PROFIT LOSS & DISCOUNT

Cost Price - CP

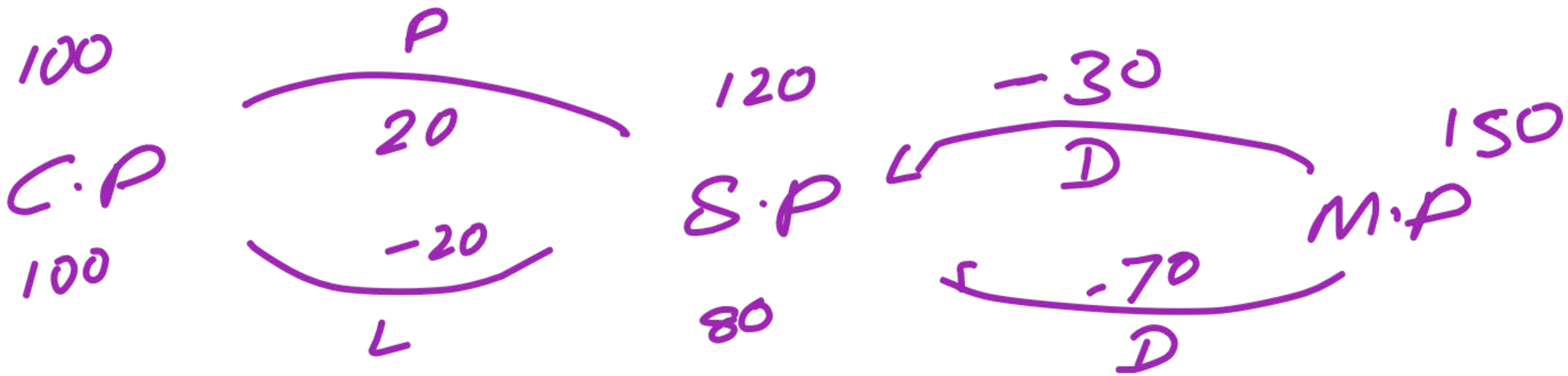
Selling Price - SP

Marked Price - MP

Profit - P

Loss - L

Discount - D



$P = S.P - C.P$

$L = C.P - S.P$

$D = M.P - S.P$

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

$$L\% = \frac{L}{CP} \times 100 = \frac{CP - SP}{CP} \times 100$$

$$D\% = \frac{D}{M.P} \times 100 = \frac{MP - SP}{MP} \times 100$$

CP = 100 S.P = 120 P = ? P% = ?

P : 20

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

CP = 100 SP = 80 L = ? L% = ?

L = 20

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

$P = 30\%$ $\quad$ $S.P = Rs.260$ $\quad$ $CP = ?$

30%

CP	S.P
100%	130% – 260
×2	×2
200 – CP	

$P = SP - CP$

$SP = P + CP$

$$P\% = \frac{P}{CP} \times 100$$

$$\frac{P}{CP} = \frac{30}{100} - P - CP$$

$SP = 130 \rightarrow 260$

$100 \rightarrow \frac{260}{130} \times 100$

$= 200$

$L\% = 30\% = \frac{30}{100} = 3/10 - CP$ $\quad \frac{30 - L}{100 - CP}$

CP —— 30% —— SP

100% $\quad$ 70%

$SP = 100 - 30 = 70\%$

$L = CP - SP$

$SP = 7$

$SP = CP - L$

CP —— L —— SP

10 $\quad$ 1 $\quad$ 7

M.P. = 100 , SP = 80 , D = ?

D = 20

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

$D = 10\% = \frac{10}{100} = \frac{1}{10} - M.P$ $\quad - D$

SP = MP - D.

$\boxed{SP = 9}$

CP = X

P% D% C.P. M.P.

P% : 10% D% = 20%

CP : MP

CP 100 $\xrightarrow{P\%\ 10\%}$ SP 110

MP ?

P% = 10% = 1/10 − P, CP, SP = 11, 80 $\xleftarrow{D\ 20\%}$ 100

CP : SP = 10 : 11

D% = 20% = 1/5 − D, MP, SP = 4

SP : MP = 4 : 5

CP : SP = 10 : 11

SP : MP = 4 : 5

CP : SP : MP = 40 : 44 : 55

CP : MP = 40 : 55

$P\% = 10\%$ $D\% = 20\%$ $CP : MP$

40 : 55

$$CP : MP = (100 - D\%) : (100 + P\%)$$

$$CP : MP = (100 - 20) : (100 + 10)$$

$$= 80 : 110$$

$$\boxed{CP : MP = 40 : 55}$$

CP : MP

80 : 110

Marked Price → Advertised Price, Printed Price

$P = 20\% = \frac{20}{100} = \frac{1}{5} - CP$ — P $\quad SP = 6$

$L = 20\% = \quad = \frac{1}{5} - CP$ — L $\quad SP = 4$

$P = 20\%$ on SP

$P = \frac{20}{100} = \frac{1}{5} - SP$ — P $\quad CP = SP - P = 4$

$L = 20\%$ on SP

$= \frac{1}{5} - SP$ — L $\quad CP = SP + L = 6$

SP : CP

CP : SP = 4 : 5 $\quad$ $P\% = \frac{1}{4} \times 100 = 25\%$

CP of 20 pens is = SP of 25 pen

$\cancel{20}^{4}\, CP = \frac{5}{\cancel{25}}\, SP$

$\frac{CP}{SP} = 5/4 \,)\,1$ $\quad$ $L\% = \frac{1}{5} \times 100 = 20\%$

$D\% = 20\%$ $D\% = 10\%$

CP : MP

90 : 120

MP → CP ↑ 20% $D\% = 10\%$ or $D\% = 8\%$

$$CP \xrightarrow[8]{P\ 8\%} SP \xleftarrow[-12]{P\ 10\%} MP$$

100 108 120

P = 1. CP RS P RS

P: SP of 5 processes

CP " " "

L: SP " " " "

L: CP " " "

$SP = CP + P$

$SP = CP \cdot 2$

When two products were sold

Rs. x each

1	x
2	x

1) CP same: $CP_1 = CP_2$

1st at $x\%$ P

2nd at $x\%$ L

Overall NO P, NO L

2) SP same: $SP_1 = SP_2$

1st at $x\%$ P

2nd at $x\%$ L

Overall $= \frac{x^2}{100}\%$ LOSS

$$CP_1 = 100 \xrightarrow[+10]{10\%\ P} 110$$

$$CP_2 = 100 \xrightarrow[-10]{10\%\ L} 90$$

$$200 \longrightarrow 200$$

Price % NO 10 15

NO P

→ 10 15 →

→ 13 19

No.	Qty	Price	
10	15	CP	%
12	18	SP	% → P, L

$$E = P \times C$$

E → Rs, P → %, C → QTY

Start — CP

End — SP

By selling an article for ₹320, a man incurs a loss of 20%. What should be the selling price of an article to gain 20%?

1. ₹450
2. ₹480
3. ₹420
4. ₹500

SP: 320

L

SP = ?

P

20%

CP

100

L

- 20%

80

=

320

P

+20%

120

=

?

$120 = \frac{320}{80} \times 120$

= 480

(3)

The cost price of a cycle is ₹24000. If the profit is 30%, then what will be the selling price?

1. ₹34100
2. ₹33400
3. ₹30800
4. ₹31200

3/10

CP = 24000

P = 30% = $\frac{30}{100}$ — P

CP — 30 — SP

100 → 24000

130 → ?

SP = ?

$130 = \frac{24000}{100} \times 130$

10 13

$\frac{24000}{10} \times 13$

2 ∞

The ratio of the selling price to the cost price in a transaction is 4 : 5. If the selling price is ₹80, then how much is the loss?

