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Sahi Prep Hai Toh Life Set Hai

PROFIT & LOSS

Part 4

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Agenda

Dishonest Salesman → (44-46) min

Doubt session → (40-45) min

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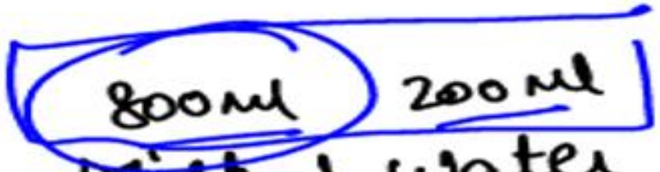
DISHONEST SALESMAN

eg1 Milkman



4 : 1

By Default
water → full

I^st

If he professes to sell the milk at cost price

Find his Profit %

Let 1 ml of milk = 1Rs

CP = 800

SP = 1000

$\frac{200}{800} \times 100\% = 25\%$ profit

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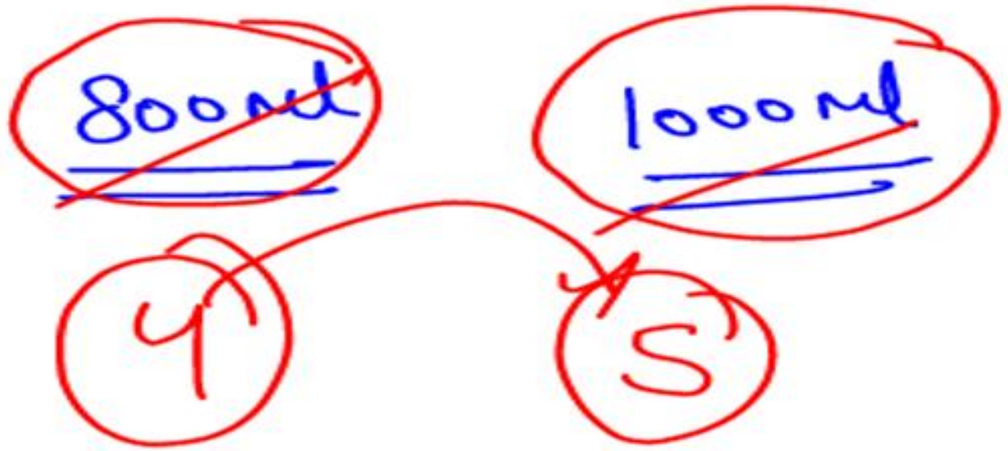
II nd Approach



