PROFIT & LOSS

1. A retailer buys a radio for ₹ 225. His overhead expenses are ₹ 15. He sells the radio for ₹300. The profit per cent of the retailer is :

   (1) 25% (2) $26\frac{2}{3}$ %

   (3) 20% (4) $33\frac{1}{3}$ %

2. A salesman expects a gain of 13% on his cost price. If in a month his sale was Rs. 7,91,000, what was his profit?

   (a) Rs. 85,659 (b) Rs. 88,300
   (c) Rs. 91,000 (d) Rs. 97,786

3. By selling a car for ₹ 64,000, Mr. Bhim lost 20%. Then the cost price of the car is :

   (1) ₹ 72,000 (2) ₹ 76,800
   (3) ₹ 80,000 (4) ₹ 84,000

4. If Bhim was to sell his handcard for Rs. 720, he would loss 25%. To gain 25%, the selling price is

   (a) Rs. 960 (b) Rs. 1,200
   (c) Rs. 1000 (d) Rs. 2,100

5. If the cost price of 18 articles is equal to the selling price of 16 articles, the gain or loss is

   (a) 25% gain (b) 25% loss

   (c) $12\frac{1}{2}$% loss (d) $12\frac{1}{2}$% gain

6. The cost price of 40 articles is the same as the selling price of 25 articles. Find the gain per cent.

   (a) 65% (b) 60%
   (c) 15% (d) 75%

7. A book vendor sold a book at a loss of 20%. Had he sold it for Rs. 108 more, he would have earned a profit of 30%. Find the cost price of the book?

   (a) Rs. 216 (b) Rs. 648
   (c) Rs. 240 (d) Rs. 432

8. A book vendor sold a book at loss of 10%. Had he sold it for Rs. 108 more, he would have earned a profit of 10%. Find the cost of the book.

   (a) ₹ 442 (b) ₹ 540
   (c) ₹ 648 (d) ₹ 740

9. The reduction of Rs. 12 in selling price of an article will changes 5% gain into $2\frac{1}{2}$% loss. The cost price of the article is

   (a) Rs. 140 (b) Rs. 160
   (c) Rs. 80 (d) Rs. 100

10. By selling 33 metres of cloth a person gains the cost price of 11 metres. Find his gain %

    (a) $33\frac{1}{3}$ % (b) $33\frac{1}{2}$ %

    (c) 33% (d) $34\frac{1}{3}$ %

11. By selling 144 hens Mahesh suffered a loss equal to the selling price of 6 hens. His loss percent is

    (1) 4 (2) 3

    (3) 9 (4) $4\frac{1}{2}$

    (5) None of these

12. A manufacturer sells an article to a wholesale dealer at a profit of 10%. The wholesale dealer sells it to a shopkeeper at 20% profit. The shopkeeper sells it to a customer for Rs. 56,100 at a loss of 15%. Then the cost price of the article to the manufacturer is

    (a) ₹ 25,000 (b) ₹ 10,000
    (c) ₹ 50,000 (d) ₹ 55,000

13. A man puchased an article and sold it to B at a profit of 25% and B sold it to C at a loss of 10% and C paid Rs. 675 for it. For how much did A purchase it (in Rs.) ?

    (a) 625 (b) 575
    (c) 600 (d) 550

14. A sells an article to B at a gain of 10%, B sells it to C at a gain of 5%. If C pays Rs. 462 for it. What did it cost to A ?

(a) Rs. 500   (b) Rs. 450

(c) Rs. 600   (d) Rs. 400

15. A milkman makes 20% profit by selling milk mixed with water at Rs. 9 per litre. If the cost price of 1 litre pure milk is Rs. 10, then the ratio of milk and water in the said mixture is

(a) 3 : 1   (b) 4 : 1

(c) 3 : 2   (d) 4 : 3

16. A shopkeeper bought 15kg of rice at the rate of Rs. 29 per kg and 25 kg of rice at the rate of Rs. 20 per kg. He sold the mixture of both types of rice at the rate of Rs. 27 per kg. His profit in this transaction is

(a) Rs. 125   (b) Rs. 150

(c) Rs. 140   (d) Rs. 145

17. A man sells two chairs at Rs. 120 each and by doing so he gains 25% on one chair and loses 25% on another chair. His loss on the whole in Rs. is

(a) 20   (b) 16

(c) 25   (d) 30

18. A man purchases two fans for Rs. 2,160. By selling one fan at a profit of 15% and the other at a loss of 9% he neither gains nor loss in the whole transaction. Find the cost price of each fan in Rs.