1. ₹16
2. ₹15
3. ₹20
4. ₹30

SP : CP = 4 : 5

CP SP

5 4 → 80

1 → 20

$1 = \frac{80}{4} \times 1 = 20$

If the selling price of an article is 25% of its cost price, then what will be the loss percentage?

1. 25%
2. 60%
3. 75%
4. 50%

$\frac{25 - SP}{100 - CP}$

CP SP

100 75 25

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If the selling price of an article is 3/4 times its cost price, the profit/loss percent is:

1. 25% profit
2. 25% loss
3. $33\frac{1}{3}$% profit
4. $33\frac{1}{3}$% loss

$\frac{3}{4}$ -SP
-CP
1 L

L% = $\frac{1}{4} \times 100 = 25\%$

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Cost price of an article is ₹1440 and its selling price is ₹1800. What is the profit percentage?

CP SP

1. 15%
2. 25%
3. 20%
4. 12.5%

P

360

$\frac{P}{CP} \times 100 = P\% = \frac{360}{1440} \times 100 = 25\%$

The cost price of an article is $\frac{6}{7}$ of its selling price. What will be the profit or loss percentage?

- CP
- SP

1. 16.67% loss
2. 14.28% profit
3. 16.67% profit
4. 14.28% loss

1 = P

$P\% = \frac{1}{6} \times 100$

$16.66\% = 1/6$

$16\frac{2}{3}\% = 1/6$

The ratio of cost price and selling price of an article is c : d. If d is 150% of c then the percentage of profit on cost price is:

1. 150%
2. 50%
3. 100%
4. 75%

CP SP

$SP = \frac{150}{100} \times CP$

$\frac{SP}{CP} = \frac{150}{100}$

100 50% 150

www.examm

Selling price of an article is $\frac{8}{7}$ of cost price. What is the profit percentage?

- SP

- CP

1. $\frac{100}{9}$

2. $\frac{100}{11}$

3. $\frac{100}{8}$

4. $\frac{100}{7}$

$P = 1$

$P\% = \frac{1}{7} \times 100 =$

An article is sold for ₹810 at a loss of 10%. What should be the selling price if the loss is 20%?

1. ₹750
2. ₹630
3. ₹600
4. ₹720

CP
100

-10% L

-20% L

SP_1 90 → 810

80 → ? SP_2

$80 = \frac{810}{90} \times 80 = 720$

Marked price of an article is ₹1500. If $16\frac{2}{3}$% discount is given, then what is the selling price?

1. ₹1000
2. ₹1300
3. ₹1250
4. ₹1150

$-D$

$D\% = 16\frac{2}{3}\% = \frac{1}{6} - MP$ $\quad SP = 5$

$MP = 6 = 1500$

$SP \Rightarrow 5 = ?$

250

$5 = \frac{1500}{6} \times 5 = 1250$

What is a single discount equivalent to two successive discounts of 10% and 15%?

a b

1. 21.5%
2. 23.5% ✓
3. 25%
4. 26.5%

① $a+b-\frac{ab}{100} = 10+15-\frac{10\times15}{100}$

$= 25 - 1.5 = 23.5\%$ ✓

② $\frac{100}{90}\times\frac{85}{100} = \frac{100}{765}$) D% = 23.5%

4.5 17

45
17
315
45
765

3

Successive Discount :

10% . 20% 30%

a% b%

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

$$-a-b+\frac{ab}{100} = -\left[a+b-\frac{ab}{100}\right]$$

$$= a+b-\frac{ab}{100}$$ — Disc %

Marked price of a shirt is ₹2000. If shopkeeper declares successive discount on shirt of 10% & 25%, the selling price (in ₹) of shirt is:

1. 1350 ✓
2. 1250
3. 1650
4. 1300

$\frac{\cancel{100}^{4}}{\cancel{90}} \times \frac{\cancel{100}}{\cancel{75}_{3}} = \frac{40}{27}$ - MP - SP

40 ⇒ 2000

27 ⇒ ?

27 : $\frac{\cancel{2000}^{50}}{\cancel{40}} \times 27 = 1350$

SP

$a = 10\%$, $b = 20\%$

$$a + b - \frac{ab}{100} = 10 + 20 - \frac{10 \times 20}{100} = 30 - 2 = 28\%$$

$$\frac{100}{90} \times \frac{100}{80} = \frac{100 - MP}{72 - SP} \Big) \; D = 28\%$$

$$28\% = \frac{28 - D}{100 - MP} \qquad SP = 72\%$$

Three successive discounts of 20%, 20% and 30% are offered on an article. If the marked price of the article is ₹750, then what will be selling price?

1. ₹326
2. ₹375
3. ₹348
4. ₹336 ✓

$\frac{25}{\cancel{100}} \times \frac{5}{\cancel{100}} \times \frac{\cancel{100}}{70} = \frac{25 \times 5}{8 \times 7}$ → MP, → SP

4

$25 \times 5 \Rightarrow 750$

$8 \times 7 \Rightarrow ?$ 6

$8 \times 7 = \frac{750}{25 \times 5} \times 8 \times 7 = 56 \times 6$ 3

$= 336$

A buys an article at ₹1800 and sells it after giving two successive discounts of 10% and 20%. What will be the selling price (in ₹) of the article?

CP

1. 1296
2. 1668
3. 1728
4. 1336

$\frac{100}{90} \times \frac{100}{80} = \frac{100}{72}$

$\xrightarrow{\times 18} 1800$

$\xrightarrow{\times 18} 1296$

$$\begin{array}{r} 72 \\ 18 \\ \hline 576 \\ 72 \\ \hline 1296 \end{array}$$

An article is sold for ₹7650 after two successive discounts of 15% and 25%. What is the marked price of the article?

SP

1. ₹15000
2. ₹10000
3. ₹14000
4. ₹12000 ✓

$$\frac{\cancel{100}^{20}}{\cancel{85}_{17}} \times \frac{\cancel{100}^{4}}{\cancel{75}_{3}} = \frac{80 - MP}{51 - SP}$$

$$51 \rightarrow 7650$$

150

~~2550~~

$$80 = \frac{\cancel{7650}}{\cancel{51}_{17}} \times 80 = 150 \times 80$$

$$= 12000$$

The difference between the selling prices of an article is ₹1440, when it is sold at 20% profit and 17.5% loss. What will be the selling price when it is sold at 15% profit?

1. ₹4108
2. ₹4218
3. ₹4612
4. ₹4416

192
576
2880
14400
375
75
15
3

115% = $\frac{14400}{375}$ × 115

23

37.5% = 1440

115% =

= 192 × 23

6

An article is sold for ₹2070 at a 15% profit. If the article is sold for ₹1890, then what will be the gain/loss percent?

1. 10% loss
2. 5% loss
3. 10% gain
4. 5% gain ✓

CP 100

P + 15% → SP1 115 = 2070

5% ↑ → SP2 x → 105 = 1890

2070 = 115

1890 = x ?

$1890 = \frac{\cancel{115}^{5}}{\cancel{2070}_{\cancel{23}}} \times \cancel{1890}^{21} = 105$

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

1. ₹38
2. ₹42
3. ₹32
4. ₹28

$6.25\% = 6\frac{1}{4}\% = \frac{1}{16}$ - L - CP

SP = CP - L

SP = 16 - 1 = 15 ⇒ 300

20 16 ⇒ ?

$16 = \frac{300}{15} \times 16 = 320 = CP$

32 352 SP

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A person sold an article at a loss of 12 %. Had he sold it for ₹162 more, he would have gained 24 %. If the article is sold for ₹360 then loss percent is:

1. 18
2. 20
3. 25
4. 15

L = 12%

P = 24%

36% = 162

x% = 360

CP - 100%

162 = 36%

360 = x% 80%

100% − 20% = 80%

$360 = \frac{36\%}{162} \times 360 = 80\%$

The marked price of an article is ₹882. It is sold for ₹806.40. If there is a loss of 4%, then by what percent above the cost was the article marked?