$\frac{\text{Water}}{\text{Milk}} \times 100$

$\frac{1}{4} \cdot 100 = 25\%$

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Eg^2 Milkman

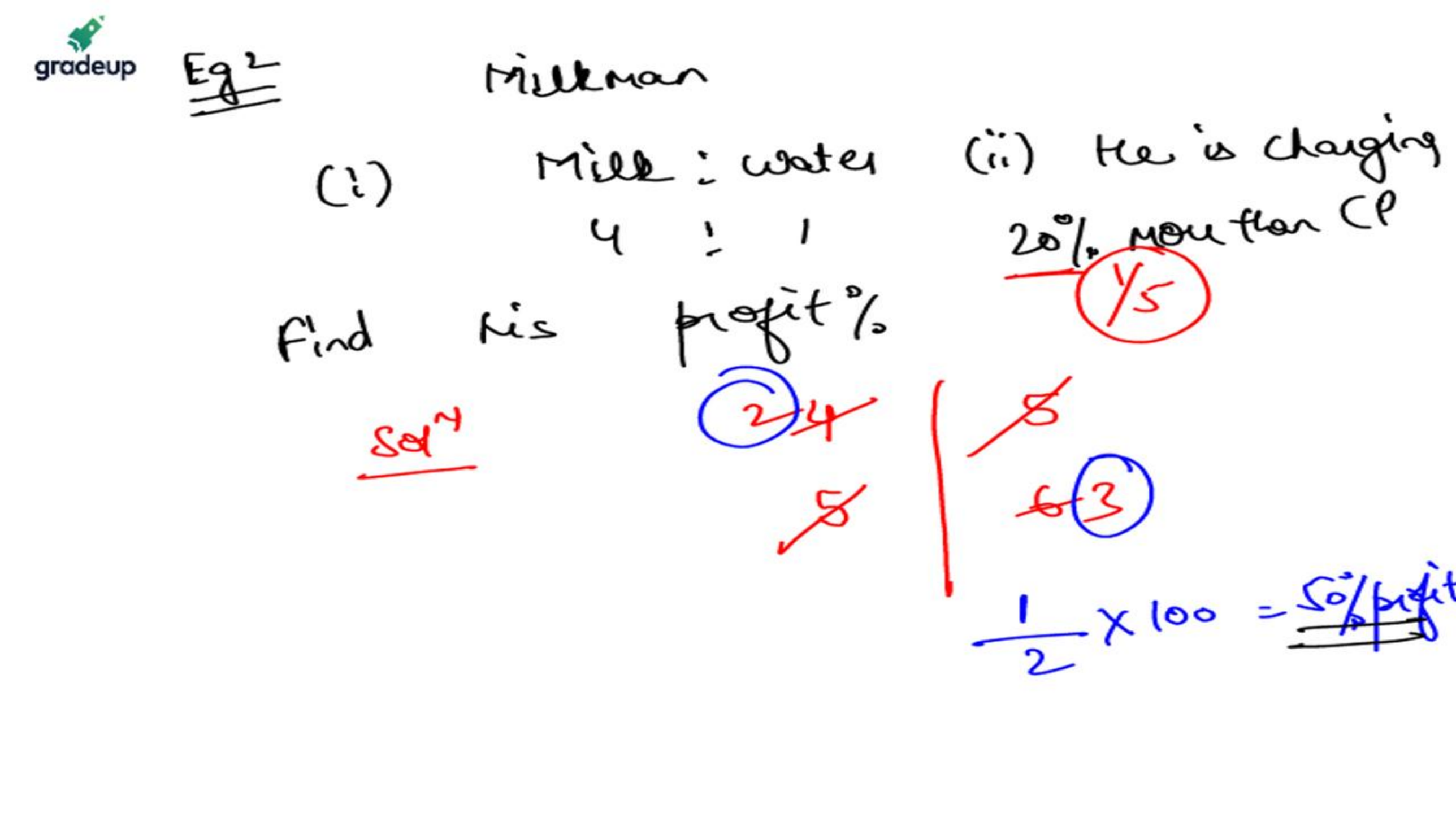
(i) Milk : water

4 : 1

(ii) He is charging 20% more than CP

Find his profit %

Sol^n



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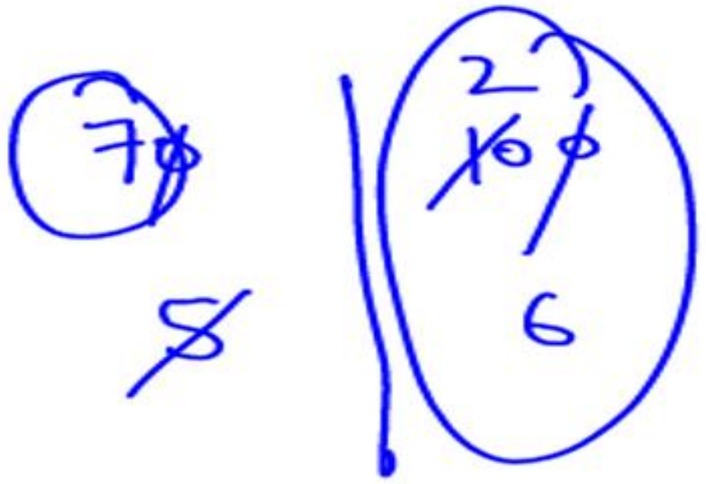
(i) NAMKEEN

eg

(ii) 20% more than CP

"Profit %"



$\frac{5}{7} \times 100$

$= 71\frac{3}{7}\%$

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Eg. A milkman professes to sell the milk at cost price. If he earns 20% profit. Find the ratio of milk & water in the mixture.

Profit %

$$\frac{\text{Water}}{\text{Milk}} \times 100$$

20% → 1 → water
5 Milk

5 : 1

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Ans. M : W = 5 : 1

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1 → Water

6 → Milk

Q2. A dishonest milkman sells milk at cost price but mixes water and gains $16\frac{2}{3}\%$. The ratio of mixture to milk is:

(a) 7:5

(b) 7:6

(c) 6:5

(d) 7:7

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Ans. (b)

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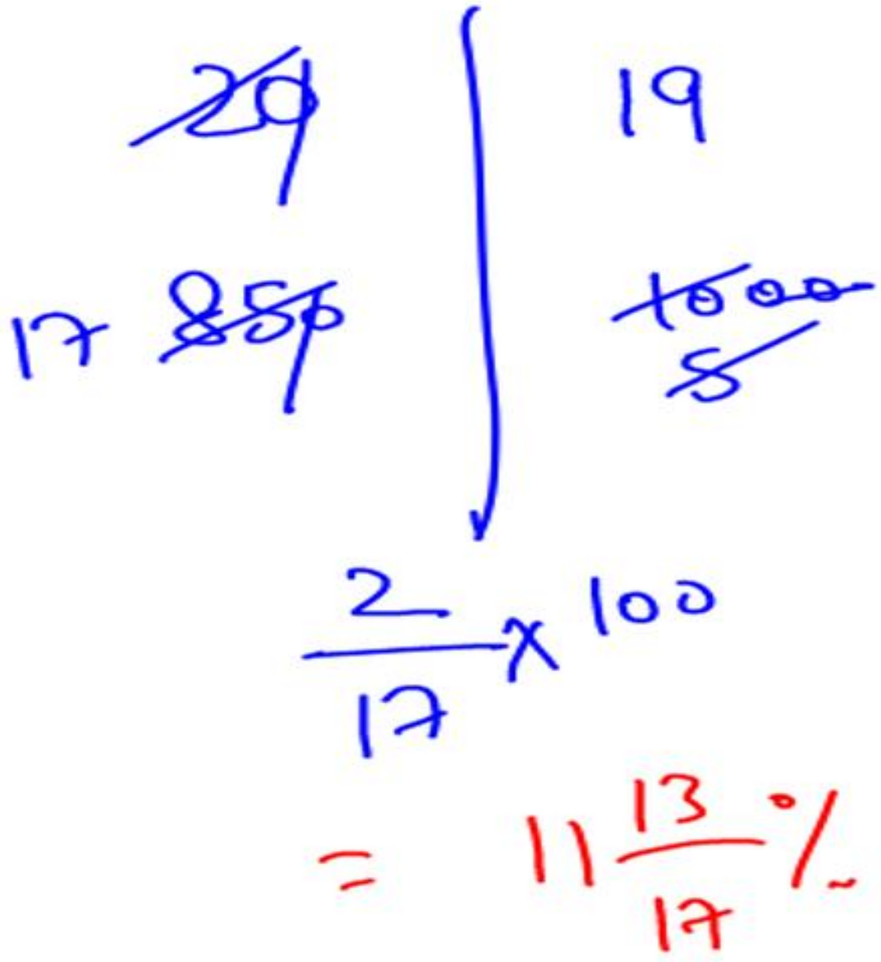
Q3. A dishonest fruit seller sells fruit at 5% loss. If he uses 850 gm instead of 1 kg weight, what is his profit percent?

(a) $11\frac{13}{17}$ %

(b) $11\frac{12}{17}$ %

(c) 11.5%

(d) 12%



5% loss → 1/20

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Ans. (a)

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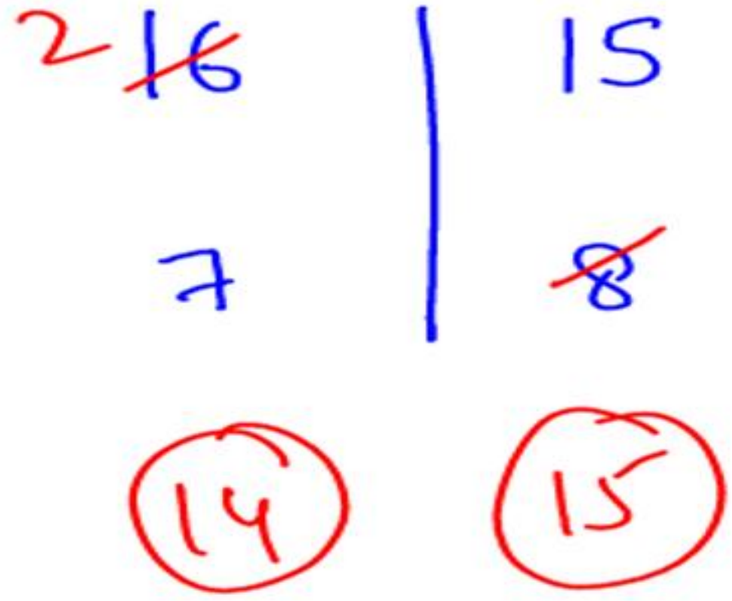
Q4. A dishonest dealer sells the goods at 6¼% loss on cost price but uses 12½ % less weight. What is his profit or loss %.