(a) 710, 1450   (b) 1530, 630

(c) 810, 1350   (d) 1340, 820

19. A dealer sold two types of goods for Rs. 10,000 each. On one of them, he lost 20% and on the other he gained 20%. His gain or loss per cent in the entire transaction was

(a) 2% loss   (b) 2% gain

(c) 4% gain   (d) 4% loss

20. A dishonest fruit vendor sells his goods at cost price but they uses a weight of 900 gm for the 1kg. weight. His gain percent is :

(a) 12%   (b) $11\dfrac{1}{9}\%$

(c) $10\dfrac{1}{9}\%$ (d) 10%

21. A dishonest shopkeeper, using a faulty balance

makes a profit of 5% while buying as well as while selling his goods. His actual gain percent in the whole process amounts to

(a) 11   (b) 10

(c) 10.25   (d) 10.5

22. A bought an article, paying 5% less than the original price. A sold it with 20% profit on the price he had paid. What percent of profit did A earn on the original price ?

(a) 10   (b) 13

(c) 14   (d) $\dfrac{14}{2}$

23. A grocery dealer cheats to the extent of 10% while buying as well as selling by using false weight. What is his increase in the profit percentage ?

(a) 20%

(b) 21%

(c) 22%

(d) None of these

24. Bhim bought 10 cycles for Rs. 500 each. He spend Rs. 2,000 on the repair of all cycles. He sold five of them for Rs. 750 each and the remaining for Rs. 550 each. Then the total gian or loss % is

(a) Gain of $8\dfrac{1}{3}\%$

(b) Loss of $8\dfrac{1}{3}\%$

(c) Gain of $7\dfrac{2}{3}\%$

(d) Loss of $7\dfrac{1}{7}\%$

25. A man purchased 150 pens at the rate of Rs. 12 per pen. He sold 50 pens at a gain of 10%. The percentage gain at which he must sell the remaining pens so as to gain 15% on the whole outlay is

(a) $21\dfrac{1}{2}\%$ (b) 20%
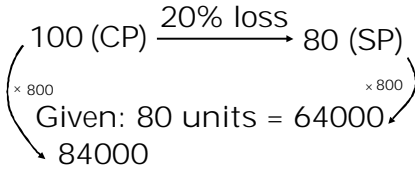
(c) 17%   (d) $17\dfrac{1}{2}\%$

26. A person sold a horse at a gain of 15%. Had he bought it for 25% less and sold it for Rs. 600 less, he would have made a profit of 32%. The cost price of the horse was

(1) Rs. 3,750 (2) Rs. 3,250
(3) Rs. 2,750 (4) Rs. 2,250
(5) None of these

27. A man bought pencils at the rate of 6 for Rs. 4 and sold them at the rate of 4 for Rs. 6. His gain in the transaction is

(1) 75% (2) 80%
(3) 125% (4) 100%
(5) None of these

28. A fan is listed at Rs. 150 and a discount of 20% is given. Then the selling price is

(a) ₹ 180 (b) ₹ 150
(c) ₹ 120 (d) ₹ 110

29. To gain 8% after allowing a discount of 10%, by what per cent cost price should be hiked in the list price ?

(a) 9% (b) 11%
(c) 18% (d) 20%

30. The cost of manufacture of a tape recorder is Rs. 1,500. The manufac-turer fixes the marked price 20% above the cost of manufac-ture and allows a discount in such a way as to get a profit of 8%. The rate of discount is

(a) 12 (b) 8
(c) 20 (d) 10

31. How much percent above the cost price should a shopkeeper marks his goods so as to earn a profit of 32% after allowing a discount of 12% on the marked price ?

(a) 50% (b) 40%
(c) 60% (d) 45%

32. A dealer purchases a washing machine for Rs. 7,660. After allowing a discount of 12% on its marked price, he still gains 10%. Find the marked price of the washing machine.

