Assignment → 2 Saranya Lakadkar

1) $cp = \frac{450 \times 1000}{75} = \frac{45000}{75} = 600.$

2) $profit\ \% = \frac{1440-1200}{1200} \times 100 = 20\%$

3) $P\% = (profit/c.p) \times 100$; $p = 960-800 = 160.$
$P\% = \frac{160}{800} \times 100 = 20\%$

4) $cp = \frac{1200 \times 100}{50} = 1500.$

5) $profit = sp - cp = 480 - 400 = 80$
$P\% = \frac{80}{400} \times 100 = 20\%$

6) $Net\ DD\ count = A + B - \frac{A \times B}{100}$
$= 20 + 10 - \frac{20 \times 10}{100} = 28\%.$

7) $mp = \frac{800 \times 100}{100-20} = 1000.$

8) $cp = \frac{1800 \times 100}{125} = 1440.$

9) $sp = 1500 - \frac{10}{100} \times 1500 = 1350$

10) $cp\ per\ pen = \frac{150}{10} = 15$, $sp = \frac{200}{10} = 20$

$pro = 20 - 15 = 5$

$P\% = \frac{5}{15} \times 100 = 33.33\%$

~~Per = 20 + 15 + (20 × 15/100) / 100 × 100 = 35%~~

12) $cp = \frac{2250 \times 100}{110} = 2000.$

13) $sp = \frac{800 \times 125}{100} = 1000.$

14) $cp = \frac{15000 \times 100}{90} = 16666.67 \approx 16000.$

15) let cp → 100.
mp = 150,
$sp = 150 - (\frac{20}{100} \text{ of } 150) = 150 - 30$
$= 120.$

16) $mp = \frac{400 \times (100+12)}{100-5} = \frac{400 \times 112}{95} = 471.58$

17) $profit = 576 - 480 = 96.$

$profit\ \% = (96/480) \times 100 = 20\%.$

18) profit % = (profit/cp) × 100

$= \frac{50}{500} \times 100 = 10\%$.

19) ~~sp = cp + profit~~ $sp = cp\left(1 + \frac{\text{Profit \%}}{100}\right)$.

$2300 = cp \times (1 + 35/100)$

$cp = 2300 / 1.15 = 2000$.

20) profit = 900 − 750 = 150

profit % = (profit/cp) × 100.

→ gain % = (150/750) × 100 = 20%

21)

$640 = cp \times (1 - 0.2)$

$640 = cp \times 0.8$

$cp = 800$

22) $9600 = cp \times 1.2$

$cp = 8000$.

23) $500 = cp \times 1.2$

$cp = \frac{500}{1.2} = 416.67$. ≈ 400.

24) cp for Both = 1500 + 1500 = 3000.

∴ sp of Article

$sp = 1500 \times 1.2 = 1800$.

25) sp for 2nd → $sp = 1500 \times 0.9 = 1350$

Total sp = 3150.

Total profit = 3150 − 3000 = 150.

profit % = Profit/Total cp × 100

$= \frac{150}{3000} \times 100 = 5\%$ profit

26) $sp = \left(1 - \frac{\text{Loss \%}}{100}\right) \times cp$.

$1250 = cp \times 0.88$.

∴ cp = 1420.45. ≈ 1450.

~~27)~~

28) let the number be x.

20% of x = 0.2x.

Sum = x + 0.2x = 1.2x.

$2 \times 1.2x = 490$

$x = 204.17$. ≈ 40

29) let cp ∝ x.

sp ∝ 80% of cp

$sp = 0.8x$.

Selling cost ∝ 5% sp.

$50 = 0.05 \times sp$

sp = 1000.

$\therefore cp = \frac{sp}{0.8} = \frac{1000}{0.8} = 1250$.

→ Loss = cp − sp − Selling cost.

= 1250 − 1000 − 50 = 200

30) Half goods sold at 20% loss → cp = x, sp = 0.8x.

—11— 50% profit → cp = x, sp = 1.5x.

Total sp = 2x.

