

Profit and Loss

Solution

1. **Answer: (C)**
Given:
Total pen = 90
Cost price of each pen = Rs. 10
The first part sold at 20 % profit
The second part sold at 10% profit
Sold all pens at a certain price and got profit = 15%
Difference in profits = Rs. 40
Calculations:
Let x pens sold at 20% profit
The cost price of x pens = $10x$
Profit on x pens = $10x \times (20/100) = 2x$
So, The cost price of $(90 - x)$ pens = $10 \times (90 - x)$
Profit on $(90 - x)$ pens = $10 \times (90 - x) \times (10/100) = 90 - x$
Total profit on 90 pens = $2x + 90 - x = 90 + x$
Total C.P of 90 pens = $90 \times 10 = \text{Rs. } 900$
Profit earned = $900 \times (15/100) = 135$
The difference in profit = $135 - (90 + x)$
 $\Rightarrow 45 - x = 40$
 $\Rightarrow x = 5$
 \therefore The number of pens sold at 20% profit is 5
2. **Answer: (A)**
Let the CP of the articles of Vishal and Param be x and y respectively.
So, 90% of x = 1818,
 $x = (1818 \times 100)/90$
And 101% of y = 1818,
 $y = (1818 \times 100)/101$
Required ratio = 101/90
3. **Answer: (B)**
Cost on 40 sheep = $40 \times 120 = \text{₹}4800$
Profit on selling 40 sheep = ₹1200
Loss on death of 10 sheep = ₹1200
In order to earn ₹800 as profit, he should sell remaining 10 sheep at $(10 \times 120) + 800$
= ₹2000
So, S.P. per sheep = ₹2000/10 = ₹200
4. **Answer: (A)**
Cost price of first watch = $308/1.12 = \text{₹}275$
Cost price of second watch = $308/0.88 = \text{₹}350$
Total cost price of two watches = $275 + 350 = \text{₹}625$
Total selling price of two watches = $308 + 308 = \text{₹}616$
Loss % = $9/625 \times 100 = (36/25)\%$
= Loss of $1\frac{11}{25}\%$
5. **Answer: (B)**
Let CP = 100
At a loss of 2%, SP = 98
If sold at a profit of 10%, SP = 110
Difference = 12
₹12 is the difference, when CP is ₹100
₹12000 is the difference, when CP is ₹100 × $(12000/12) = \text{₹}1 \text{ lakh}$
6. **Answer: (D)**
Let the cost price of the goods be x.
selling price = $6x/5$
Now, new cost price = $11x/10$ and new selling price = $(6x/5 + 140)$
We can write,
 $(11x/10 \times 5/4) = (6x/5 + 140)$
 $11x/8 - 6x/5 = 140$
 $x = 800$.
7. **Answer: (A)**
Number of bananas that are sold = $12 - 4 = 8$
Total cost price for the shopkeeper = ₹15
Overall profit = 20%
So selling price of the 8 bananas = $15 \times 1.2 = 18$
Therefore, Price for 4 bananas = ₹9
8. **Answer: (D)**
Let the cost price be x.
A/Q, $600 - x = 3(400 - x)$
 $2x = 600$
 $x = 300$
Therefore, selling price to earn 60% profit

9. **Answer: (B)**
Let the sum of the amount paid and the amount spent on repairs by Arun be x .
Selling price of computer for Arun = $1.2x$
Selling price for Bhola = $1.2x \times 0.9 = 1.08x$
Selling price for Chandan = $1.08x \times 1.1 = 1.188x = 1188$
 $x = 1000$

10. **Answer: (A)**
Amount paid by Arun = $1000 - 110 = 890$
Total cost price (C.P.) of book = $500 + 25 + 50 = ₹575$
Therefore, selling price of book to earn 16% profit = 116% of C.P.
 $= 116/100 \times 575$
 $= ₹667$

11. **Answer: (C)**
S.P. of two bullock = $8400 + 8400 = 16800$ Rs.
CP of first bullock
 $= \frac{100}{120} \times 8400$
 $= 7000$
CP of second bullock
 $= 16800 - 7000 = 9800$
Required % loss = $\frac{9800 - 8400}{9800} \times 100$
 $= \frac{1400}{9800} \times 100$
 $= \frac{7}{49} \times 100$
 $= \frac{100}{7} = 14\frac{2}{7}\%$