4/100

1. 8
2. 6
3. 4
4. 5

CP SP MP

806.4 882

↓ ↓

100 $\xrightarrow[-4]{L\ 4\%}$ 96 105

5% 120 30 5

21

$882 = \frac{960}{806.4} \times 882 = 5 \times 21 = 105$

806.4

1008

252

42

ix.com

An article is sold for ₹6500 so as to earn a profit of 4%. A second article whose cost price is ₹3750, is sold at a loss of 4%. What is the overall gain or loss percent in the whole transaction?

1. Gain 4%
2. Loss 1%
3. Loss 4%
4. Gain 1%

① SP = 6500

CP 100 —4% P→ SP 104

100 : $\frac{6500}{104} \times 100 = 6250$

CP = 6250 + 3750

= 10000

② CP = 3750

CP 100 —4% L→ SP 96

3750 150 24

$96 = \frac{3750}{100} \times 96 = 3600$

SP = 6500 + 3600

= 10100

CP : SP

10000 : 10100

1%

The cost price of two articles is the same. One article among them is sold at a profit of 15% and the other is sold at a profit of 12%. if the difference between their selling prices is ₹18, what is the cost price of each article?

1. ₹570
2. ₹690
3. ₹400
4. ₹600

$\frac{12}{100}$

$SP_1 - SP_2 = 18$

$15/100$

$100 \xrightarrow{+15} 115$

$100 \xrightarrow{+12} 112$

$3 \Rightarrow 18$

$100 = \frac{18}{3} \times 100 = 600$

The difference between the cost price and the selling price of a bat is ₹180. If there is a profit of 20%, then what is the selling price of the bat?

1. ₹1080 ✓
2. ₹1240
3. ₹1040
4. ₹1120

SP − CP = 180

CP → SP

100% —P→ 120%

20%

20% = 180

120% = $\frac{180}{20\%} \times 120\%$ = 1080

Ajay sold an article for ₹84 at a loss of 30%. If he sells the same article at ₹120, then what will be his profit or loss percentage?

1. 10% loss
2. 15% loss
3. 20% profit
4. No profit no loss

CP
100%

L 30%

70% = 84

x% = 120

84 → 70%

120 → x%

10%

$120 = \frac{70\%}{84} \times 120 = 100\%$

If an article is sold at 23% profit instead of 14% profit, then the profit would be ₹189 more. What is the cost price?

1. ₹2100
2. ₹2105
3. ₹2340
4. ₹1800

$P_1 = 23\%$

$P_2 = 14\%$

$9\% = 189$

$100\% = ?$

$100\% = \frac{189}{9\%} \times 100\% = 2100$

Parikh sold his pen at a profit of ₹11. He calculated the profit percentage on selling price and found it to be 25%. The cost price (in ₹) of the pen is:

1. 33
2. 24
3. 36
4. 44

P = 11

P% = 25% = $\frac{1}{4}$ = $\frac{P}{SP}$

CP = 3

$1 \xrightarrow{\times 11} 11$

$3 \xrightarrow{\times 11} 33$

Profit earned on a ball is $\frac{3}{5}$ of its selling price. If the selling price of the ball is ₹120, then how much profit is earned on this ball?

1. ₹72
2. ₹48
3. ₹24
4. ₹96

$\frac{3}{5}$ - P -
- SP - 120

$3 = \frac{\cancel{120}^{24}}{\cancel{5}} \times 3 = 72$

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?

1. $64\frac{1}{3}$

2. $56\frac{1}{3}$

3. $66\frac{2}{3}$

4. $60\frac{2}{3}$

$\frac{P}{SP} \times 100$

$\frac{P}{CP} \times 100$

$Di = 40\% = \frac{2}{5} \quad \frac{-P}{-SP}$

$CP = 3$

$66\frac{2}{3}\%$

$\frac{200}{3}$

Actual $D\% = \frac{2}{3} \times 100 = \frac{200}{3}$

$66\frac{2}{3}\% = \frac{2}{3}$

A sold his pen at a profit of ₹13. He calculated the profit percentage on selling price and found it to be 20%. The cost price (in ₹) of the pen is:

1. 52
2. 65
3. 39
4. 13

P = 13 Rs

P% = 20% = $\frac{1}{5}$ — P / SP

CP = 4

$1 \xrightarrow{\times 13} 13$

$4 \xrightarrow{\times 13} 4 \times 13 = 52$

A man sold a watch at a discount of 60% for ₹1560. What is the marked price of the watch?

1. ₹3900 ✓
2. ₹3600 ✗
3. ₹3300 ✗
4. ₹3700 ✗

SP.

D% = 60% = $\frac{60}{100} = \frac{6}{10}$ — D, SP - U, M.P

U => 1560

$10 = \frac{1560}{4} \times 10 = 3900$

mix.com

The marked price of an article is ₹3040. If the discount offered on this article is 20%, then what will be the selling price?

1. ₹2412
2. ₹3262
3. ₹2432
4. ₹3132

D% = 20% = 1/5 - M.P) SP = 4

5 => 3040

608

4 = 3040/5 × 4 = 2432

A trader marked up his articles 25% more than the cost price. If he offered a discount of 10%, then what will be his profit percentage?

1. 10%
2. 12.5%
3. 25%
4. 37.5%

CP SP MP

100 112.5 125

12.5% D 10%

-12.5

If the discount offered on an article is 40%, then what will be the ratio of selling price and marked price?

1. 2 : 5
2. 4 : 7
3. 5 : 8
4. 3 : 5 ✓

D% = 40% = $\frac{40}{100}$ = $\frac{2}{5}$ — D, MP

SP : 3

SP : MP = 3 : 5

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Marked price and cost price of an article are in ratio 5 : 4. If the profit earned by selling the article is 12.5%, then what is the discount percentage?

1. 12.5
2. 15
3. 8
4. 10

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Two articles were sold of ₹2400 each by a shopkeeper. The shopkeeper incurred no profit and no loss on the whole transaction. If one of the two articles sold at a profit of 20%, then what was the loss incurred on the other article?

1. ₹600
2. ₹400
3. ₹380
4. ₹240

SP - Same

$SP_1 = 2400$

$P \therefore \frac{20}{100} = \frac{1}{5}$ $\quad -P \quad -CP$ $\quad SP = 6 \rightarrow 2400$

$1 \rightarrow 400$

A shopkeeper earns the same percent of profit as well as loss by selling two similar pieces of a furniture for ₹18000 and ₹10000, respectively. At what price should he sell it to earn a profit of 50%?

✔ 1. ₹21,000

✘ 2. ₹20,250

✘ 3. ₹21,750

✘ 4. ₹19,500

After offering a discount of 20% on an article, a trader earned a profit of 20%. If the cost price is ₹300, then what will be the selling price of the article after offering a discount of 25%?

1. ₹352.5
2. ₹375.5
3. ₹432.5
4. ₹337.5 ✓

D P

CP : MP
80 : 120
↓
300

CP
80
↓
300

D 25%
SP -30 MP
90 120
↓ 30
?