Total sp = 0.8x + 1.5x = 2.3x.

profit % = $\frac{2.3x - 2x}{2x} \times 100 = \frac{0.3x}{2x} \times 100$

= 15%

31) Expense = 50, Loss = x, expense is 10% more than the loss.

50 = 1.1x.

x = 45.45

loss % = $\frac{45.45}{6000} \times 100 = 0.7575 = 7.5\%$

32) profit per article = 2x cp.

let cp be x, then profit = 2x

sp = 3x.

profit % = $\frac{2x}{x} \times 100 = 200\%$

33) initial profit = 500

initial profit % = 20% of cp.

let cp be x, then,

$\frac{20}{100} x = 500 \Rightarrow x = 2500$

cp after 20% decrease -

cp = 0.8 × 2500 = 2000.

sp remains same :-

sp = cp + profit = 2500 + 500

= 3000.

profit = 3000 − 2000 = 1000.

34) profit percentage.

cp = x sp = 6x.

cp = 2x. sp = 3x

p % = $\frac{3x - 2x}{2x} \times 100 = 50\%$

35) $\frac{x}{100} = \frac{25}{125} = 20\%$.

36) 2/15 × 100 = 13.33%

37) $\frac{40}{100} a = \frac{50}{100} b$.

4a = 5b

a : 5

a : b

38) sp = mp − Discount.

mp = 5D.

sp = 5D − D = 4D.

4 time → Discount

39) x = 20% × 12% × 120% × 6250

x = 225

40) ~~x+~~ $x \times (1 - 35/100) = 1000$

$x = \frac{1000}{0.65} = 1539$

41) $25/125 \times 100 = 20\%$

42) $SP = 90000 - 2CP = 10000 - 6666.66$
$= 3333.33$

43) $SP = 60\% \times 12800 = 7560$
$\rightarrow CP = 70\% \times 7560 = 6300$

44) $\frac{1}{3}x - \frac{1}{6}x = 20$

$x = 120$

$1.2 \times 120 = 144$

45) $0.2x = 20 + 0.2 \times 20$

$x = 120$

46) $(2 \times 3)^2 = 36 \Rightarrow 3600\%$

47) $\frac{234 - x}{234} = 35\%$

$x = 81.9$

48) $90\% \times 900\% \times 9000\% \times 9 = 6561$

49) 40.48% decreases.

50) $15\% \times 3500 = 525$

11) $\Rightarrow SP = MP - \text{Discount}$

$P\% = \left(\frac{SP - CP}{CP}\right) \times 100$

$SP = CP + 20\% \text{ of } CP$

$\therefore SP = 100 + 20 = 120$

$SP = MP - 15\% \text{ of } MP$

$120 = 0.85 \times MP$

$MP = \frac{120}{0.85} = 141.18$

$MP\% = \left(\frac{MP - CP}{CP}\right) \times 100$

$= \frac{141.18 - 100}{100} \times 100$

$= \left(\frac{41.18}{100}\right) \times 100 = 41.18\% \approx 40\%$

27) $\rightarrow$ let CP of 1 unit $\rightarrow$ 1 Rs

SP $\rightarrow$ 1 $\rightarrow$ x.

(2x) Sell half quantity at

New $SP = 0.5 \times 2x = x$.

CP of 1 unit is 1 Rs the cost of 0.5 unit $= 0.5 \times 1 = 0.5$

$P = {}^{New}SP - \text{New } CP = x - 0.5$

let $x = 1$ (original SP per unit)

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profit = 1 − 0.5 = 0.5

profit % = $\frac{0.5}{C.P} \times 100$

= $\frac{0.5}{0.5} \times 100$

P % = 100 %

P % rate is (2) for half quantity = $\left(\frac{\text{New SP} - \text{original CP}}{\text{original CP}} \times 10\right.$

= $\frac{x - 0.25}{0.25} \times 100$

= $\frac{1 - 0.25}{0.25} \times 100$

= $\frac{0.75}{0.25} \times 100$

= 300 %