(a) $5\frac{1}{5}$ (b) $6\frac{1}{6}$

(c) $7\frac{1}{7}$ (d) $8\frac{1}{8}$



$\frac{1}{14} \times 100$

$= 7\frac{1}{7}\%$ profit

$12\frac{1}{2}\%$ $\left(\frac{1}{8}\right)$

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Ans. (c)

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If cheating

Successive % change

$10 + 10 + \frac{10 \cdot 10}{100}$

$= 21\%$

Q5. A dishonest shopkeeper makes a cheating of 10% at the time of buying the goods and 10% cheating at the time of selling the goods. Find the profit percent?

(a) 25% **(b) 21%**

(c) 22% **(d) 20%**

1gm → 1 Rs

100 Rs — purchase → 110 gm

110 gm — sell → 121 Rs

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Ans. (b)

eg cheating of 30% while buying
& cheating of 20% while selling
find his profit %.

$$30 + 20 + \frac{30 \cdot 20}{100}$$

$$56\%$$

$$\frac{28}{50} \cdot 100$$

50 78

$= 56\%$ profit

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IN CASE OF CHEATING, THERE ARE 2 SCENERIOS

CASE 1 :

While purchasing a person does a cheating of 10% and while selling also he does a cheating of 10%.

In this case, we use **Successive % Change**.

$$10 + 10 + \frac{10 \cdot 10}{100} = 21\%$$

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Ans. 21% profit

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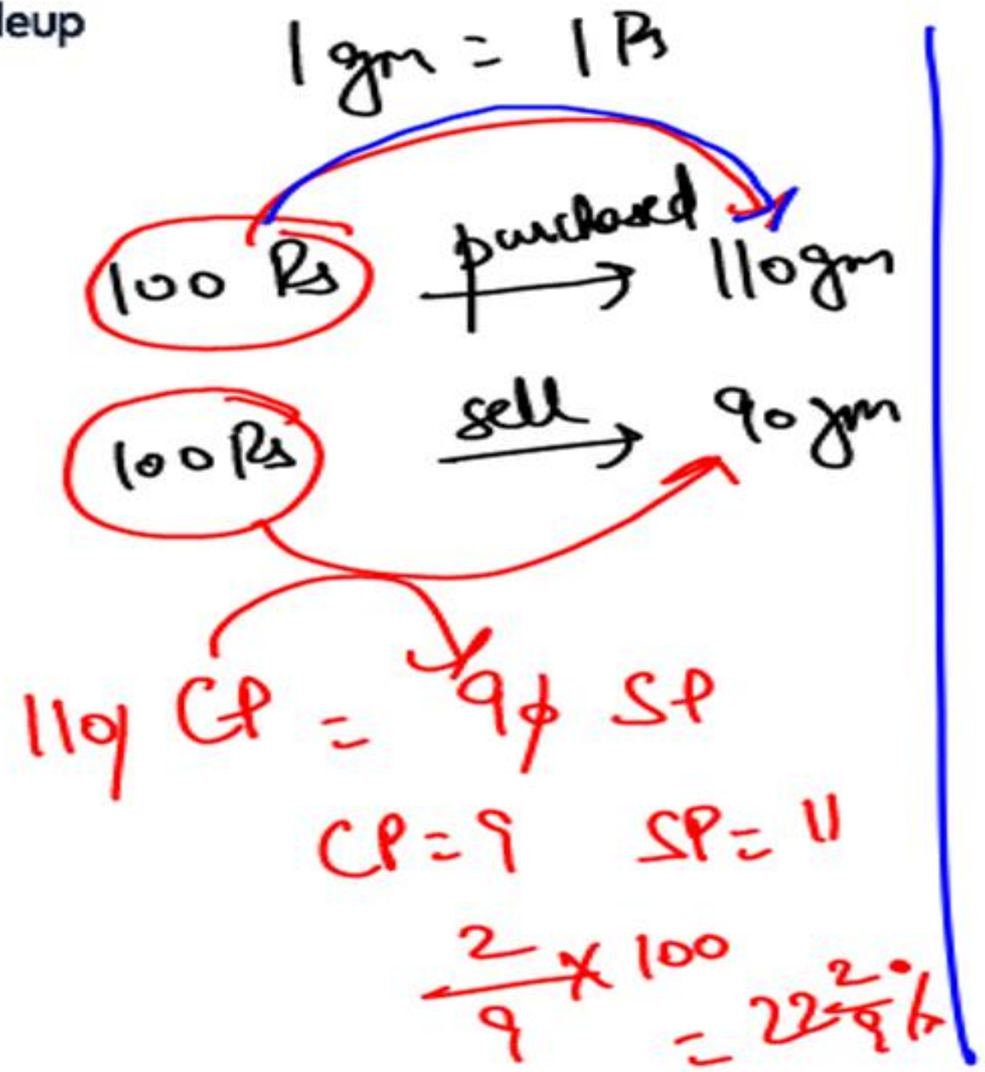

CASE 2 :

A person uses a false weight of 10% while purchasing and uses a false weight of 10% of while selling. Find his profit %.

In this case also, we can use **Successive % Change** but first we have to understand this scenario.

Shortcut

$$\frac{2d}{9q} \times 100$$

$22\frac{2}{9}\%$ profit

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Ans. $22\frac{2}{9}\%$ **Profit**