$120 \times \frac{25}{100}$

75 4.5

$90 = \frac{300}{80} \times 90 = 337.5$

75
45
375 2
300 2
3375

A shopkeeper allows 10% discount on the marked price of an article and still gains 17%. If he gives 15% discount on the marked price, then his profit percent is:

1. 12
2. 10.5 ✓
3. 12.5
4. 10

CP : MP

90 : 117

$\frac{117 \times 15}{100}$

D

15%

SP ← −17.55 MP

CP

$\frac{117}{15}$

585

3

105

$p\% = \frac{9.45}{90} \times 100$

10

90 — 99.45

9.45

117

117

17.55

= 10.5%

A trader sells his goods at 10% discount on the marked price. How much should he keep the marked price of item to get a profit of 10%, when cost price is ₹ 900?

1. ₹ 1175
2. ₹ 1100
3. ₹ 1250
4. ₹ 1275

D% : 10% P% : 10% CP : 900 MP : ?

CP : MP

(100 - D%) : (100 + P%)

90 : 110

1 x 10 1 x 10

900 1100

After allowing a discount of 12.5%, shopkeeper makes a profit of 25% on a bag. At what percent higher than the cost price did he mark the bag? (correct to nearest integer)

1. 35%
2. 43%
3. 41%
4. 38%

CP : MP

87.5 : 125

37.5

$= \frac{37.5}{87.5} \times 100 = \frac{3}{7} \times 100$

42.8 ≃ 43

$= \frac{300}{7}$

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When an article is sold at a discount of 40% on its marked price, the profit is 25%. What is the ratio of the cost price to the marked price of the article?

CP : MP

1. 12 : 25
2. 4 : 5
3. 5 : 8
4. 8 : 13

CP : MP

60 : 125

12 : 25

The price that Kamal should mark on a chair which costs him ₹1500 to gain 15% after allowing a discount of 25% (in ₹) is:

1. 2300 ✓
2. 1800 ✗
3. 2233 ✗
4. 2144 ✗

CP : MP

CP = 1500

75 : 115

×2 ↓ ↓ ×2

1500 2300

Marked price of an article is ₹2600, which is 30% more than the cost price. If the profit is 45%, then what will be the selling price of the article?

1. ₹3100
2. ₹3900
3. ₹2700
4. ₹2900

CP SP MP

100 $\xrightarrow[45]{45\%}$ 145 130

$\downarrow \times 20$ $\downarrow \times 20$

2900 2600

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The cost price of a pair of shoes is ₹12000. What should be the marked price (in ₹) on a pair of shoes such that after allowing a discount of 16%, the shopkeeper earns 12% profit?

1. 14,330
2. 16,000
3. 13,440
4. 16,500

CP : MP

84 : 112

12000 : ?

$$112 = \frac{\cancel{12000}^{1000}}{\cancel{84}_{7}} \times \cancel{112}^{16} = 16000$$

Shuarya marked an article at 40% above its cost price. He sells it after allowing a discount of 15%. The profit percentage of the article is:

1. 20%
2. 17%
3. 19%
4. 15%

CP SP D 15% MP

100 119 -21 140

19%

$\frac{140 \times 15}{100} = 21$

The difference in selling prices of an article when sold at 15% profit and 17% loss is ₹96. If it is sold at 10% profit, then what is the selling price?

1. ₹345
2. ₹360
3. ₹315
4. ₹330

$32\% = 96$

$110\% = \frac{96}{32} \times 110 = 330$

The cost price and the selling price of a shirt are ₹960 and ₹1392 respectively. If by way of bargaining a customer can bring the selling price down by 10% of the cost price, then what is the profit percentage?

1. 55%
2. 35%
3. 30%
4. 45%

CP

960

↓ 10%

96

SP

1392

96 -

1296

P

336

1296

960

336

$P\% = \frac{336}{960} \times 100 = 7 \times 5 = 35\%$

Partnership

A B

$5000 \times 12 : 2000 \times 6$ 700 A : B

Amount × Time

$A : B = 5000 : 2000$

$A : B = 5 : 2 \Rightarrow 7 = 700$

$\downarrow \quad \downarrow$

$500 \quad 200$

Raman and Sanjay started a business by investing ₹63000 and ₹42000 respectively. If the total profit at the end of year is ₹9000, then what is the share of Raman?

1. ₹5400
2. ₹4500
3. ₹4200
4. ₹3600

$R : S = 63000 : 42000$

$R : S = 3 : 2 \rightarrow 5 \Rightarrow 9000$

$3 = \frac{9000}{5} \times 3 = 5400$

A and B invest Rs. 3000 and Rs. 2400 respectively in a business. If after one year there is a loss Rs. 720, how much loss will B bear? (loss or Profit is in proportion to their investments)

(a) ₹ 72

(b) ₹ 320

(c) ₹ 400

(d) ₹ 360

A : B = 3000 : 2400 (5 : 4)

A : B : 5 : 4 => 9 => 720

$4 = \frac{720}{9} \times 4$ (720 → 80)

= 320

A starts some business with ₹ 50,000. After 3 months B joins him with ₹ 70,000. At the end of the year, in what ratio should they share the profit ?

(a) 1 : 3 (b) 3 : 2

(c) 1 : 5 (d) None of these

$A : B = 50000 \times 12 : 70000 \times 9$

$= 20 : 21$

A started business with ₹ 45,000 and B joined after ward with 30,000. If the profit at the end of a year was divided in the ratio 2 : 1 respectively, then B would have joined A for business after.

(a) 1 month (b) 2 month

(c) 3 month (d) 4 month

$\frac{18}{x} = \frac{2}{1}$

$x = 9$

$12 - 9 = 3$

$A : B = 45000 \times 12 : 30000 \times x = 2 : 1$

$18 : x = 2 : 1$

X and Y are partners in a business. They invest in the ratio 5 : 6, at the end of 8 months X withdraws his capital. If they receive profits in the ratio of 5 : 9, Find how long Y's investment was used?

(a) 12 months (b) 10 months

(c) 15 months (d) 14 months

$\frac{\cancel{20}^{4}}{\cancel{3}a} = \frac{\cancel{4}}{\cancel{9}_{3}}$

$a = 12$

$X : Y = 5 \times \cancel{8}^{4} : \cancel{6}^{3} \times a = 5 : 9$

Rakesh

On selling 36 mobiles, a mobile vendor got a loss equivalent to the selling price of four mobiles. The loss percent is:

1. 10%
2. 12.50%
3. 8.50%
4. 8%

SP = 36

L = 4

CP = 40

$L\% = \frac{4}{40} \times 100 = 10\%$

A shopkeeper sold an article for ₹180 by making a profit of 20%. The shopkeeper offered a discount of ₹30 on the marked price. How much percent above the cost price the article is marked?

SP

P% = 20%

1. 30%
2. 35%
3. 40%
4. 25%

CP $\xrightarrow[+20]{20\%}$ SP

100 → 120 → 180

MP → 140% → 210

$\xrightarrow{-30}$ D

%

RS

180 → 120%

210 → x

$210 = \frac{120}{180} \times 210 = 140$

A shopkeeper purchased 120 pears for ₹15 each. However, 10 pears were rotten and thrown away. The remaining sold at ₹18 each. What will be the percentage profit?

1. 20%
2. 10%
3. 50%
4. 30%

NO
120
1-10
110

Price
15×120 = 1800
18×110 = 1980
10
180

CP
SP
180

P%: $\frac{180}{1800} \times 100 = 10\%$

ix.com

For every ₹5 worth of revenue, a retailer earns ₹1. If the cost of the goods was ₹4800, then how much did he earn?

1. ₹600
2. ₹900
3. ₹1200
4. ₹1120

SP P CP
5 1 4
= =
4800
1200
1 = $\frac{4800}{4}$ ×1

A vegetable seller bought 10 dozens of potatoes for ₹120, another 5 dozens for ₹50 and another 5 dozens for ₹30. He sold the potatoes for ₹9 a dozen. How much discount did he overall offer?

