP} \times 100$

$CP = \frac{(CP - 450) \times 100^{4}}{25}$

$CP = 4CP - 1800$

$3CP = 1800$

$CP = 600$ Rs

Ans :→ 600 ©

2) → CP = 1200, SP = 1440
P% = ?

$P = SP - CP = 1440 - 1200$

$P = 240$

$\therefore P\% = \frac{P}{CP} \times 100$

$= \frac{240^{20}}{1200} \times 100$

$P\% = 20\%$

Ans :- 20% ©

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3) → SP = 960 , CP = 800
P% = ?
P = SP - CP = 960 - 800
P = 160

$$\therefore P\% = \frac{P}{CP} \times 100$$

$$= \frac{160}{800} \times 100$$

$$= 20\%$$

Ans :- (b) 20%

4) → SP = 1200 , L% = 20%
CP = ?

$$L\% = \frac{L}{CP} \times 100$$

$$20 = \frac{CP - 1200}{CP} \times 100$$

$$\frac{20}{100} \cdot CP = \frac{(CP - 1200)}{20} \times 100$$

$$CP = 5CP - 6000$$

$$4CP = 6000$$

$$CP = 1500 \text{ Rs}$$

Ans :→ (b) 1500 Rs

5) → CP = 400 , SP = 480

P % = ?

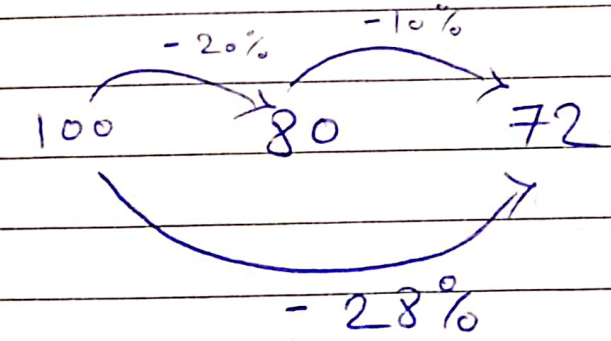
$$P\% = \frac{P}{CP} \times 100$$

$$= \frac{80}{400} \times 100$$

$$= 20\%.$$

∴ Ans :- P % = **20% (b)**

6) →



Ans :→ (a) **28%** .

7) →

SP = 800 , mp = ?

dis = 20%

$$\frac{80}{100} = \frac{800}{x} \qquad 4x = 4000$$

$$\boxed{x = 1000}.$$

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9) → 1500 $\xrightarrow{-10\%}$ 1500 (4 lo)
150
1350

1350

10) → Price of 1 pen = $\frac{150}{10} = 15$

Now, sells = $\frac{20\phi}{10} = 20$

$\frac{3}{20}\frac{15}{100} = \frac{20}{x}$

$3x = 400$

$x = 133.33$.

11) → 100 $\xrightarrow{-15\%}$ 85 $\quad \frac{6}{5}\frac{12\phi}{10\phi} = \frac{85}{x}$

$x \xrightarrow{+20\%} 85$

$6x = 425$

$x = \boxed{70.83}$ CP

$100 - 70.83 = 29.17 \approx 30$

$\frac{30}{70} \times 100 = \boxed{42.85\%}$.

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12) → $x \xrightarrow{+10\%} 2250$

$\frac{11}{100} = \frac{2250}{x}$

$11x = 225000$

$x = \boxed{2024}$

13) →

$800 \xrightarrow{25\%} 200$

$800 + 200$

$= \boxed{1000}$

14) → $\frac{9}{100} = \frac{150000}{x}$ $\quad 9x = 150000$

$x = \boxed{16.66}$

15) → $100 \xrightarrow{50\%} 150 \xrightarrow{-20\%} 120$

CP MP

20%

$\boxed{20\%}$

16) →

$400 \xrightarrow[\text{CP}]{12+5} \underset{\text{MP}}{x} \xrightarrow{-5}$

$12 = 10 + 1 + 1$

$= 40 + 4 + 4$

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17) → CP = 480 , SP = 576.

$P = SP - CP$

$P = 96$

$P\% = \frac{P}{CP} \times 100$

$= \frac{96}{480} \times 100$

$P\% = \boxed{20\%}$

18) →

CP = 500

P = 50

SP → 550

$\frac{50}{500} \times 100$

$= \boxed{10\%}$

19) →

$x \xrightarrow{+15\%} 2300$

CP SP

$\frac{115}{100} \quad \frac{23}{20}\ \frac{115}{100} = \frac{2300}{x}$

$23x = 46000$

$x = \boxed{2000}$

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20) → SP = 900 CP = 750
P = 150.

$\frac{150}{750} \times 100$

= 20%.

21) →

100 $\xrightarrow{-20\%}$ 80 x $\xrightarrow{-20\%}$ 640
CP SP

$\frac{80}{100} = \frac{640}{x}$ $4x = 3200$

$x = 800$.

23) →

x $\xrightarrow{+20\%}$ 500 $\frac{120}{500} = \frac{50}{x}$
C.P SP

$6x = 2500$
$x = 416.67$.

24) → 1500 $\xrightarrow{+20\%}$ 1800

$\frac{1500}{300}$ $\xrightarrow{-10\%}$ $\frac{1350}{3150}$

$\frac{150}{3000} \times 100 = \boxed{5\%}$ Profit.

25) → x $\xrightarrow{-12\%}$ 1250
CP SP

$\frac{88}{100} = \frac{1250}{x}$

$22x = 31250$

$x = \boxed{1420}$.

26) →

100 → 200 ← (is half
+ 200 quantity)
400

→ (for remaining)

$400 - 100 = \boxed{300\ \%}$.