100 Rs ⟶ 120gm

100 Rs ⟶ 90gm

20% false weight while purchasing

10% false weight while selling

Find Profit %

$\frac{4}{120}$ CP = $\frac{3}{90}$ SP

CP = 3 SP = 4

$\frac{1}{3} \times 100$

= 33.33% profit

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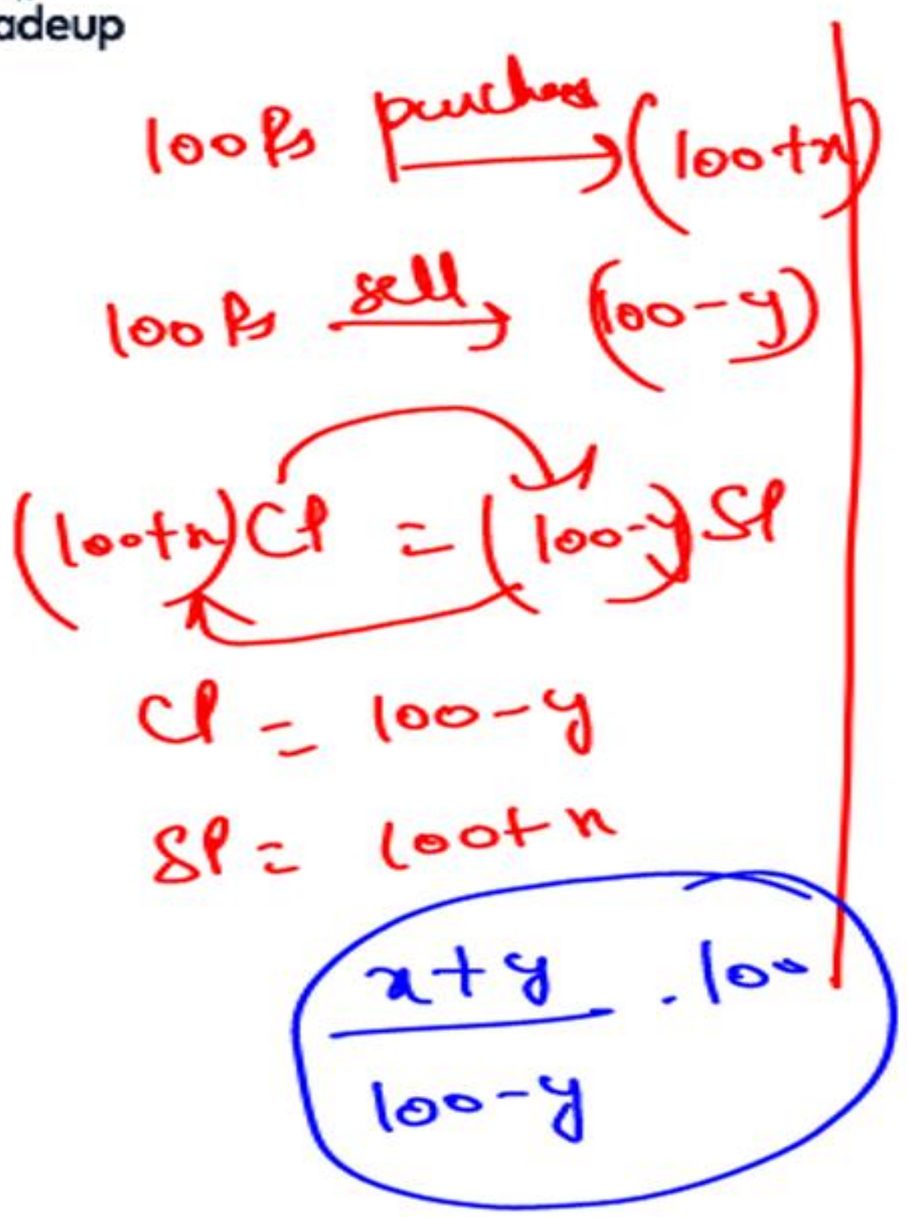

Shortcut for :

A person uses a false weight of x% while purchasing and uses a false weight of y% of while selling. Find his profit %.

$$\text{Profit \%} = \left(\frac{x+y}{100-y}\right)\cdot 100$$

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eg¹ 20% false weight while purchasing & 30% false weight while selling find profit%.

x y

→ $\frac{20+30}{100-30} \cdot 100 \Rightarrow \frac{5}{7} 100$ $71\frac{3}{7}\%$ profit

eg² 10% false weight while purchasing
40% false weight while selling

→ $\frac{5}{6} \times 100 \Rightarrow 83\frac{1}{3}\%$ profit

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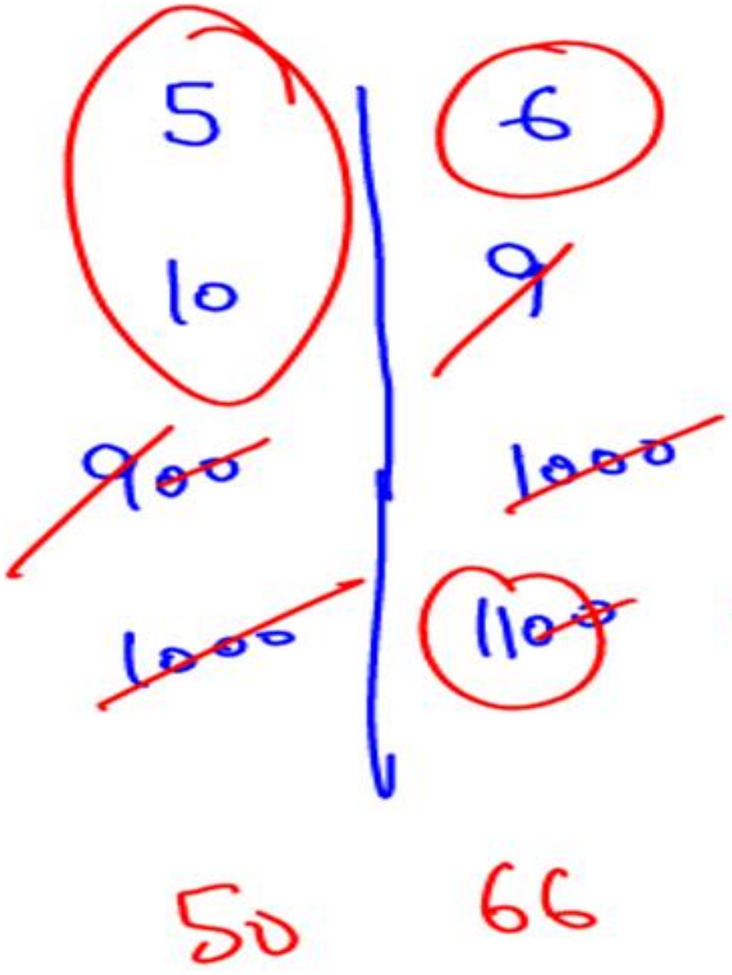

Eg. A shopkeeper marks his goods 20% above the cost price and gives 10% discount to the customer. At the time of selling the goods the uses 900 gm weight instead of 1 kg and at the time of buying he uses 1100 gm instead of 1 kg. Find his profit percent?

(a) 32%
(b) 38%
(c) 28%
(d) 22%

$\frac{16}{50} \times 100 = 32\%$ profit

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Ans. (a)

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PRACTICE QUESTIONS

Q1 A person bought 60 books for Rs.60 each. He sold 50 of them at a loss of 4%. At what per cent profit should be sell the remaining books so that he gains 5% in the entire transaction?

A. 30% B. 60% C. 40% D. 50%

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Ans. (d)

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Q2 The profit made by selling an article for Rs.8,800 is equal to the amount of loss incurred on selling the same article for Rs.7,200. What will be the profit percent, if it was sold for Rs.9,600?

