Aptitude Shortcuts and Mind Tricks for Profit and Loss Problems Type-V

QUESTION

A merchant bought some goods worth Rs. 6000 and sold half of them at 12% profit. At what profit percent should he sell the other half of the goods to make an overall profit of 18%?

GIVEN

Cost Price (CP) of goods = Rs. 6000

Profit% on 1st half of the goods = 12%

Overall profit % = 18%

SOLUTION

NORMAL METHOD

Now CP of half the goods will be **Rs. 3000** i.e., [6000/2 = 3000]

Half of the goods are sold at a profit of 12%

The Selling Price (SP) of 1st half the goods = [100+12%] of CP of half the goods

=112% of 3000

Let the profit% of 2nd half of the goods be Y%

Then the SP of 2nd half of the goods = [100+Y%] of CP of half of the goods

= [100+Y] of 3000

The overall profit% is given as 18%

Therefore SP of the total goods = [100+18%] of CP of total goods

= 118% of 6000

Now, **SP of total goods = SP of 1st half + SP of 2nd half**

[118% of 6000] = [112% of 3000] + [(100+Y) % of 3000]

[(118/100) × 6000] = [(112/100) × 3000] + [{(100+Y)/100} × 3000]

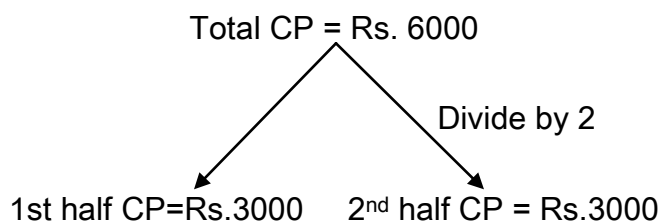[118 × 60] = [112 × 30] + [(100+Y) × 30]

7080 = 3360 + 3000 + 30Y

7080 = 6360 + 30Y

30Y = 7080 – 6360 = 720

Y = [720/30] = 24%

Therefore the profit% of 2nd half of the goods, **Y% = 24%**

ALTERNATE METHOD

Total CP = Rs. 6000

Divide by 2

1st half CP=Rs.3000   2nd half CP = Rs.3000

Profit% of 1st half the goods = 12%

SP of 1st half the goods = 112% of 3000 = **Rs. 3360**

Overall profit% = 18%

SP of total goods = 118% of 6000 = **Rs. 7080**

Therefore the **SP of 2nd half** of the goods = Rs. (7080 – 3360) = **Rs. 3720**

We already know the **CP of the 2nd half** of the goods = **Rs. 3000**

Profit of 2nd half = SP of 2nd half – CP of 2nd half

= Rs. (3720 – 3000)

Profit of 2nd half = **Rs. 720**

For 3000 → 720 profit

Then for 100% →? profit%

Profit % of 2nd half = [720×100] / 3000

Profit% of 2nd half = 24%

More Aptitude Shortcut and Mind Tricks:

- [Shortcuts for Profit and Loss Problems Type-I](#)
- [Shortcuts for Profit and Loss Problems Type-II](#)
- [Shortcuts for Profit and Loss Problems Type-III](#)
- [Shortcuts for Profit and Loss Problems Type-IV](#)