

DISCOUNT & SUCCESSIVE DISCOUNT
PROFIT & LOSS,

Profit

$$P = S.P - C.P$$

$$P = 150 - 100 = 50 \checkmark$$

$$\% P = \frac{P}{C.P} \times 100$$

$$= \frac{50}{100} \times 100 = 50\%$$

$$\boxed{\% P = 50\% \checkmark}$$

Loss

$$L = C.P - S.P$$

$$= 100 - 80 = 20 \checkmark$$

$$\% L = \frac{L}{C.P} \times 100$$

$$\% L = \frac{20}{100} \times 100$$

$$\boxed{\% L = 20\%}$$

Profit

$$S.P \Rightarrow C.P + P$$

$$C.P = S.P - \text{Profit}$$

Loss

$$S.P = C.P - L$$

$$C.P = S.P + \text{Loss}$$

~~S.P~~ 120%.

Shortcut

+ P \rightarrow 20%.

C.P \rightarrow 100% \rightarrow 100.

- h \rightarrow 20%.

~~S.P~~ \Rightarrow 80%.

Profit Percentage if we calculate
on selling price instead of cost price

$$\% P = \frac{P}{S.P} \times 100.$$

M.P \rightarrow 100%. \rightarrow 100.

D \rightarrow 20%. \rightarrow -20

80

(C.P + P)
for S.P

C.P
for Buy.

Successive Discount:

$$\underline{40\% + 50\%}$$

$$m.p \rightarrow 100\% \rightarrow 100.$$

$$20\% \rightarrow 20$$

$$\frac{100}{100} - 20 = 80$$

$$30\% \rightarrow 24$$

$$\frac{80}{100} - 30 = 56$$

$$20\% + 30\%$$

$$a+b-\frac{ab}{100}$$

$$20+30-\frac{600}{100}=44\% \quad \underline{\underline{44\%}}$$

$$100\% \rightarrow 100$$

$$44\% \rightarrow \frac{44}{56}$$

If cost of 15 eggs be 75 rupees, then find out the cost of 5 dozen eggs.

- 1. 300
- 2. 400
- 3. 500
- 4. 600

$$\begin{array}{ccc} \cancel{15} & \rightarrow & \cancel{75} \\ \cancel{60} & \rightarrow & \cancel{300} \\ \cancel{4} & & \end{array}$$

$$1d \Rightarrow 12$$

$$5 \times 12 \Rightarrow 60$$

A stationer buys diaries at 75 rupees per dozen and sells them at 15 rupees per piece. What is the profit?

1.75

2.100

~~3.105~~

4.110

C.P \rightarrow 12 \rightarrow 75

S.P \rightarrow 1 \rightarrow 15

12 \rightarrow 180

1d \Rightarrow 12

✓

$$P = S.P - C.P$$

$$= 180 - 75$$

$$= 105$$

Find CP of an article which is sold at a loss of 25% for Rs1500 ?

$$100\% \rightarrow 2000$$

$$\begin{array}{r} 100\%, \\ -25\%, \\ \hline 75\% \end{array}$$

$$\cancel{75\%} \rightarrow \cancel{1500}$$

20

$$\cancel{150\%} \rightarrow \begin{array}{r} 3.0 \\ 4500 \end{array}$$

$$100\% \rightarrow 3000$$

On selling an article for Rs. 240, a trader loses 4%. In order to gain 10 % he must sell that article for

- ~~1. Rs. 275~~ ~~4~~
~~2. Rs. 340~~ ~~96%~~ → ~~240~~ 10% 2.5
3. Rs. 320
4. Rs. 264 ~~100~~ > ~~110~~% → 275
10

~~6 %~~ more is gained by selling a coat for Rs.1425 than by selling it for Rs. 1353. The cost price of the coat is ?

- 1.Rs. 1000
- 2.Rs. 1250
- 3.Rs. 1500
- 4.Rs. 1200

$$1425 - 1353 = 72$$

~~$$6\% \rightarrow 72/12$$~~

~~$$100\% \rightarrow 1200$$~~

A person sold two cows each for Rs. 9900. If he gained 10% on one and lost 20% on the other, then which of the following is true ?

- 1.He gained Rs. 200
- 2.He lost Rs 200
- 3.He neither gained nor lost
- 4.None of the above

An item costing Rs. 200 is being sold at 10% loss. If the price is further reduced by 5%, the selling price will be ?