(a) Rs. 9,575 (b) Rs. 8,426
(c) Rs. 8,246 (d) Rs. 9,755

33. A trader marked the price of a commodity so as to include a profit of 25%, but allow a discount of 16% on the marked price. His actual profit will be

(a) 16% (b) 25%
(c) 5% (d) 9%

34. A merchant purchases a wrist watch for Rs. 450 and fixes its list price in such a way that after allowing a discount of 10%, he earns a profit of 20%. Then the list price of the watch is

(a) Rs. 650 (b) Rs. 700
(c) Rs. 550 (d) Rs. 600

35. The marked price of a radio is Rs. 480. The shopkeeper allows a discount of 10% and gains 8%. If no discount is allowed, find his gain per cent.

(1) 10% (2) 15%
(3) 20% (5) 35%
(5) None of these

HINTS & SOLUTIONS

1. (a) According to question,
CP of Ratio = Rs. 225
overhead expenses
= Rs. 15
Total expenditure = 225+15 = Rs. 240
SP of the Ratio = Rs. 300
Porfit = 300 – 240 = Rs. 60

Profit% = $\frac{60}{240} \times 100$ = **25%**

2. (c) Let cost price = Rs. 100 According to question,

CP   SP   Profit

100 ⟶ 113   13

13% Profit ↓×7000 ⤸×7000

791000 (Given SP) 91000

= **91000 Rs**
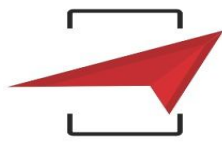
3. (c) Let CP of a car is = 100
    According to question,

    $100 (CP) \xrightarrow{20\% \text{ loss}} 80 (SP)$

    × 800 ..... × 800

    Given: 80 units = 64000

    84000

    CP of the car = **Rs. 80000**

4. (b) Let CP of Hand Cart = 100
    According to question,

    $100 (CP) \xrightarrow{20\% \text{ loss}}$

    $75 (CP) \xrightarrow{\times \frac{48}{5}} 720 \text{ (Given)}$

    75 units = 720

    $1 \text{ unit} = \frac{720}{75} \Rightarrow \frac{48}{5}$

    $100 \text{ units} = \frac{48}{5} \times 100 = 960$

    CP = Rs. 960

    to gain 25% SP is = CP + Profit % × CP

    $= 960 + \frac{25}{100} \times 960$

    $= 960 + 240 = $ **Rs. 1200**

5. (d) According to question,
    18 CP = 16 SP

    $\frac{CP}{SP} = \frac{16}{18} = \frac{8}{9} \rangle \begin{array}{l} 1\% \\ \text{discount} \end{array}$

    $\text{Profit\%} = \frac{1}{8} \times 100 = 12\frac{1}{2}\%$

6. (b) According to question,
    40 CP = 25 SP

    $\frac{CP}{SP} = \frac{25}{40} = \frac{5}{8} \rangle \begin{array}{l} 3 \text{ units} \\ \text{profit} \end{array}$

    $\text{Profit\%} = \frac{3}{5} \times 100 = $ **60%**

7. (a) Let CP of the book = 100
    According to question,
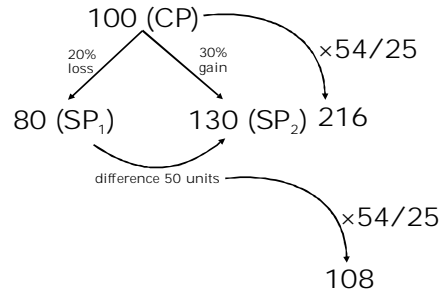
8. (b) Let CP of the book = 100
    According to question,

    ∴ CP = **Rs. 216**
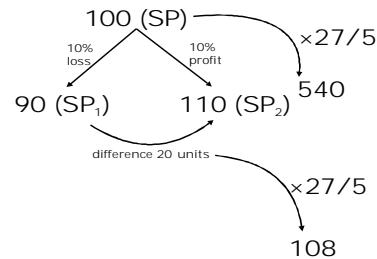
9. (b) Let CP of the article = 400
    According to question,
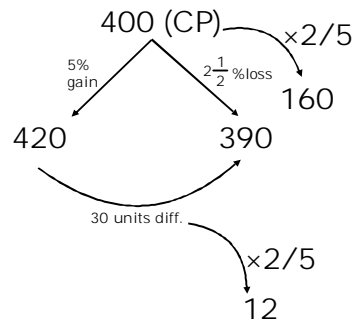
    CP of the article = Rs. 160