A. 20% B. 25%

C. 18% D. 15%

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Ans. (a)

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Q3 Amit sold an article for Rs. 369.60 after allowing 12% discount on the marked price. Had he not allowed any discount he would have earned a profit of 20%. What is the cost price of the article?

A. Rs. 350
B. Rs. 400
C. Rs. 380
D. Rs. 320

88% of MP = 369.6

$MP = \frac{369.6 \times 100}{88}$

MP = 420

$\frac{420}{CP} = \frac{120}{100}$

CP = 350

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Ans. (a)

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Q4 Shashi sells two articles for Rs. 5,000 each with no loss and no profit in the overall transaction. If one article is sold at $16\frac{2}{3}\%$ loss, then the other is sold at a profit of:

A. 25% **B. 24%** **C.** $16\frac{2}{3}\%$ **D.** $18\frac{1}{3}\%$

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Ans. (a)

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Q5 If the cost price of 25 articles is equal to the selling price of 35 articles find the profit/loss percentage.

A. Loss – 28.57%

B. Profit – 28.57%

C. Profit – 18.93%

D. Loss – 18.93%

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Ans. (a)

Q6 An article was marked at Rs x and sold at discount of (x–40)%. If the customer paid Rs (x–32), then find the marked price of the article.

A. Rs. 60

B. Rs. 50

C. Rs. 75

D. Rs. 80

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Ans. (d)

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Q.7 A single discount equivalent to the discount series of 25%, 15%, and 10% is:

A. 25%

B. 30%

C. 40.2%

D. 42.6%

$-25 \quad -15 \quad \left(\frac{(-25)(-15)}{100}\right)$

$= -40 + 3.75$

$= -36.25$

$-36.25 \quad -10 \quad \frac{-36.25 \times 10}{100}$

$-46.25 + 3.625$

$= 42.$

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Ans. (d)

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Q8 Anil bought two articles A and B at a total cost of Rs. 10,000. He sold the article A at 15% profit and the article B at 10% loss. In the whole deal, he made no profit or no loss. Find the selling price of the article A.

A. Rs. 4,600
B. Rs. 5,400
C. Rs. 4,200
D. Rs. 4,500

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Ans. (a)

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Q9 On selling 38 balls at Rs. 2,240, there is a loss equal to the cost price of 6 balls. The cost price of a ball is equal to:

A. Rs. 60

B. Rs. 70

C. Rs. 50

D. Rs. 80

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Ans. (b)

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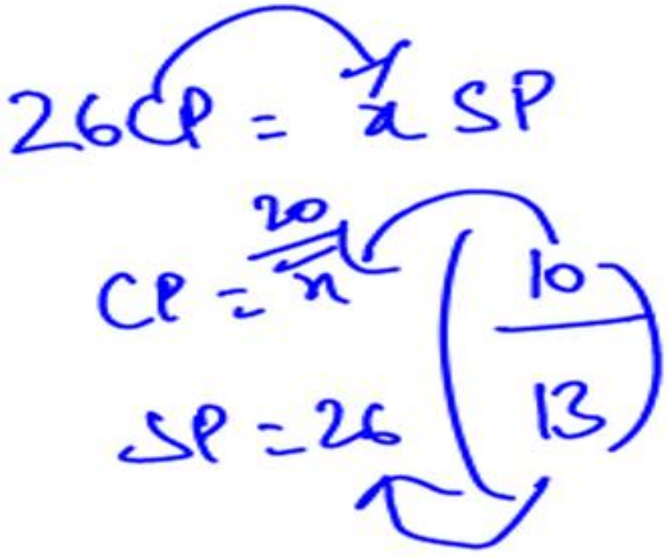
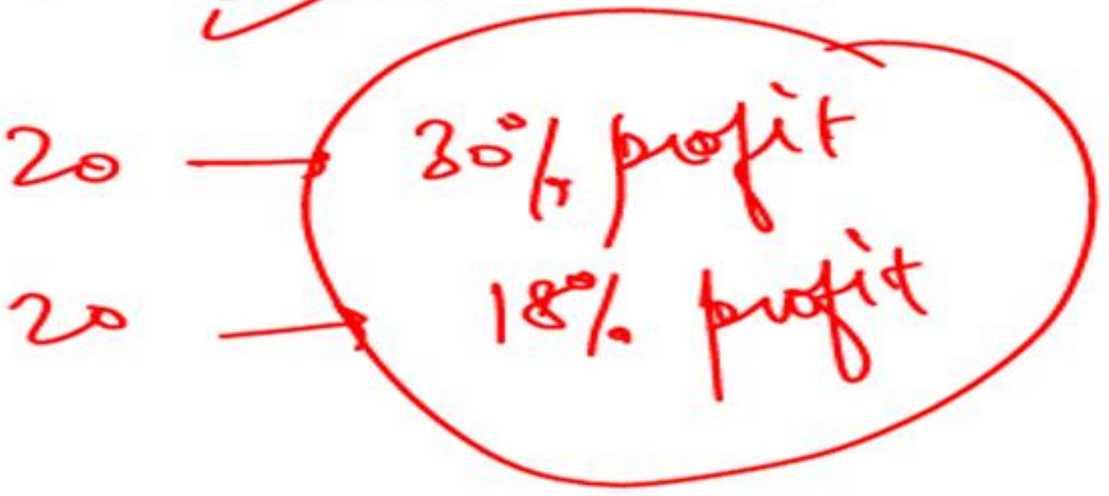
Q.10 A person purchased 40 items at some price. He sold some items at profit 30% by selling them at a price equal to the cost price of 26 items. The remaining items are sold at 18% profit. The total profit percentage is:

A. 27% B. 28% C. 24% D. 25%





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Ans. (c)

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Q. A trader sells rice at a profit of 20% and uses a 10% less weight for measurement. What will be his total profit per cent?

A. 25

B. 66.66

C. 33.33

D. 30

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Ans. (c)

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Q12 If a woman purchases 14 apples for Rs 13 and sells 13 apples for Rs 14, then what will be her profit or loss percentage?

A. 13.77% profit

B. 15.97 %profit

C. 14.28% loss

D. 12.5% loss

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Ans. (b)

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Q13. A man buys a refrigerator at Rs. 22,000 and pays an additional Rs. 1,000 for transport and Rs. 2,000 for installation. What should be the selling price to get a profit of 15% on the whole transaction?

A. Rs. 27,250

B. Rs. 28,500

C. Rs. 28,750

D. Rs. 29,250

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Ans. (c)

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Q4 Two varieties of salt, T and S, costing Rs. 25 and Rs. 35 per kg respectively are mixed in the ratio of 4 : 6. The mixed variety is sold at Rs. 37 per kg. What is the approximate profit percentage?

