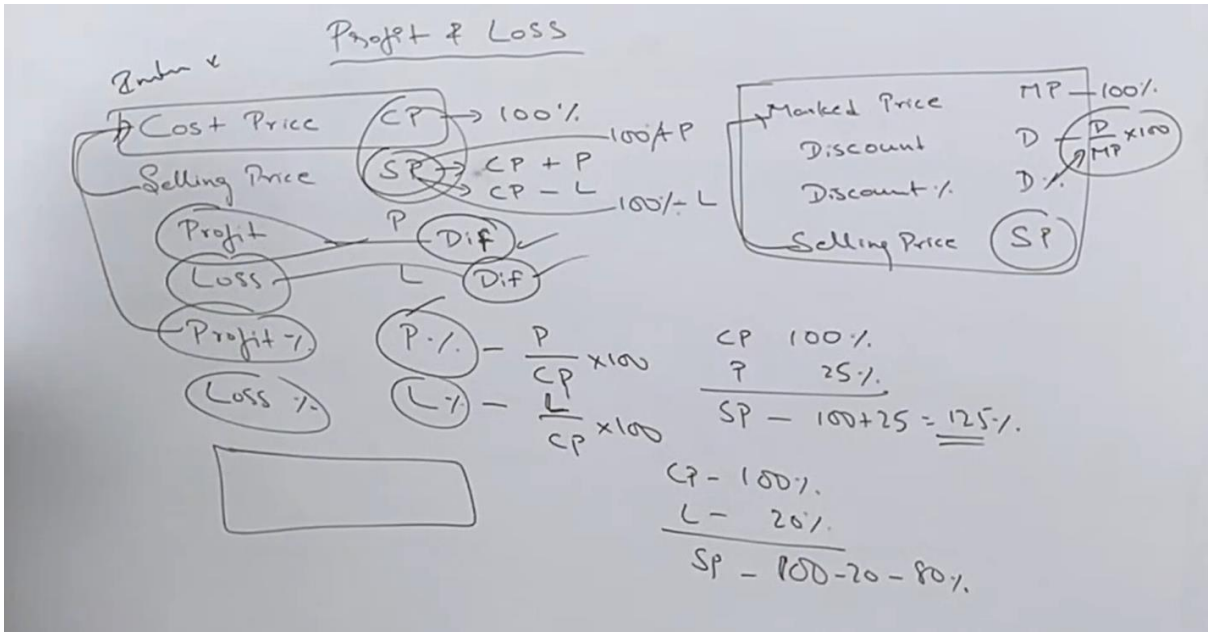
PROFIT & LOSS



If Rahul purchased an article for Rs 1500 & sold it for Rs 1950. Find his profit % ?

Sol : $P\% \Rightarrow \frac{450}{1500} \times 100 = 30\%$ Profit

Profit & Loss

A mobile phone is purchased for Rs 5400 & sold it for Rs 4320. Find Loss %.

Sol : $L\% = \frac{L}{CP} \times 100 = \frac{1080}{5400} \times 100 = 20\%$ loss

Find the CP of dining Table if SP is Rs 3600 & loss is 10%.

Sol:-

CP → 100%
L → 10%
→ ×40
SP → 90% — 3600
CP → 100% — ? 4000
→ ×40

Profit & Loss

Three successive discounts of 10%, 20% & 30% is equal to single discount of what %.

Single — Dif

100
−30 (30%)
70
−14 (20%)
56
−5.6 (10%)
50.4

MP — 100%
D 10% (10% of 100)
90%
D −18% (20% of 90)
72%
D −21.6% (30% of 72)
SP — 50.4%

10% + 18% + 21.6%
=
49.6%

Profit & Loss

Amrutesh marked an article for Rs 400. He sold it after giving a discount of 10%. If CP is Rs 300. Find P%.

Sol:-

MP → 400
D −40 (10% of 400)
SP — 360
CP — 300 → $\frac{60}{300} \times 100$ → 20% = P%

Profit & Loss

David purchased two cars, each at (CP) Rs 4,50,000. ⇒ NP/NL
Then he sold one at 20% profit & another at 20% loss.
Find his overall Profit or loss %.