1. 11.11%
2. 5%
3. 7.5%
4. 10%

	NO		P
1	10	→	120
2	5	→	50
3	5	→	30
	20		200
	20		180

NO P

$1_{\times 20} \rightarrow 9_{\times 20}$

200 ↓ 20

180

200 $\xrightarrow{-20}$ 180

100 $\xrightarrow{-10}$ 90 10 %

An item is sold for ₹702 at a profit of ₹162. If an additional profit of 10% is to be made, then the new selling price will be:

1. ₹756
2. ₹729
3. ₹810
4. ₹750

CP

540 → 162 → 702

↓ 10%

54

SP

702

162

540

702

54

756

www.exam

A trader sells two articles for ₹9520 each, one at a profit of 12% and the other at a loss of 15%. His overall percentage loss (correct to one decimal place) is:

1. 4.4
2. 3.1
3. 3.4
4. 3.8

SP - same

$\frac{12}{100} = \frac{3}{25}$

$3/20$

CP

$425 \Leftarrow 25_{\times 17} \xrightarrow{+3\times 17} 28_{\times 17}$ → $+51$

$560 \Leftarrow 20_{\times 28} \xrightarrow{-3\times 28} 17_{\times 28}$ -84

-33 L

$191 \quad 3 \quad 591 \quad 2$

$$\begin{array}{r} 3.3 \\ 191\overline{)660} \\ 591 \\ \hline 690 \\ 591 \end{array}$$

985

$L\% = \frac{33}{\cancel{985}\ 197} \times \cancel{100}\ 20 = \frac{\cancel{660}\ 0}{197}$

A person buys some pencils at 5 for a rupee and sells them at 3 for a rupee. His gain per cent will be:

(a) $66\frac{2}{3}\%$ (b) $76\frac{2}{3}\%$

(c) $56\frac{2}{3}\%$ (d) $46\frac{2}{3}\%$

5 , CP

3 , SP

5 CP = 3 SP

$\frac{CP}{SP} = \frac{3}{5}$) 2 P

$P\% = \frac{2}{3} \times 100$

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

(a) 15% loss (b) 15% gain

(c) $14\frac{2}{7}$% loss (d) $14\frac{2}{7}$% profit

NO Price

$\cancel{100}^{2}$ $\cancel{350}^{7}$

$\cancel{12}_{1\times2}$ $\cancel{48}_{4\times2}$

2 7 CP) 1 P

2 8 SP

$P\% = \frac{1}{7} \times 100 = 14\frac{2}{7}\%$

Oranges are bought at the rate of 10 for Rs. 25 and sold at the rate of 9 for Rs. 25. The profit is

(a) $9\frac{1}{11}\%$ (b) 10%

(c) $11\frac{1}{9}\%$ (d) $12\frac{1}{2}\%$

10 — 25 CP

9 — 25 SP

10 CP : 9 SP

$\frac{CP}{SP} : \frac{9}{10}$) 1 P

P% : $\frac{1}{9} \times 100$ " $11\frac{1}{9}\%$

Ravi buys some toffees at 2 for a rupee and sells them at 5 for a rupee. His loss percent is

(a) 120 (b) 90

(c) 30 (d) 60

2CP = 5SP

$\frac{CP}{SP} = 5/2 \downarrow 3L$

$L\% = 3/5 \times 100 = 60\%$ L

Some toffees were bought at the rate of 11 for Rs. 10 and the same number at the rate of 9 for Rs.10. If the whole toffees was sold at one rupee per toffee, then the gain or loss in the whole transaction was

(a) loss of 1%
(b) gain of 1%
(c) neither gain nor loss
(d) gain of 1.5%

NO P

$11 \times 9 = 99$ $10 \times 9 = 90$

$9 \times 11 = 99$ $10 \times 11 = 110$

198 200 CP

198 198 SP

2 L

200 → 2

100 → 1%

By selling 30 articles, a shopkeeper gains the selling price of 9 articles. His gain percent is:

1. 30
2. 39
3. $42\frac{6}{7}$
4. $40\frac{3}{7}$

SP = 30

P = 9

CP = 21

$42\frac{6}{7}$

$P\% = \frac{9}{21} \times 100 = \frac{300}{7} = 42\frac{6}{7}\%$

www.examm

On selling 18 balls at ₹900, there is a loss equal to the cost price of 6 balls. The cost price of a ball is:

1. ₹70
2. ₹75
3. ₹80
4. ₹50

CP = 18

L = 6

SP : 12 = 900 75 150

CP : 18 = $\frac{900}{12} \times 18$

CP of 18 balls = 75×18

" " 1 ball = 75

SP = CP − L

18 SP = 18CP − 6 CP

18 SP = 12CP

$\frac{CP}{SP} = \frac{18}{12} = \frac{3}{2}$ → 900

CP : 3 = $\frac{900}{2} \times 3$ 450

CP of 18 balls = 450 × 3

CP of 1 ball = $\frac{450 \times 3}{18}$ = 75

Amit bought an article for ₹310 and sold it at a loss of 25 %. With this money, he bought another article and sold it at a gain of 40 %. What was his overall gain or loss percent?

1. Loss 2.5 %
2. Gain 8 %
3. Loss 4 %
4. Gain 5 %

S L

$100 \xrightarrow[-25]{-25\%} 75 \xrightarrow[+30]{40\%} 105$

P

5% P

$75 \times \frac{40}{100} = 30$

mmix.com

Ram buys articles at 70 for ₹ 890 and sold at 60 for ₹ 890. What is his gain percent?

CP SP

70 CP = 60 SP

CP / SP = 6/7 1P

P% = 1/6 × 100

1. $17\frac{1}{3}\%$

2. 25%

3. 20%

4. $16\frac{2}{3}\%$

Oranges are purchased at the rate of 7 oranges for ₹3. At what price one hundred oranges should be sold so that the profit is 33% ?

1. ₹58
2. ₹60
3. ₹56
4. ₹57

C	P	Q.
3	100%	7
x	133%	100

$$\frac{3}{x} = \frac{100}{133} \times \frac{7}{100}$$

19

$$x = 3 \times 19 = 57$$

Yashwant buys candies at 15 for ₹40 and sells them at 30 for ₹50. What is his gain or loss percent?

1. 37.5% Loss
2. 37.5% ~~Profit~~
3. 36 % ~~Profit~~
4. 40 % Loss

NO

15x2

||

30

P

40x2

50

CP = 80 > 30

SP = 50

37.5% L

$L\% = \frac{30}{80} \times 100 = \frac{300}{8}$

A man wanted to sell an article with 20% profit: but he acutally sold at 20% loss for Rs. 480, At what price he wanted to sell it to earn the profit?