A. 20% B. 33% C. 25% D. 38%

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Ans. (a)

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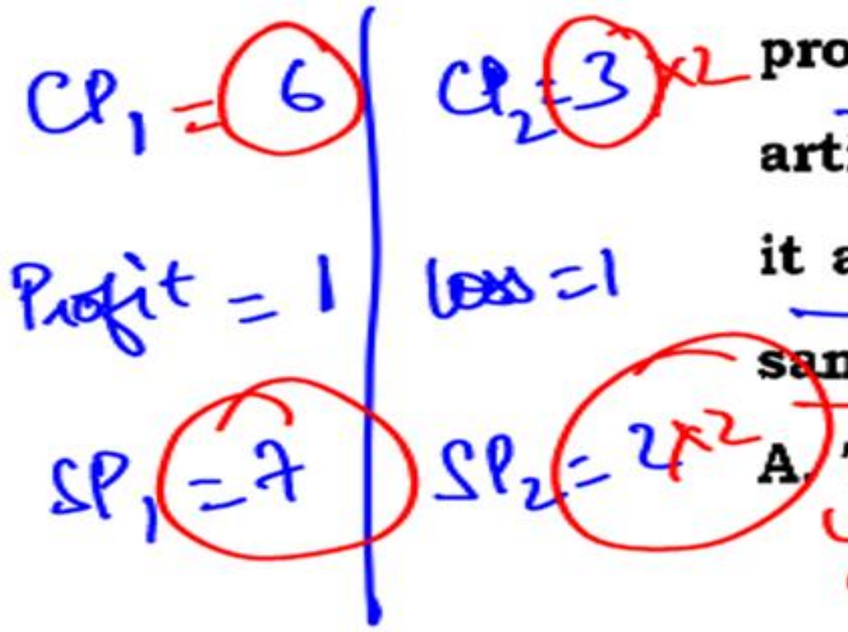
Q. The cost price of an article 1 is six times of the profit earned by selling it at SP1. Cost price of article 2 is three times the loss incurred by selling it at SP2. If the cost prices of the articles are the same, then what is the ratio of SP1 and SP2?

A. 7 : 4 B. 6 : 5 C. 7 : 5 D. 4 : 3



7 : 4

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Ans. (a)

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Q. 16 The difference in selling price of article for selling at 25% profit and 37.5% loss is Rs.1250. What will be the selling price when it is sold at 12.5% profit?

A. Rs.1800

B. Rs.2400

C. Rs.2250

D. Rs.2500

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Ans. (c)

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Q17. By selling an article for Rs.300, a person incurred a loss of 6.25%. What is his profit, if it is sold for Rs.352?

A. 38

B. 42

C. 32

D. 28

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Ans. (c)

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Q.18 **A shopkeeper wrongly calculates his profit on the selling price of an article and finds it to be 40%. What is his actual profit percentage?**

40% (2 → Profit, 5 → SP)

CP = 3

A. $64\frac{1}{3}$ **B.** $56\frac{1}{3}$ **C.** $66\frac{2}{3}$ **D.** $60\frac{2}{3}$

$\frac{2}{3} \times 100$

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Ans. (c)

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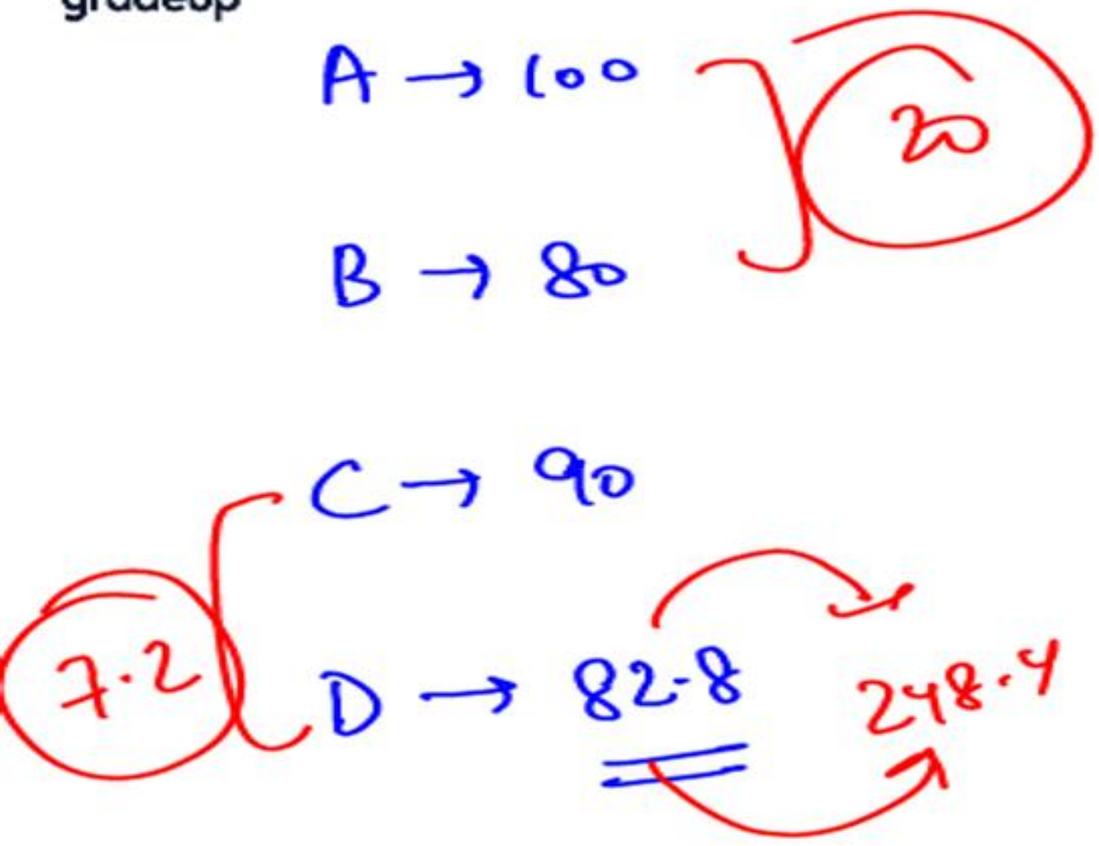

Q.19 A sells an articles to B at a loss of 20%, B sells it to C at a profit of 12.5% and C sells it to D at a loss, of 8%. If D buys it for 248.40, then what is the difference between the loss incurred by A and C?