- CP = Same
- P% & L% = Same
- ⇒ NP/NL

P/L = 9,00,000 − 9,00,000
= 0% ⇒ NP/NL

Overall CP
CP_1 450000
CP_2 450000
CP = 9,00,000 ✓

Overall SP
SP_1 = 540000
SP_2 = 360000
SP = 9,00,000 ✓

Profit & Loss

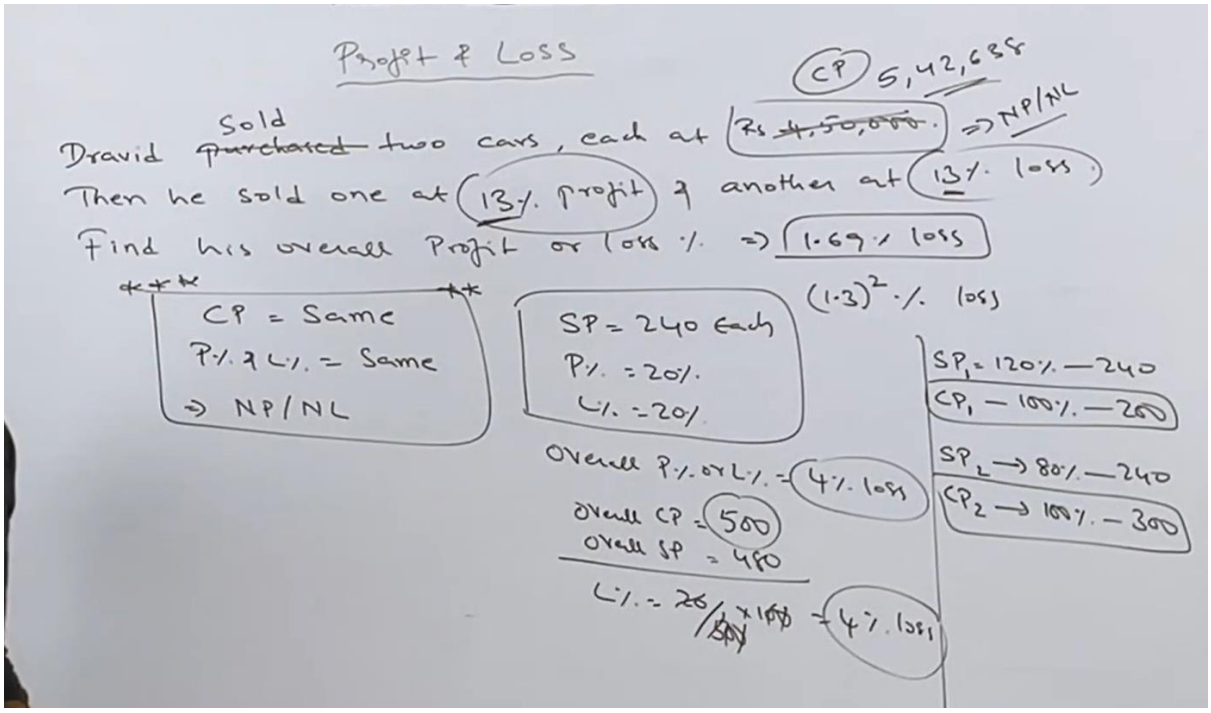
David ~~purchased~~ Sold two cars, each at (CP) 5,42,688 ~~Rs 4,50,000.~~ ⇒ NP/NL
Then he sold one at 13% profit & another at 13% loss.
Find his overall Profit or loss %. ⇒ 1.69% loss