(a) Rs. 720 (b) 840

(c) Rs. 600 (d) Rs. 750

CP
100

P +20% -20% L

120 = ? 80 = 480

$120 = \frac{480}{80} \times 120$

$= 720$

If an article is sold at 5% gain instead of 5% loss, the man gains Rs. 5 more. Find the cost price of that article

(a) Rs. 100 (b) Rs. 105

(c) Rs. 50 (d) Rs. 110

P - P (-)

L - L (-)

P - L (+)

diff

CP = 100%

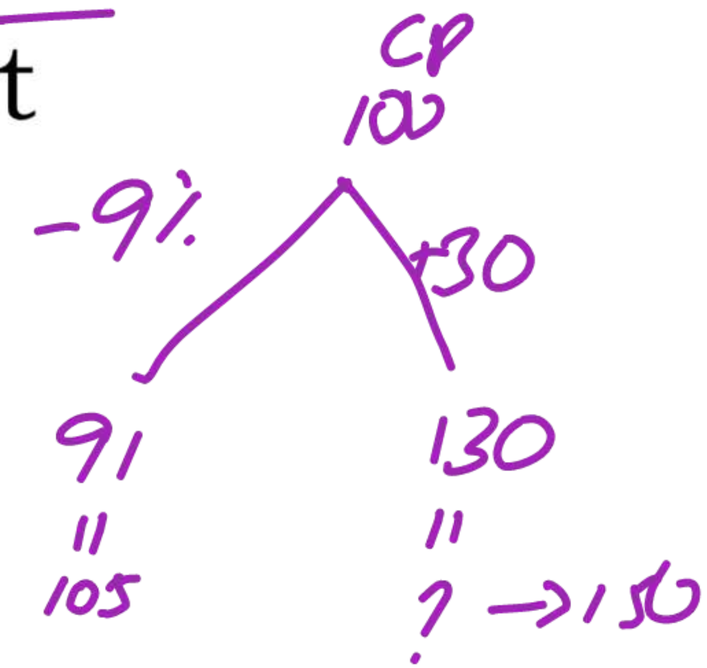
5 + 5 = 10% = 5

100% = 50

On selling an article for Rs. 105 a trader loses 9%. To gain 30% he should sell the article at

(a) Rs. 126 (b) Rs. 144

(c) Rs. 150 (d) Rs. 139



$$130 : \frac{105}{91} \times 130$$

$$= \frac{1365}{91} = 150$$

An article is sold at a loss of 10%. Had it been sold for Rs. 9 more there would have been a gain of $12\frac{1}{2}\%$ $= 12.5\%$ on it. The cost price of the article is:

(a) Rs. 40 (b) Rs. 45

(c) Rs. 50 (d) Rs. 35

$L = 10\%$

$P = 12.5\%$

$22.5\% = 9$

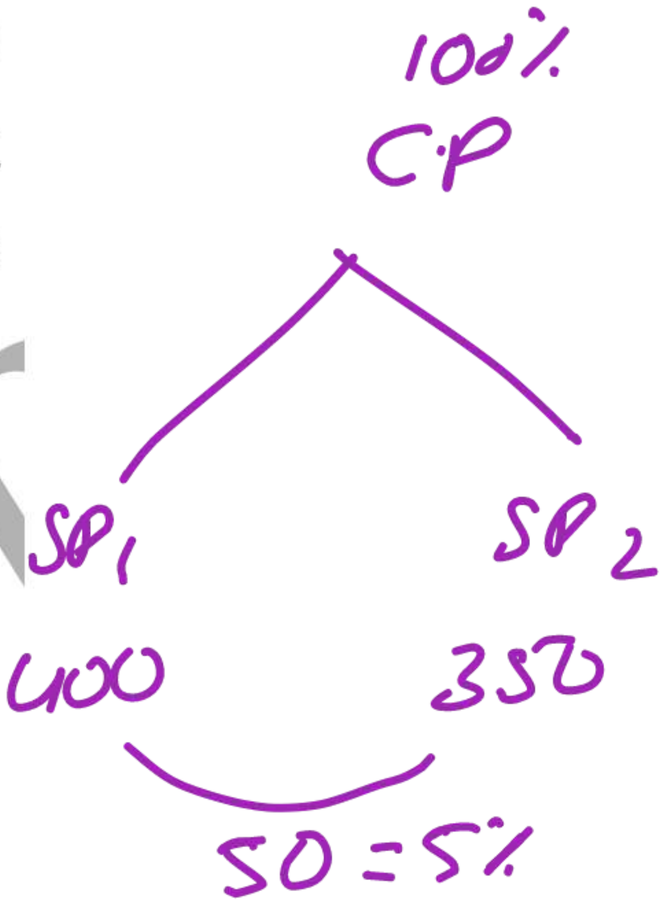
$100\% = ?$

$100\% = \frac{90}{225} \times 100 = 40$

By selling a table for Rs. 350 instead of Rs. 400, loss per cent increases by 5%. The cost price of table is:

(a) Rs. 1,050 (b) Rs. 417.50

(c) Rs. 435 (d) Rs. 1,000



5% = 50

100% = ?

→ 1000

$$100\% = \frac{\cancel{50}^{10}}{\cancel{5\%}} \times 100\% = 1000$$

A shopkeeper sells an article at a loss of $12\frac{1}{2}$%. Had he sold it for Rs. 51.80 more, he would have earned a profit of 6%. The cost price of the article is

(a) Rs. 280 (b) Rs. 300

(c) Rs. 380 (d) Rs 400

L = 12.5%

P = 6%

18.5% = 51.80

100% = ?

$$37\overline{)518}\,(14$$
$$37$$
$$148$$
$$148$$
$$0$$

$$100\% = \frac{\cancel{518}^{14}}{\cancel{185}_{37}} \times \cancel{100}^{20} = 280$$

An article is sold at a profit of 20%. If it had been sold at a profit of 25%, it would have fetched Rs. 35 more. The cost price of the article is:

(a) Rs. 650 (b) Rs. 700

(c) Rs. 750 (d) Rs. 800

$P_1 = 20\%$

$P_2 = 25\%$

$5\% = 35$

$100\% = ?$

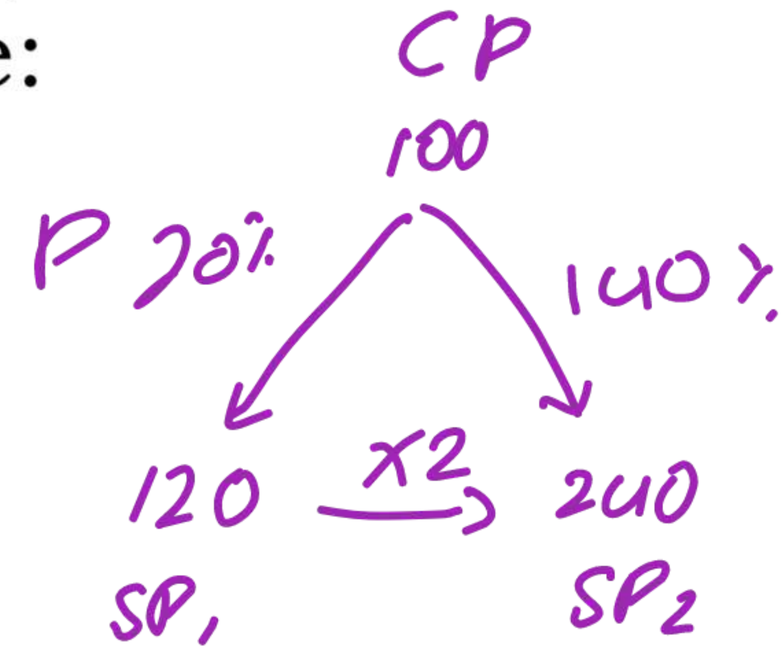
$100\% = \frac{35}{5\%} \times 100\%$

$= 700$

A man gains 20% by selling an article for a certain price. If he sells it at double the price, the percentage of profit will be:

(a) 40 (b) 140

(c) 100 (d) 120



A radio is sold for Rs. 990 at a profit of 10%. What would have been the actual profit or loss on it had it been sold for Rs. 890 ?

(a) Rs. 10 loss (b) Rs. 10 profit

(c) Rs. 90 loss (d) Rs. 90 profit

C.P = 900) 10

S.P = 890

CP P SP

100 $\xrightarrow{10\%}$ 110

990

9

$100 = \frac{990}{110} \times 100 = 90$

A dealer makes a profit of 20% even after giving a 10% discount on the advertised price of a scooter. If he makes a profit of Rs. 7500 on the sale of the scooter. the advertised price was

(a) Rs. 45000 (b) Rs. 47500

(c) Rs. 50000 (d) Rs. 52500

CP : MP

90 : 120

18 | 20%

108 - SP

18 : 7500

$90 \times \frac{20}{100} = 18$

120 :

$120 = \frac{7500}{18} \times 120 = 50000$

A shopkeeper earns a profit of 12% on selling a book at 10% discount on the printed price. The ratio of the cost price and the printed price of the book is

MP

(a) 99 : 125 (b) 25 : 37

(c) 50 : 61 (d) 45 : 56

CP : MP

90 : 112

45 : 56

A tradesman allows a discount of 15% on the marked price. How much above the cost price must he mark his goods as to gain 19%?