A. 36.80
B. 38.40
C. 42.60
D. 39.20

12.8 x 3

= 38.4

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Ans. (b)

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20

Q. A shopkeeper normally allows a discount of 10% on the marked price of each article. During a sale season, he decides to give two more discounts. The first being at a rate of 50% of the original and the second at a rate of 40% of the first. What is the percentage rate of the equivalent single discount (correct up to two decimal places)?

A. 11.25 **B. 16.21**

C. 14.85 **D. 13.27**

I st 10%

II nd 5%

III 2%

$-10-5-\frac{(-10)(-5)}{100} = -14.5$

$-14.5-2-\frac{(14.5)(-2)}{100}$

$-16.5+0.29 = -16.21$

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Ans. (b)

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MP ↑ 50% CP

If ~~MP ↑ 20%~~ profit doubles

SP ↑ 20% ₹5

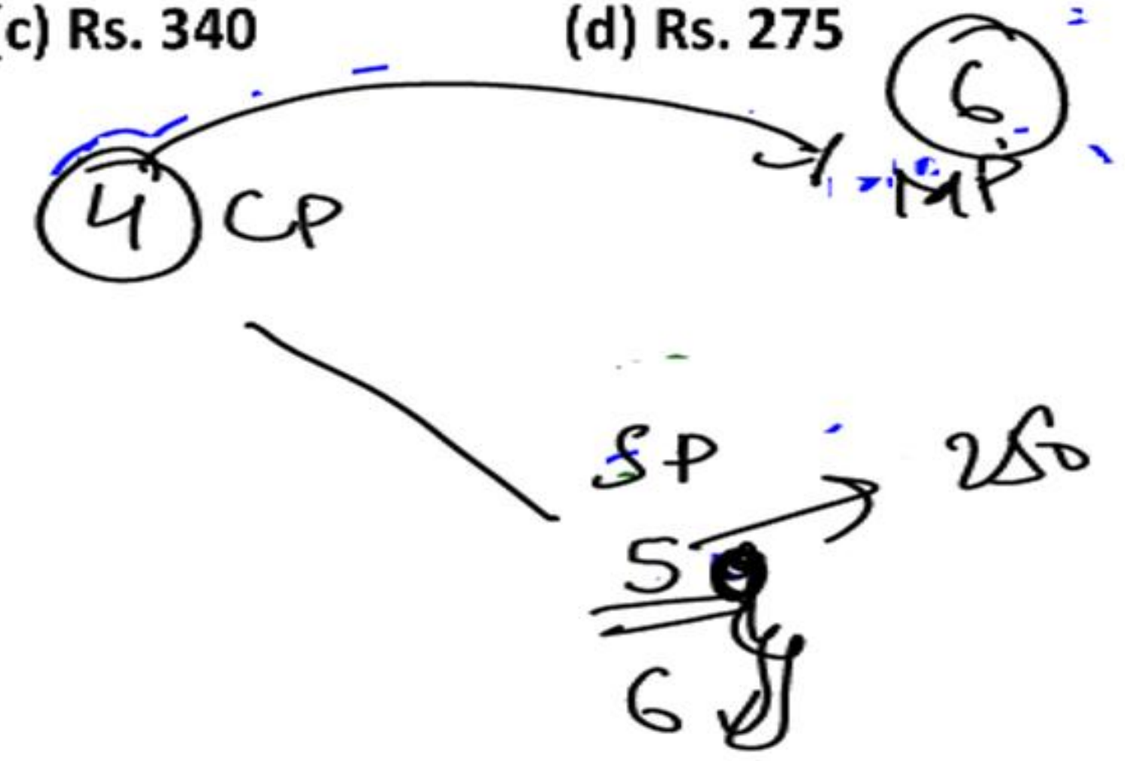
Original MP = 300

Original SP = ?

Q21 The marked price of an article is 50% above cost price. When marked price is increased by 20% and selling price is increased by 20%, the profit doubles. If original marked price is Rs. 300, then original selling price is

(a) Rs. 200 (b) Rs. 250

(c) Rs. 340 (d) Rs. 275



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Ans. (b)

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$CP = 2500 + 250$

$= 2750$

$Profit = 250$

$SP = 3000$

$\frac{3}{4} MP = 3000$ (1000)

$MP = 4000$

Q. A shopkeeper gives 25% discount to his customer but he sells only smuggled goods and as a bribe he pays 10% on the cost price. Find what should be the marked price if he desires to make a profit of $9\frac{1}{11}\%$ and the cost price of article is Rs. 2500.

(a) 4000
(b) 4200
(c) 3750
(d) 5000

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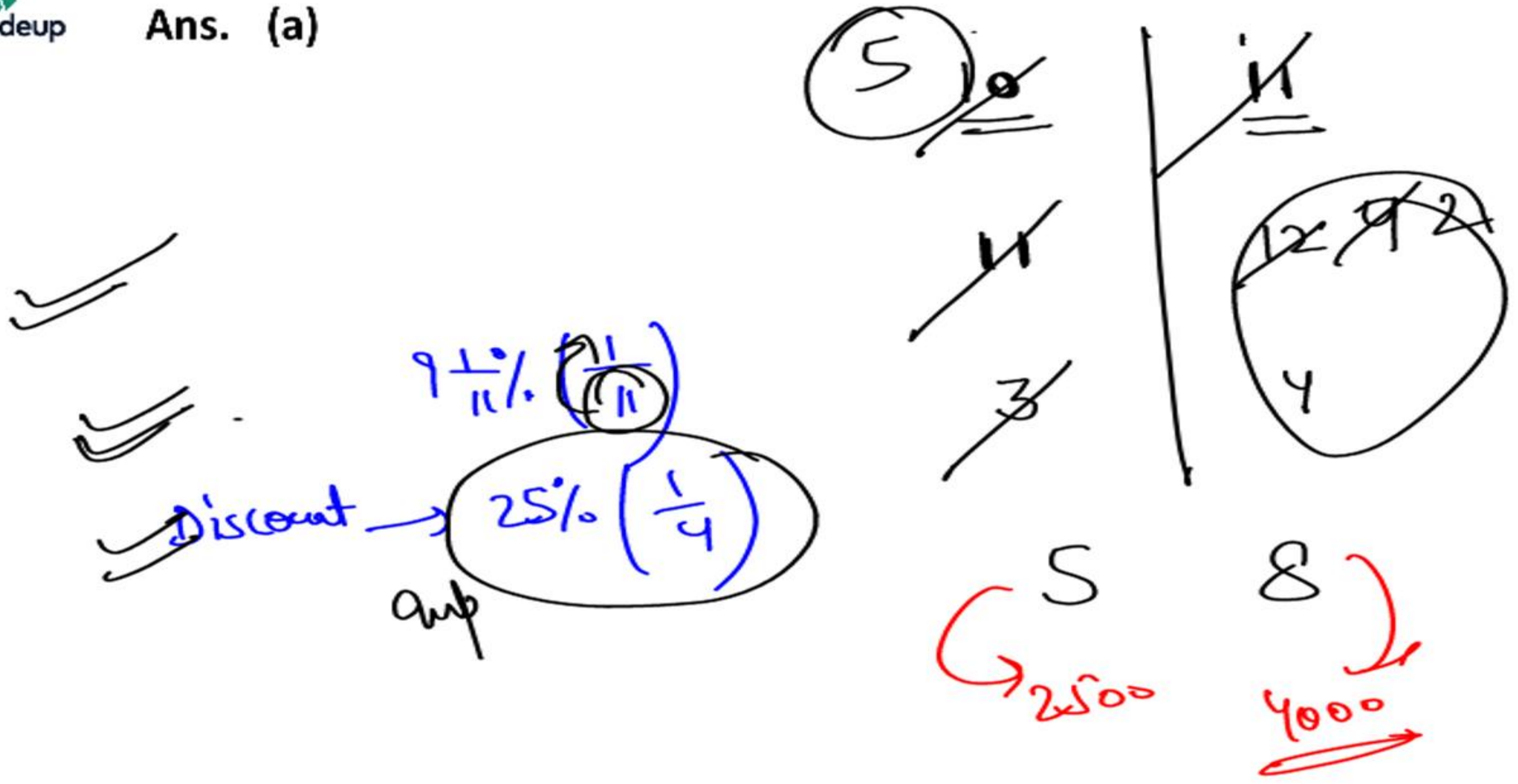
Ans. (a)