10. (a) According to question,
    Profit = SP − CP
    11x = 33 − 33x
    44x = 33

    $\therefore \text{Profit \%} = \frac{1}{3} \times 100 = 33\frac{1}{3}\%$

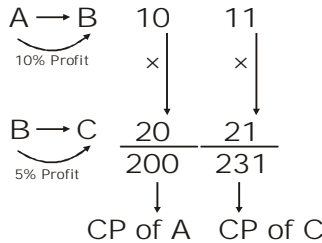11. **(a)**   12. (c)
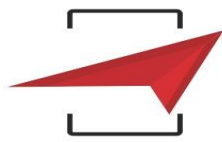
13. (c) According of question,
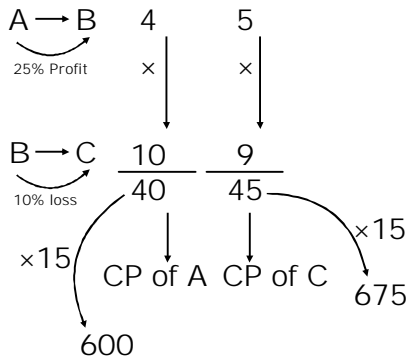
CP of A = Rs. 600

14. (d) According to question,

231 units = 462

$$1 \text{ unit} = \frac{462}{231} = 2$$

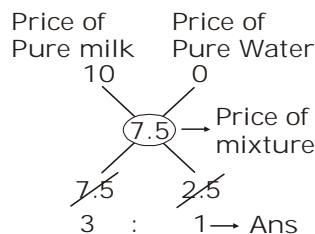200 units = 2 × 200 = 400

CP of A = Rs. 400

15. (a) According to question,

SP of mixture of milk and water = Rs. 9

Profit = 20%

∴ CP of mixture of milk and water = $9 \times \dfrac{100}{120}$ = Rs. 7.5

Now we use allegation of find the ratio in which water and milk mixed

16. (d) According to question,

CP of Mixture of Rice = 15 × 29 + 25 × 20

= 435 + 500 = Rs. 935

SP of 1 kg Mixture of Rice = 27 Rs

SP of 40 kg Mixture of Rice

= 27 × 40 = Rs. 1080

Profit = SP – CP = 1080 – 935 = 145 Rs

17. (b) According to question,

Chair – 1 Chair – 2 Total
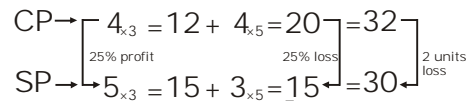
to make SP same

30 units = 120 × 2 = 240

$$1 \text{ unit} = \frac{240}{30}$$

$$2 \text{ unit} = \frac{240}{30} \times 2 = \textbf{Rs. 16}$$

18. (c) According to question,
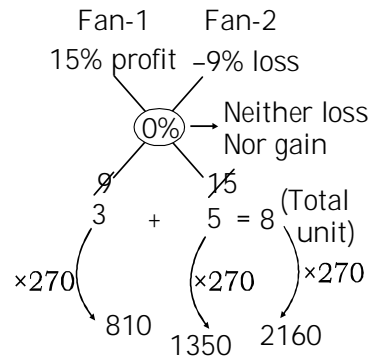
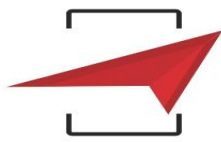

CP = **Rs. 810, Rs. 1350**

19. (d) Quicker approach :

$$\Rightarrow \frac{P\% \times L\%}{100} = \frac{20 \times 20}{100} = 4\% \text{ Loss}$$

20. (b) according to question,

Shopkeeper sells his goods at Cost price

Let, CP of 1000 gms good

= Rs. 1000

He Sold 900 gms good

SP of 900 gms good

= Rs. 1000

CP of 900 gms good

= Rs. 900

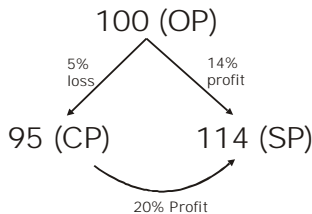$$\text{Profit\%} = \frac{100}{900} \times 100 = 11\frac{1}{9}\%$$