(a) 34% (b) 40%

(c) 25% (d) 30%

CP : MP

85 : 119

34

$\frac{34}{85} \times 100 = 40\%$

The cost price of an article is Rs. 800. After allowing a discount of 10%, a gain of 12.5% is made. Then the marked price of the article is

(a) Rs. 1,000 (b) Rs. 1,100

(c) Rs. 1,200 (d) Rs. 1,300

CP : MP

90 : 112.5

↓ ↓

800

$$112.5 = \frac{800}{90} \times \frac{125}{4} = 1000$$

A shopkeeper allows 23% commission on his advertised price and still makes a profit of 10% . If he gains Rs. 56 on one item, his advertised price of the item, in Rs. is

(a) 820 (b) 780

(c) 790 (d) 800

-D%

CP : MP

77 : 110

7.7 | 10%

56

7.7 ⇒ 56

$110 \Rightarrow \frac{56}{77} \times 10 \times 110$

MP = 800

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%

CP : MP

88 : 132

44

$\frac{44}{88} \times 100 = 50\%$

2

If 10% loss is made on selling price, then the rate of loss on the cost price will be

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

(c) 10% (d) 11%

L% = 10% = 1/10 - SP

CP = 11

Actual L% = $\frac{L}{CP} \times 100$

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

Loss of 20% on selling prize is equal to x% loss in cost price. What is x?

(a) 20% (b) 20

(c) $16\frac{2}{3}$% (d) 16

L% : 20% = 1/5 - SP

CP = SP + L = 6

Actual L% = $\frac{1}{6} \times 100$ = $16\frac{2}{3}$%

A man purchased a bedsheet for Rs. 450 and sold it at a gain of 10% calculated on the selling price. The selling price of the bedsheets was

(a) Rs. 460 (b) Rs. 475

(c) Rs. 480 (d) Rs. 500

CP = 450

P% = 10% = $\frac{1}{10}$ - P

- SP

CP = 9 => 450

$10 = \frac{450}{9} \times 10 = 500$

If there is a profit of 20% on the cost price of an article, the percentage of profit calculated on its selling price will be

(a) 24 (b) $16\frac{2}{3}$

(c) $8\frac{1}{3}$ (d) 20

P% = 20% = 1/5 - CP

- P

SP = 6

P% on SP = $\frac{P}{SP} \times 100$

$= \frac{1}{6} \times 100$

If toys are bought at Rs. 5 each and sold at Rs. 4.50 each, then the loss is:

(a) 10% (b) 115%

(c) 12% (d) 13%

5 4.50

5 4.50

10 $\xrightarrow{-1}$ 9

100 10

A shopkeeper sells two T. V. sets at the same price. There is a gain of 20% on one TV and a loss of 20% on the other. State which of the following statement is correct

(a) The shopkeeper makes no net gain or profit

(b) The shopkeeper loses by 2%

(c) The shopkeeper gains by 4%

(d) The shopkeeper loses by 4%

A man sells two pipes at Rs. 12

SP same

L% : $\frac{x^2}{100}$%

$= \frac{400}{100} = 4\%$ L

A man sells two pipes at Rs. 12 each. He gains 20% on one and loses 20% on the other. In the whole transaction, there is

(a) neither loss nor gain

(b) Profit of Rs. 1

(c) Loss of Rs. 1

(d) profit of Rs. 2

SP-same

20% = 1/5

CP 2 SP

$2 \times 5 \xrightarrow[-3]{+1 \times 2} 6 \times 2 = 12 \rightarrow 12$

$3 \times 5 \xrightarrow{-1 \times 3} 4 \times 3 = 12$

$-1 \rightarrow 1$

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

(a) 20 (b) 16

(c) 25 (d) 30

SP = same

$SP_1 = SP_2 = 120$

25% = 1/4

$4 \xrightarrow[-5]{\overset{+3}{11 \times 3}} 5 \times 3 = 15 \rightarrow 120$

$4 \xrightarrow[-2]{-1 \times 5} 3 \times 5 = 15$

$2 = \frac{\overset{8}{\cancel{120}}}{\underset{3}{\cancel{15}}} \times 2 = 16$ L

The ratio of cost price and selling price is 5 : 4, the loss per cent is:

(a) 20% (b) 25%

(c) 40% (d) 50%

CP : SP = 5 : 4

L % = 1/5 × 100 = 20 %

The cost price of 36 books is equal to the selling price of 30 books. The gain per cent is :

(a) 20% (b) $16\frac{4}{6}$ %

(c) 18% (d) $82\frac{2}{6}$ %

$\overset{6}{\cancel{36}}$ CP = $\overset{5}{\cancel{30}}$ SP

$\frac{CP}{SP} = \frac{5}{6}$) 1 P

$P\% = \frac{1}{5} \times 100 = 20\%$

The cost price of 15 articles is same as the selling price of 10 articles. The profit percent is:

(a) 30% (b) 40%

(c) 50% (d) 45%

$15\ CP = 10\ SP$

$\frac{CP}{SP} = \frac{2}{3}$) 1 P

$P\% = \frac{1}{2} \times 100 = 50\%$

If 3 toys are sold at the cost price of 4 toys of the same kind, the profit will be:

(a) 25%

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

(c) $66\frac{2}{3}$ %

(d) 50%

3 SP = 4 CP

$\frac{SP}{CP} = \frac{4}{3}$ ↑ 1 P

$P\% = \frac{1}{3} \times 100$

If the cost price of 15 tables is equal to the selling price of 20 tables. the loss per cent is :

(a) 20% (b) 30%

(c) 25% (d) 37.5%

$\overset{3}{\cancel{15}}$ CP = $\overset{4}{\cancel{20}}$ SP

$\frac{CP}{SP} = 4/3$) L

$L\% = \frac{1}{4} \times 100$

$= 25\%$

The cost price of 18 articles is equal to the selling price of 15 articles. The gain percent is:

(a) 15% (b) 20%

(c) 25% (d) 18%

$\overset{6}{\cancel{18}}\,CP = \overset{5}{\cancel{15}}\,SP$

$\frac{CP}{SP} = \frac{5}{6}$, P

$P\% = \frac{1}{5} \times 100 = 20\%$

If selling price of an article is $\frac{8}{5}$ times of its cost price, the profit per cent on it is:

(a) 120% (b) 160%

(d) 40% (d) 60%

$SP = \frac{8}{5} \times CP$

$\frac{SP}{CP} = \frac{8}{5}$ 3 P

$P\% = \frac{3}{\cancel{5}} \times \overset{20}{\cancel{100}} = 60\%$

If the cost price of 50 oranges is equal to the selling price of 40 oranges, then the profit per cent is

(a) 5% (b) 10%

(c) 20% (d) 25%

50 CP = 40 SP

$\frac{CP}{SP} = 4/5 = 1 P$

$P\% = \frac{1}{4} \times 100 = 25\%$

If the cost price of 12 pens is equal to the selling price of 8 pens, the gain per cent is :

(a) $33\frac{1}{3}\%$ (b) $66\frac{2}{3}\%$

(c) 25% (d) 50%

$\overset{3}{\cancel{12}}$ CP : $\overset{2}{\cancel{8}}$ SP

$\frac{CP}{SP} = \frac{2}{3}$ 2 1 P

$P\% = \frac{1}{2} \times 100 = 50\%$

The cost of manufacture of a tape recorder is Rs. 1,500. The manufacturer fixes the marked price 20% above the cost of manufacture 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