12. **Answer: (D)**
Let CP of A = x
 \therefore CP of B = $x + 80$
According to Question
 $x \times \frac{1}{5} + (x + 80) \times \frac{7}{20} = 105$
 $\Rightarrow \frac{11x}{20} = 105 - 28$
 $\Rightarrow x = 140$
 \therefore CP of B = Rs. 220

13. **Answer: (C)**
Let, CP of B be $x + 120$
And that of A be x
Then, $\frac{25}{100} \times x + \frac{40}{100}(x + 120) = 178$

- Or, $\frac{65x}{100} + 48 = 178$
Or, $x = 200$
C.P. of B = $x + 120 =$ Rs. 320
14. **Answer: (C)**
Let Cost price of B = 100B
Profit of B = 30B
Cost price of A = $100B - 40$
Profit of A = 15% of $(100B - 40) = 15B - 6$
Total profit = $45B - 6$
According to question, $45B - 6 = 84$
 $B = 2$
Cost price of B = ₹200

15. **Answer: (D)**
Let cost price of each article = Rs. $100x$
So selling price of first article = $\frac{100x \times 112}{100}$
 $= 112x$
Selling price of 2nd article = $112x + 1110$
ATQ,
 $\frac{(100x + 100x)}{100} \times 155$
 $= 112x + 112x + 1110$
 $x = 185$

- Cost price = Rs. 18500
16. **Answer: (A)**
C.P. of jeans = $\frac{950}{5} \times 4 = 760$ Rs.
C.P. of shirt = $\frac{575}{115} \times 100 = 500$ Rs.
For 20% profit on both (jeans + shirt)
 $= (760 + 500) \times \frac{120}{5}$
 $= 1512$ Rs.
Shirt should be sold
 $= 1512 - 720 = 792$ Rs.

17. **Answer: (D)**
Let selling price of article 'B' is $100x$
 \Rightarrow Cost price article 'A' is $120x$
From A
Profit % on selling one article is same as profit % on selling five articles i.e. 25%
So overall profit % on selling one article 'A' and one article 'B' is 25%

- From B**
S.P. of article 'A' = $100x \times \frac{3}{2} = 150x$
C.P. of article 'B' = $100x \times \frac{4}{5} = 80x$

$$\text{Overall profit\%} = \frac{150x + 100x - 120x - 80x}{120 + 80x} \times 100$$

$$= \frac{50x}{200x} \times 100 = 25\%$$

Hence, either statement A or statement B by itself is sufficient to answer the question.

18. **Answer: (D)**

Quantity I:

Given:

Q's share of profit = ₹252

Calculation:

Let the Amount invested by P is ₹P

and the Amount invested by Q is ₹2P

So, the amount invested by R is ₹3P

P did investment for 8 months

Q did investment for 12 months

R did investment for 4 months

Profit ratio = $(P \times 8) : (2 \times P \times 12) : (3 \times P \times 4)$

\Rightarrow Profit ratio = $8P : 24P : 12P$

\Rightarrow Profit ratio = $2 : 6 : 3$

Q share in terms of ratio = 6

The actual share of Q = 252

Profit share of R = $(252/6) \times 3 = 126$

Quantity II:

₹280

19.

\therefore Quantity I < Quantity II

Answer: (B)

First we will find Quantity A,

Quantity A:

Here, Cost price (CP) = 140 and

Selling Price (SP) = 168

% Profit = $(SP - CP)/CP \times 100$

\Rightarrow % Profit = $(168 - 140)/140 \times 100 = 20$

Now,

Quantity B:

Here, Marked Price (MP) = 2000

Selling Price (SP) = 1800

% Discount = $(MP - SP)/MP \times 100$

\Rightarrow % Discount = $(2000 - 1800)/2000 \times 100 = 10$

Clearly, Quantity B < Quantity A

20.

Answer: (B)

The correct answer is Option 2 i.e. Rs. 6000

The selling price of B is Rs.3600 and it is sold at the profit of 20%

Hence,

CP of B = $3600/1.2 = \text{Rs. } 3000$

Cost price of A is twice the cost price of B.

Hence,

CP of A = $3000 \times 2 = \text{Rs. } 6000$