- 1.Rs. 170
- ✓2.Rs. 171
- 3.Rs. 180
- 4.Rs. 181

$$100\% \rightarrow 200$$

$$10\% \rightarrow -20$$

$$100\% \rightarrow 100$$

$$5\% \rightarrow 9$$

$$171$$

Arun bought toffees at 6 for a rupee. How many for a rupee he should sell to gain 20% ?

$$1 \text{ Rupee} = 100 \text{ paise}$$

1.3

C.P :- 6 toffees \rightarrow Rs 1

2.4

1 toffee \rightarrow $\frac{100}{6} = 16.66$

3.5

4. can't be determined

Method-II

C.P S.P
 $P \rightarrow 100\%$, 120%

$5 : 6$

$Q \rightarrow 6 : 5$

$$\frac{100}{20} = S_P$$

C.P ~~16.66 \rightarrow 100%~~

P $3.33 \leftarrow 20\%$

S.P $19.99 \approx 20$

A shopkeeper expects a gain of 22.5% on his cost price. If in a week, his sale was of Rs. 392, what was his profit?

1. 18.50
2. 34
3. 62
4. 72

$$\begin{aligned} S.P &= C.P + P \\ &= 100\% + 22.5\% \\ S.P &= 122.5\% \end{aligned}$$

$$\begin{aligned} \cancel{\text{S.P}} \\ \cancel{122.5\%} \rightarrow 392 \\ \cancel{22.5\%} \rightarrow 72 \end{aligned}$$

Sam purchased 20 dozens of toys at the rate of Rs. 375 per dozen. He sold each one of them at the rate of Rs. 33. What was his percentage profit?

- 1. 3.5%
- 2. 4.2%
- 3. 5.6%
- 4. 6.8%

$$1 \text{ dozen} = 12 \text{ items}$$

$$\underline{\text{C.P.}} : - 1 \text{ dozen} = \text{Rs } 375$$

$$\underline{\text{S.P.}} : - 1 \text{ item} = \text{Rs } 33$$

$$12 \times 33 = 396$$

$$17.89 \cancel{375} \rightarrow 5.59 \\ 100\%$$

$$2x \rightarrow 5.6\%$$

Some articles were bought at 6 articles for Rs. 5 and sold at 5 articles for Rs. 6. Gain percent is:

1.33%

~~2.55%~~

~~3.44%~~

4.36%

C.P

Rs 5 → 6 A



S.P

Rs 6 → 5

1.2 ← 1 A

$$\begin{aligned} 7.2 - 5 \\ = 2.2 \end{aligned}$$

7.2 ← 6 A



20
5 → 100%
~~100%~~

2.2 → 44%
~~44%~~

On selling 17 balls at Rs. 720, there is a loss equal to the cost price of 5 balls. The cost price of a ball is:

- 1.Rs.45
- 2.Rs.50
- 3.Rs.55
- 4.Rs.60

$$\underbrace{17 \text{ S.P}}_{=} = 12 \text{ C.P}$$

$$720 = 12 \text{ C.P}$$

$$\begin{array}{r} 60 \\ \cancel{720} \\ \hline \cancel{12} \end{array}$$

When a plot is sold for Rs. 18,700, the owner loses 15%.
At what price must that plot be sold in order to gain 15%?

- 1. 1.21,000
- 2. 2.23,000
- 3. 3.25,300
- 4. 4.25,800

~~18,700~~ 1100
~~85%~~ → ~~18,700~~

~~115%~~ → 25300

23

100 oranges are bought at the rate of Rs. 350 and sold at the rate of Rs. 48 per dozen. The percentage of profit or loss is:

- ~~1.19 2/7%~~
- ~~2.14 2/7%~~
- 3.18 2/7%
- 4.12 2/7%

$$C.P = \frac{350}{100} = 3.5$$

$$S.P = \frac{48}{12} = 4$$

~~A~~
~~3.5~~ → ~~100~~ y.
~~0.5~~ → ~~14~~ $\frac{2}{7}$

A shopkeeper sells one transistor for Rs. 840 at a gain of 20% and another for Rs. 960 at a loss of 4%. His total gain or loss percent is:

1. $6\frac{2}{3}\%$ gain

2. $5\frac{15}{17}\%$ loss

3. ~~$7\frac{13}{16}\%$ loss~~

4. ~~$5\frac{15}{17}\%$ gain.~~

$$840 + 960 = 1800$$

$$\text{Profit} = \text{Rs } 100/-$$

$$\begin{array}{ll} \cancel{20\%} \rightarrow 840 & 96\% \rightarrow 960 \\ 100\% \rightarrow 700 & 100\% \rightarrow 1000 \end{array}$$

$$\begin{array}{ll} \cancel{100} \rightarrow 100\% & 5\frac{15}{17} \text{ gain} \\ \cancel{S} \frac{15}{17} & \end{array}$$

By selling an article for Rs 600 more, Karthik would have made 5% profit on his sale instead of a 11% loss. What was his cost price?

- A. Rs. 3750
- B. Rs. 4000
- C. Rs. 2250
- D. Rs. 6,000
- E. Rs. 4750

$$\cancel{4} \rightarrow \cancel{16\%} \rightarrow \cancel{600}$$

150

$$\cancel{100\%} \rightarrow 3750$$

25



I make a profit of 20% by selling an article. What would be the profit percent if it were calculated on the selling price instead of the cost price?