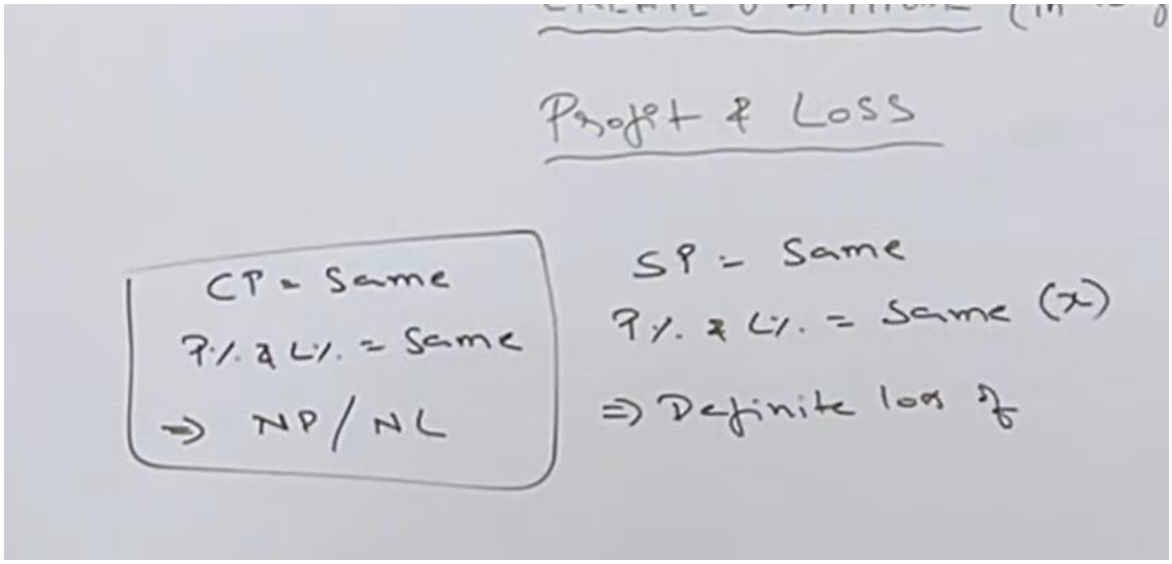
- CP = Same
- P% & L% = Same
- ⇒ NP/NL

SP = 240 Each
P% = 20%
L% = 20%

$(1.3)^2$ % loss

Overall P% or L% = 4% loss


Profit & Loss
David Sold two cars, each at Rs 4,50,000. CP 5,42,685
Then he sold one at 13% profit & another at 13% loss.
Find his overall Profit or loss %. => 1.69% loss
=> NP/NL
CP = Same
P% & L% = Same
=> NP/NL
SP = 240 Each
P% = 20%
L% = 20%
(1.3)² % loss
SP1 = 120% — 240
CP1 — 100% — 200
SP2 → 80% — 240
CP2 → 100% — 300
Overall P% or L% = 4% loss
Overall CP = 500
Overall SP = 480
L% = 20/500 × 100 = 4% loss


Profit & Loss
CP = Same
P% & L% = Same
=> NP/NL
SP = Same
P% & L% = Same (x)
=> Definite loss

A merchant sells two articles for Rs 4550 each. On one he gains 30% & on other he loses 30%. Find the total amount of loss or gain?

Rs 900

overall CP = 100%.
overall L = -9%. —— ?

Sol: SP = Same
P & L% = Same (x) 30

overall SP = 91%. → 4550+4550 = 9100

⇒ Definite loss of $\left(\frac{x}{10}\right)^2$ % = $\left(\frac{30}{10}\right)^2$ % = 3² = 9% loss overall loss

SP → 91% —— 9100 (×100)
Loss → 9% —— ?900 (×100)

If CP of 80 Articles (Number) is equal to SP of 60 Articles (Number). Find Profit or loss %.

100/-

CP of 80 /- = SP of 60 /-

Profit = $\frac{20}{60_3} \times 100$

= 33.33% profit

Price	No
Rs 8	50
Rs 5	20
Rs 25	4
Rs 20	5
Rs 10	10
Rs 1	100

A man bought some fruits at a rate of 16 for 24 & sold them at a rate of 8 for 18. What is the profit %?

per No

① CP of 16 = Rs 24
② (SP of 8 = Rs 18) ×2

CP of 16 = Rs 24
SP of 16 = Rs 36

CP = 24/-
SP = 36/-

P = $\frac{12}{24_2} \times 100$ = 50%.