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27) →

$$100 \xrightarrow{+20\%} 120$$

$$+\ 120$$

$$240$$

Now,

$$\frac{249}{100} = \frac{490}{x}$$

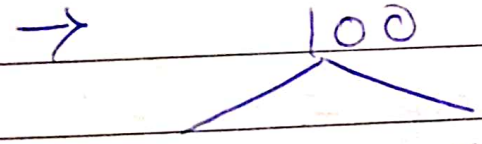
$$24x = 4900$$

$$x = 204.16$$

28) → ~~CP~~ $\xrightarrow{-20\%}$ SP

~~SP~~ = 50

29) →



$$75 + 40 = 115$$

50 $\xrightarrow{-20\%}$ 40

50 $\xrightarrow{50\%+}$ 75

∴ 15 % profit

30) →

loss $\xrightarrow{+10\%}$ 50 ∴ loss ≈ 45

$$\therefore \frac{45}{6000} \times 100 = 0.75\ \%$$

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31) → Profit on 1 article = CP of 2 article

100 = 50 + 50

∴ CP of 1 article = 50 & profit is 100.

$$\therefore \frac{100}{50} \times 100 = \boxed{200\%}$$

32) → IP $\xrightarrow{-20\%}$

2500 $\xrightarrow{-20\%}$ 2500 − 500 = 200

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

$CP = \frac{50}{20} \times 100$

CP = 2500

Profit was 500

∴ 2500 + 500 = 3000

& now SP = 3000 & CP = 2000

∴ P = 3000 − 2000

= 1000.

33) →

P $\xrightarrow{-10\%}$ SP = const

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

CP CP

CP is 100 & decrease by 10%
∴ CP = 90 & SP remains same

Profit = 125 - 90
= 35

$P\% = \frac{35}{90} \times 100 = \boxed{38.88\ \%}$

34) → $500\% = \frac{500}{100} \times 100$

CP = 100 & Profit = 500
∴ SP = 600

Now
CP = 2 × 100 = 200
SP = $\frac{1}{2}$ × 600 = 300
P = 300 - 200 = 100
$P\% = \frac{100}{200} \times 100 = \boxed{50\%}$

35) → 100 $\xrightarrow{+25\%}$ 125 ⟶ 100

$\frac{25}{125} \times 100 = \frac{1}{5} \times 100^{20}$

$= \boxed{20\%}$

CP is 100 & decrease by 10%
∴ CP = 90 & SP remains same

Profit = 125 - 90
= 35

$$P\% = \frac{35}{90} \times 100 = \boxed{38.88\ \%}$$

34) → $500\% = \frac{500}{100} \times 100$

CP = 100 & Profit = 500
∴ SP = 600

Now

CP = 2 × 100 = 200
SP = $\frac{1}{2}$ × 600 = 300

P = 300 - 200 = 100

$$P\% = \frac{100}{200} \times 100 = \boxed{50\%}$$

35) → 100 $\xrightarrow{+25\%}$ 125 ⟶ 100

$$\frac{25}{125} \times 100 = \frac{1}{5} \times 100^{20}$$

$$= \boxed{20\%}$$

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36) → Profit or SP 15 article = CP of 2 articles

100 = 50 + 50

P for 1 arti. = $\frac{100}{15}$ = 6.66

Cost of 1 arti = 50

P % = $\frac{6.66}{50} \times 100$ = **13.33 %**

37) → 40% A = 50% B

$\frac{40}{100}$ A = $\frac{50}{100}$ B

$\frac{2}{5}$ A = $\frac{1}{2}$ B

$\frac{A}{B} = \frac{1}{2} \times \frac{5}{2}$

$\frac{A}{B} = \frac{5}{4}$

A : B = 5 : 4

38) → MP = 5 X dis.

SP = MP - dis.

= 5d - d

S.P = 4d

∴ 4 times the discount

40) → 500 $\xrightarrow{100\%}$ 1000
CP SP

$\frac{65}{100} = \frac{1000}{x}$

$65x = 10000$

$\boxed{x = 1538}$

41) → A = 25% + B

100 = 125

$\frac{25}{125_5} \times 100$

$= 20\%$

100 → 125

A B

$\therefore \boxed{20\%}$

42) → dis = 2 × CP

MP = 10000

No. P. No L → CP = SP

disc = 2 × CP

= 2 × SP

MP = disc. + SP

= 2 × SP + SP

MP = 3SP. or 3CP

10000 = 3SP

$SP = \frac{10000}{3} = \boxed{3.333}$

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43) → SP $\xrightarrow{-30\%}$ C.P
disc is 40% on SP
MP = 12,600
MP = disc. + SP

45) → 20% of n = 20 + 20% of x

$\frac{20}{5100} n = 20 + \frac{20}{5100} \times 20$ 4

$\frac{1}{5} n = 20 + 4$

$n = 24 \times 5$

$\boxed{n = 120}$

46) →

100 $\xrightarrow{\text{double}}$ 200 $\xrightarrow{\text{triple}}$ 600 ... ①

600 $\xrightarrow{\text{double}}$ 1200 $\xrightarrow{\text{triple}}$ 3600 ... ②

$\therefore 3600 - 100 = 3500$

$\boxed{3500\ \%}$

47) → 234 $\xrightarrow{-35\%}$ x

$\boxed{81.9}$

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48) → $90\% = \frac{90}{100}$, $900\% = \frac{900}{100} = 9$, $9000\% = \frac{9000}{100} = 90$

① 9000 % of 9 → $90 \times 9 = 810$

② 900 % of 810 → $9 \times 810 = 7290$

③ 90 % of 7290 →

$$\begin{array}{r} 7290 \\ -\ 759 \\ \hline 6531 \end{array}$$

6561

50) → CP = 3500 $\quad 15 = 10 + 5$

d = 15 %

3500 $\xrightarrow{-15\%}$ **525**