- A. 10 %
- B. 20%
- C. 30%
- D. 16.67%
- E. 12.5%

$$C.P \rightarrow 100\% \rightarrow 100$$

$$P \rightarrow 20\% \rightarrow \frac{20}{120}$$

$$S.P \rightarrow$$

$$\%P = \frac{P}{S.P} \times 100 = \frac{20}{120} \times 100 = \frac{200}{120} = \frac{16.666}{12}$$

A tradesman marks his goods 25% above the cost price and allows his customers 12 % reduction on their bills. What percent profit does he make?

- A. 14 %
- B. 10%
- C. 18%
- D. 12.5%
- E. 12%

$$\begin{array}{l} \text{C.P} \rightarrow 100\% \rightarrow 100 \\ \quad \quad \quad | \\ \quad \quad \quad 25\% \rightarrow 25 \\ \quad \quad \quad | \\ \text{M.P} \rightarrow 100\% \rightarrow 125 \\ \quad \quad \quad | \\ \quad \quad \quad 12\% \rightarrow 15 \\ \quad \quad \quad | \\ \quad \quad \quad 110 \end{array}$$

In order to maintain the price line, a trader allows a discount of 12 % on the marked price of goods in his ship. However, he still makes a gross profit of ~~32 %~~ on the cost price. Find the profit percent he would have made on the selling price had he sold at the marked price.

- A. 28.07 %
- B. 50 %
- C. 31.21 %
- D. 23 %
- E. 40%

$$\begin{aligned}
 & \text{M.P} \rightarrow 150 \\
 & \text{C.P} \rightarrow 100\% \rightarrow 100 \\
 & P \rightarrow 32\% \rightarrow \underline{\underline{32}} \\
 & S.P \rightarrow 132 - \cancel{\cancel{28}\%} \rightarrow \cancel{\cancel{28}\%} 1. \rightarrow \cancel{\cancel{28}\%} 33\% \\
 & 100\% \rightarrow 100 \\
 & 50\% \leftarrow 50 \\
 & \text{S.P} \rightarrow 88\%
 \end{aligned}$$

An orange vendor makes a profit of 10% by selling oranges at a certain price. If he charges Rs. 1.4 higher per orange he would gain 30%. Find the original price at which he sold an orange.

- A. Rs. 6
- B. Rs. 5.80
- C. Rs. 6.25
- D. Rs. 6.70
- E. Rs 7.70

A trader marks his product 30% above its cost and allows a discount of 10% . What profit% does he make?

$$100 \rightarrow 100\%$$

$$17 \rightarrow 17\%$$

$$C.P \rightarrow 100\% \rightarrow 100$$

$$30\% \rightarrow 30$$

$$m.P \rightarrow 100\% \rightarrow \overline{130}$$

$$10\% \rightarrow \overline{13}$$

$$S.P \rightarrow \overline{117}$$

✓
17

An article is marked at Rs400 and sold at Rs360.
Find discount percentage

$$\cancel{400} \rightarrow 100\%$$

$$40 \leftarrow 10\%$$

The successive-discount of 10% and 20% are given on the purchase of a bag . If the price of the bag is RS. 2250, find the selling price.

$$a+b-\frac{ab}{100}$$
$$10+20-\frac{\cancel{200}}{\cancel{100}}^2$$
$$= 28\%$$

~~10%~~ ~~20%~~ ~~45~~

~~100%.~~ ~~2250~~

~~28%.~~ ~~630~~

~~10.~~ ~~14~~

 1620 \rightarrow S.P

The marked price of a shirt is Rs.1000. A shopkeeper offers 10% discount on this shirt and then again offers 20% discount on the new price, and then again offers 30% discount on the new price . How much will you have to pay, finally?

$$a+b - \frac{ab}{100} = 28\%$$

$$28 + 30 - \frac{840}{100} = 49.6\%$$

$$1000 \rightarrow 100\%$$

$$496 \leftarrow 49.6\%$$

$$\overline{\overline{504}}$$

What profit percent is made by selling an article at a certain price if by selling at four-fifth of that price there may be a loss of 12 %?

- A. 10 %
- B. 25 %
- C. 42 %
- D. 20 %
- E. 35%

$$\frac{4}{5}$$

$$4 \rightarrow 88\%$$
$$5 \rightarrow 110\%$$

100% C.P
10% Profit

A milkman purchases the milk at Rs. x per litre and sells it at Rs. $2x$ per litre still he mixes 2 litres water with every 6 litres of pure milk. What is the profit percentage?

1.116%

~~C.P~~

1litre \rightarrow Rs 100

2.60%

Milk 6 Litres \rightarrow 600

3.100%

water 2 Litres \rightarrow Rs 0

~~4.166.66%~~

Total $\overline{8 \text{ Litres}}$

S.R $8 \times 200 = 1600$

P $1600 - 600 = 1000$

$600 \rightarrow 100\%$

~~1000~~ $\rightarrow 166.66\%$

166.6