(CP of 12 ⇒ 30/-) ×2
(SP of 8 ⇒ 25/-) ×3
CP of 24 = Rs 60
SP of 24 = Rs 75

P = $\frac{15}{60_4} \times 100$

= 25% P

A man purchases 11 Articles for Rs 10 & sells 10 Articles for Rs 11. Find his P or L%.

Sol

(CP of 11 = Rs 10) ×10
(SP of 10 = Rs 11) ×11

CP of 110 = Rs 100
SP of 110 = Rs 121

Profit = $\frac{21}{100} \times 100$
= 21% profit

Profit & Loss

If an article is sold for Rs 306, a trader loses 30%. What should be the SP of an article to gain 40%.

SP → 70% —— 306
SP → 140% ——→ ?

The price of Television set was decreased by 20%. As an result Sale increased by 30%. Find the overall effect on the revenue of the shop.

4% Inc

100%
30 (30% of 100)
130
− 26 (20% of 130)
104%

100%
− 20 (20% of 100)
80
+ 24 (30% of 80)
104%

4% Inc

Profit & Loss

The profit earned by selling an article for Rs 360 is equal to the loss incurred when the same article is sold for Rs 270. Find the CP of the article.

SP = Given
P & L = Equal
CP = Avg of SP

$$CP = \frac{SP_1 + SP_2}{2}$$

$$= \frac{360+270}{2} = \frac{630}{2} = \text{Rs } 315$$

360 270
45 \ 315 / 45

Profit & Loss

*** A shopkeeper sells an article for Rs 45 after giving 10% discount & earns 50% profit. If discount is not given, find Profit %.

SP SP
10% d ⟶ 90% ⟶ 150%
0% d ⟶ 100% ⟶ ? 166.66% ⇒ P = 66.66%

$$\frac{5}{\cancel{150} \times 100} = \frac{500}{3} = 166.66\%$$

Profit & Loss

**** (8) A dishonest dealer professes to sell his goods at CP. But while weighing he uses 800g instead of 1 kg. Find his profit %.

$$\text{Profit \%} = \frac{1000g - 800g}{800g} = \frac{\cancel{200}^{1}}{\cancel{800}_{4}} \times 100$$

$$= 25\% \text{ profit}$$

$$\text{Profit \%} = \frac{\text{Dif}}{\text{False wt}} \times 100$$

Profit & Loss

A dealer professes to sell his goods at CP, but gain 25% on his outplay. What weight did he substitute for 1 kg.

$$\text{less \%} = \frac{25}{125} \times 100 = \frac{1}{5} \times 100 = 20\% \text{ less weight}$$

$= 20\%$ of $1000\,g = 200\,g$ less

$= 1000 - 200 = 800\,g$

CP = ? 100% 7/7

P = 28.57% 2/7

SP = 909 / 9/7

CP = 7

P = 2

SP = 9

SP — 9 —(×101)— 909

CP — 7 — ? 707

(×101)

P: 2 —(×101)— 202

SP = 128.57% ⟶ 909

CP = 100% —— ?

$CP = \frac{7}{7}$

$P = \frac{2}{7}$

$SP = \frac{9}{7}$ $(CP + P) = \frac{7}{7} + \frac{2}{7}$

Profit & Loss

CP -- ? $\Rightarrow \frac{11}{11}$

Loss = 27.27% $\Rightarrow \frac{3}{11}$

SP = 1680/- $= \frac{8}{11}$

(CP - L)

$\frac{11}{11} - \frac{3}{11} = \frac{8}{11}$

$\xrightarrow{\times 210}$

SP — 8 — 1680

CP = 11 → ? 2310

$\times 210$

A T.V set was sold for 1800/- for a loss of 14.28%. Find the C.P ?