21. (c) According to question,

A shopkeeper fault while buying as well as selling and makes a profit of 5%

$$\therefore \left(a + b + \frac{ab}{100} \right)\%$$

$$= 5 + 5 + \frac{5+5}{100} = 10 + \frac{1}{4}$$

Increase in profit

= **10.25% Ans.**

22. (c) According to question,

Let original Price = 100

100 (OP)

5% loss   14% profit

95 (CP)   114 (SP)

20% Profit

23. (b) According to question,

Cheats while selling = 10%

$$\therefore \left(a + b + \frac{ab}{100} \right)\%$$

$$= 10 + 10 + \frac{10 \times 10}{100} = 20 + 1$$

Increase in profit% = **21% Ans**

14% Ans.

24. (d) According to question,

CP of 1 cycle = Rs. 500

CP of 10 cycle = 500×10 = 5000 Rs

Spent on repair = Rs. 2000

Now,

Total CP = 5000 + 2000 = 7000 Rs

SP of 5 cycle = 750 × 5 = 3750 Rs

SP of 5 cycle = 550 × 5 = 2750 Rs

∴ SP of 10 cycle

= Rs. 3750 + 2750 = 6500

Loss = CP – SP

Loss = 7000 – 6500 = 500

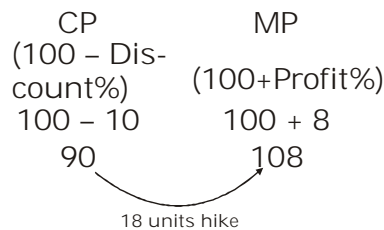$$\text{Loss\%} = \frac{500}{7000} \times 100 = \frac{50}{7}$$

$$= 7\frac{1}{7}\% \textbf{ loss}$$

25. (d) According to question,

Pen × Profit (%) = Total Profit

50 × 10 = 500

100 × **17.5** = **1750**

Total 150 pens × 15 = 2250
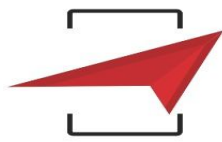
∴ Remaining profit % of pen = 17.5%

26. (a)   27. (c)

28. (c) According to question,

Market Price = Rs. 150

Discount = 20%

$$\therefore \frac{MP}{SP} = \frac{150}{120} \Big> 20\% \text{ discount}$$

∴ SP = **Rs. 120**

29. (d) According to question,

CP   MP

(100 – Discount%)   (100+Profit%)

100 – 10   100 + 8

90   108

18 units hike

$$\text{Hike\%} = \frac{18}{90} \times 100 = \textbf{20\%}$$

30. (d) According to question,

$$\frac{CP}{MP} = \frac{5}{6} \Big> 20\% \text{ above}$$

$\dfrac{CP}{SP} = \dfrac{25}{27}$ ⟩ 8% profit

To make CP same

CP   SP   MP
125   135   150

10% discount

to meke SP same

CP   SP   MP
45   54   60
$\downarrow \times 10$ $10\times \downarrow$
450 (Actual CP) 600 (Market Price)

$\therefore$ MP = **Rs. 600**

31. (a) According to question,

CP   MP
(100 – Discount%) (100+Profit%)
100 – 12   100 + 32
88   132

44 units hike

Hike% = $\dfrac{44}{88} \times 100 = 50\%$

32. (a) According to question,

CP : MP
(100 – D%) (100 + P%)

100 – 12   100 + 10
88   110
$\downarrow \times \frac{1915}{22}$ $\downarrow \times \frac{1915}{22}$
Rs. 7660   Rs. 9575
(Given CP) (Given MP)

33. (c) According to question,

$\dfrac{CP}{MP} = \dfrac{100}{125}$ ⟩ 25% profit

$\dfrac{MP}{SP} = \dfrac{125}{105}$ ⟩ 16% discount

CP   SP   MP
100 105 125

5% profit ⟶ Ans.

34. (d) According to question,

$\dfrac{MP}{SP} = \dfrac{10}{9}$ ⟩ 10% discount

$\dfrac{CP}{SP} = \dfrac{5}{6}$ ⟩ 20% profit

35. (c)