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Q23 A milkman professes to sell the milk at cost price but he mixes milk and water in the ratio 4 : 1. If the cost of water is 1/3rd the cost of pure milk. Find his profit %.

a $13\frac{5}{13}\%$

b $14\frac{5}{13}\%$

c $15\frac{5}{13}\%$

d $16\frac{5}{13}\%$

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Ans. (c)

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Q24 A man buys 200 oranges for Rs. 1000. How many oranges for Rs. 100 can he sell so that his profit percentage is 25%?

(a) 10 (b) 14

(c) 16 (d) 20

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Ans. (c)

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Q25 Sudhir purchased a chair with three consecutive discounts of 20%, 12.5% and 5%. The actual deduction will be:

(a) 33.5%
(b) 30%
(c) 32%
(d) 35%

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Ans. (a)

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Q. An article is sold at a profit of 32%. If the cost price is increased by 20% and the sale price remains the same, then the profit percentage becomes:

(a) 10%
(b) 12%
(c) 15%
(d) 20%

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Ans. (a)

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Q. A person selling an article for Rs. 96 finds that his loss percent is one-fourth of the amount of rupees that he paid for the article. What can be the cost price?

(a) Rs. 160 only

(b) Rs. 240 only

(c) Rs. 160 or Rs. 240

(d) Neither Rs. 160 nor Rs. 240

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Ans. (c)

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Q. After selling an article in Rs. 1470, a merchant earns $16\frac{2}{3}\%$ profit. What is the cost price of that article?

(a) Rs. 1260

(b) Rs. 1165

(c) Rs. 1254

(d) Rs. 1261

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Ans. (a)

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Q. By selling 33 meters of cloth, a shopkeeper gains a profit of cost price of 11 meters cloth. What is his profit percent?

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

(b) $30\frac{1}{3}\%$

(c) 38%

(d) 29%

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Ans. (a)

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Q. A house and a shop, each was sold at 1 lakh. There was 20% loss on house and 20% profit on shop. The overall result will be?

(a) Neither profit nor loss

(b) Rs. 1/24 Lakh profit

(c) Rs. 1/12 Lakh loss

(d) Rs. 1/18 Lakh loss

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Ans. (c)

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Q. A man bought two goats for 1008. He sold one at a profit of 44% and the other at a loss of 20%. If each goat is sold for the same price then find the cost price of the goat which was sold at loss was:

(a) 648
(b) 360
(c) 568
(d) 440

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Ans. (a)

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Q. Two horses were bought at Rs. 1600. First was sold at 10% profit and second at 20% profit. If first were sold at 20% profit and second at 10% profit he would get Rs. 5 more. Find the difference between the cost price of both the horses.

(a) 50
(b) 500
(c) 100
(d) 1000

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Ans. (a)

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Q. Medicine manufacturer gives one dozen extra bottle on the order of every 12 dozen. A discount of 25% is offered on the marked price. If the marked price of a bottle is Rs. 117. Find the lowest price at which bottle can be sold without any loss ?

(a) 72
(b) 81
(c) 108
(d) None of these

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Ans. (b)

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Q. A trader marked his goods at 20% above the cost price. He sold half the stock at the marked price, one quarter at a discount of 20% on the marked price and the rest at a discount of 40% on the marked price. His total gain is

(a) 2%
(b) 8%
(c) 14%
(d) 18%

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Ans. (a)

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Q. A person sells two articles in Rs. 1710. On first he suffers 10% loss and on second he gains 25% profit. If cost price of first article is equal to selling price of second article then find the profit or loss percent?

(a) Profit Rs. 90

(b) Loss Rs. 90

(c) Profit Rs. 60

(d) Loss Rs. 60

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Ans. (a)

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Q. A person bought 50 pens for Rs. 50 each. He sold 40 of them at a loss of 5%. He wants to gain 10% on the whole. Then his gain percent of the remaining pens should be

(a) 15 (b) 40 (c) 50 (d) 70

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Ans. (d)

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Q. A person bought some articles. He sold 1/3 articles at profit of 14%, 3/5 articles at profit of 17½% and rest at profit of 20%. Find his total profit%.

(a) 15½ %

(b) 16½ %

(c) 17½ %

(d) 18½ %

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Ans. (b)

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Q. The ratio of selling price of 3 articles A, B, C is 8 : 9 : 5 and ratio of their profits is 8 : 7 : 14. If profit % of A is 14.28% and CP of B is Rs. 400. Find overall profit %.

(a) 15.7% (b) 19.7% (c) 23.7% (d) 25.7%

A B C

SP 8x8 : 9x8 : 5x8

64 72 40

Profit 8 : 7 : 14

CP 56 65 26

$\frac{29}{147} \times 100$

14.28% = 1/7

Profit 1

CP → 7

SP for A 8