Sol

CP = ? $\frac{7}{7}$

Loss = 14.28% = $\frac{1}{7}$

SP = $\frac{6}{7}$

SP → 6 $\xrightarrow{\times 3}$ 1800

CP → 7 $\xrightarrow{\times 3}$? (2100)

The owner of the stationary shop charges his costumers (32% more) than the C.P. If customer paid Rs 6600 for the book, find the C.P

CP = ? (100%)

P = 32%.

SP = (132%) 6600

SP = (132%) $\xrightarrow{\times 1/2}$ 6600

CP = 100% $\xrightarrow{\times 1/2}$? 5000

The owner of the stationary shop charges his costumers (32% more) than the C.P. If customer paid Rs 6600 for the book, find the C.P

CP = ? (100%)

P = 32%.

SP = (132%) 6600

SP = (132%) $\xrightarrow{\times 1/2}$ 6600

CP = 100% $\xrightarrow{\times 1/2}$? 5000

By selling a radio for Rs 400, a man loses 20%.
For how much should he sell to gain 20% ?

⇒ Loss 20% ⇒ SP = 80% —(×5)— 400
⇒ Profit 20% ⇒ SP = 120% —(×5)— ? 600

Profit & Loss

A man sold an article at a loss of 10%. If he had taken Rs 60 more than before (Dif), the gain would have been 10%.
Find the CP of an article.

Sol :-
Loss of 10% ⇒ SP = 90%
Gain of 10% ⇒ SP = 110%
Dif = 20% —(×3)— 60
CP = 100% —(×3)— ?
300/-

Profit & Loss

(8) A merchant purchases 20kg of rice at Rs 20 per kg (CP1) & 80kg of rice at Rs 26 per kg (CP2). He sells the mixture at Rs 27 per kg (SP). Find his profit ?

Sol: Total CP
CP_1 → 20 × 20 = 400
CP_2 → 80 × 26 = 2080
Total CP ⟶ 2480 CP

Total SP ⇒ (20+80) × 27 ⇒ 100 × 27 = 2700 SP

Profit = SP − CP = 2700 − 2480 = Rs 220

Profit 1 ⇒ 20 × 7 = Rs 140
Profit 2 ⇒ 80 × 1 = Rs 80
Total Profit ⇒ Rs 220

(8) A merchant purchases 20kg of rice at Rs 30 per kg & 80kg of rice at Rs 25 per kg. He sells the mixture at Rs 27 per kg. Find his profit/loss ?

① Loss → 3 × 20 = Rs 60 loss
② Profit → 2 × 80 = Rs 160 profit
⇒ overall Profit ⇒ Rs 100

$CP_1 = 20 \times 30 = Rs\ 600$
$CP_2 = 80 \times 25 = Rs\ 2000$

160 − 60 = 100/−

(9) A man purchases 80 dozen eggs at Rs 6 per dozen, of these 160 eggs are broken. At what price per dozen should he sell the remaining eggs to make a profit of 25%.

Sol :- CP = 80 × 6 = Rs 480 — CP
CP = 480
P = 25% of 480 = $\frac{1}{4} \times 480 = 120$
SP = 480 + 120 = 600 → SP

80 × 12 = 960
Broken = 160
Available = 800

$\frac{3\ 8\cancel{0}\cancel{0}}{4\ 8\cancel{0}\cancel{0}} \times \frac{3}{12} = 9/-$ per dozen

(10) A man purchases 50 dozen mangoes at Rs 4 per dozen, of these 40 are found rotten. At what price per dozen should he sell the remaining mangoes in order to make a Profit of 5%.

Sol CP − 4 × 50 = Rs 200 — CP
Profit → 5% of 200 = 10
SP → 210

50 × 12 = 600
Rotten = − 40
Available = 560

$\frac{3\ 21\cancel{0}}{5\ 6\cancel{0}\ 8\ 2} \times \frac{3}{12} = \frac{9}{2}$ = Rs 4.50 per dozen