20%

20

CP $\xrightarrow[8]{8\%}$ SP MP

100 108 120

12 D

$D\% = \frac{D}{MP} \times 100$

$= \frac{12}{120} \times 100 = 10\%$

A shopkeeper marks his goods 15% above cost price, but allows 20% discount for cash. His net loss is

(a) 3% (b) 5%

(c) 8% (d) 10%

23

$115 \times \frac{20}{100}$

8

15% ↑

+15

CP SP MP

100 L 92 -23 115

-8 20% D

L% = 8%

$D = MP - SP$

$P = SP - CP$

$L = CP - SP$

$SP = MP - D$

$SP = CP + P$

$SP = CP - L$

$D\% = \frac{D}{MP} \times 100$

$P\% = \frac{P}{CP} \times 100$

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

A retailer purchased radiosets at the rate of Rs. 400 each from a wholesaler. He raised the price by 30% and then allowed a discount of 8% on each set. His profit will be

(a) 19% (b) 78.4%

(c) 22% (d) 19.6%

30%

CP SP D 8% MP

100 119.6 130

19.6% -10.4

$130 \times \frac{8}{100} = \frac{104}{10} = 10.4$

A trader marks his goods 20% above cost price but allows his customers a discount of 10%, the cost price of a goods, which is sold for ₹ 216, is:

(a) ₹ 108 (b) ₹ 180

(c) ₹ 196 (d) ₹ 200

CP	SP	MP
100	108	120
×2 ⇓	×2 ⇓	-12
200	216	10%

If the cost price of an item is $\frac{5}{9}$ of its marked price and the profit is 20%, then the percentage of discount is

(a) 20% (b) $63\frac{1}{3}$%

(c) $70\frac{1}{3}$% (d) $33\frac{1}{3}$%

P=20%

CP SP MP

5 1 6 -3 9

D

$\frac{1}{5} \times \frac{20}{100}$

$\frac{1}{5}$

$D\% = \frac{3}{9} \times 100$

$= 33\frac{1}{3}\%$

$CP = \frac{5}{9} MP$

$\frac{CP}{MP} = 5/9$

By selling a bicycle for Rs. 2,850 a shopkeeper gain 14%. If the profit is reduced to 8%, then the selling price will be

(a) Rs. 2,600 (b) Rs. 2,700

(c) Rs. 2,800 (d) Rs. 3,000

CP

100

P

14%

8% P

114

108

=

2850

?

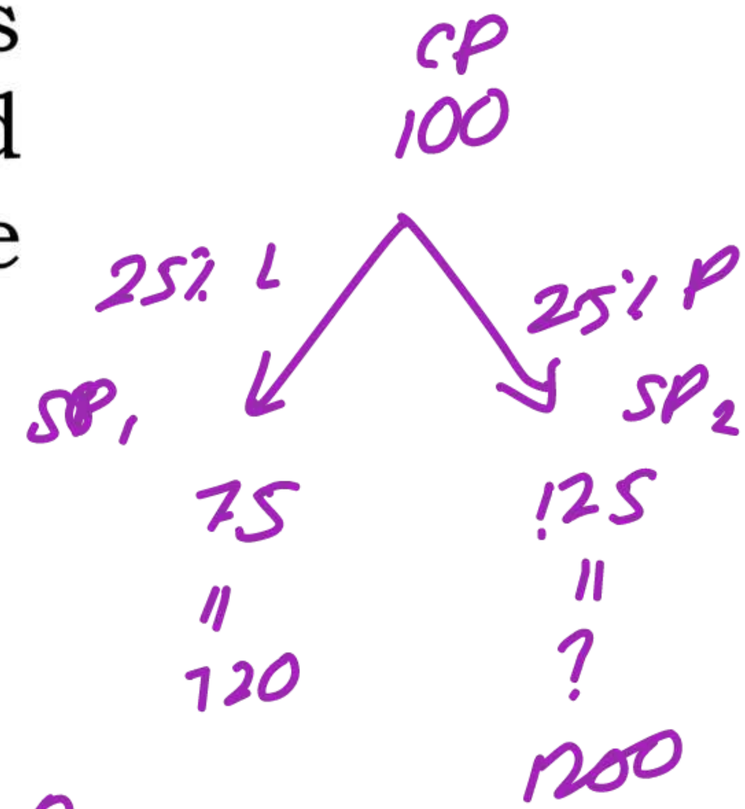
$108 = \frac{\cancel{2850}^{50}}{\cancel{114}_{57}} \times \cancel{108}^{54}_{2}$

= 2700

If a man were to sell his handcart for Rs. 720, he would loss 25%. To gain 25%, the selling price is

(a) Rs. 960 (b) Rs. 1,200

(c) Rs. 1,000 (d) Rs. 2,100



$$125 = \frac{720}{75} \times 125 = 1200$$

SP

By selling an article for Rs.672 a profit of 12% is made. To lose 12% at what price he should sell?

A)Rs. 616 b)Rs484 c)Rs.506 d)Rs.528

CP 100 %

+ 12% -12%

SP 112% 88%

112% → 672

1% → 6 ×88

×88

88% = 528

$\frac{672}{112} = 6$

If the cost price of 143 apples is equal to the selling of 195 apples then the profit or loss% is :

a)18% b)16⅔% c)26⅔% d)15⅓%

CP of 143 apples = SP of 195 apples

$\frac{CP}{SP} = \frac{195}{143}$ (15 / 11)

CP 15 — SP 11

4 LOSS

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

$= \frac{4}{15} \times 100 = \frac{80}{3}$ $26\frac{2}{3}\%$

By selling 250pens a shopkeeper gain the SP of 50pen. Find his gain?

A)20% b)25% c)16⅔% d)30%

$SP = CP + P$

$250\,SP = 250\,CP + 50\,SP$

$250\,SP - 50\,SP = 250\,CP$

$200\,SP = 250\,CP$

$\frac{CP}{SP} = \frac{200}{250} = \frac{100}{125} \Rightarrow 25\%$

$SP = 250$

$P = 50$

$CP = 200$

$P\% = \frac{P}{CP} \times 100 = \frac{50}{200} \times 100$

25%

After selling 63 article a man losses SP of 9 article find his loss%?

A)16⅔% b)14²/⁷% c)20% d)12.5%

$SP = CP - L$

$63SP = 63CP - 9SP$

$63SP + 9SP = 63CP$

$72SP = 63CP$

$\frac{CP}{SP} = \frac{72}{63} \downarrow 9$

$L\% = \frac{9}{72} \times 100$

$= 12.5\%$

$SP = 63$

$L = 9$

$CP = 72$

$L\% = \frac{9}{72} \times 100 = 12.5\%$

By selling 60Pens a shopkeeper gains the of CP of 12pen. Find his gain?

a)20% b)25% c)30% d)5%

SP = CP + P

60SP = 60 CP + 12 CP

CP = 60

P = 12

$P\% = \frac{12}{60} \times 100$

= 20%

After selling 72 article a man losses SP of 12 article. If the CP of article is 980. Find the SP of article.

A)720 b)1020 c)840 d)880

SP : 72 →

L : 12

CP = 84 → 980

$$SP : 72 = \frac{\overset{140}{\cancel{980}}}{\underset{1}{\cancel{84}}} \times \overset{6}{\cancel{72}} = 840$$

By selling 60 pens a shopkeeper gain the CP of 15 pen. If he bought 20 pens in Rs36.

Find the SP of one pen

a)Rs20 b)Rs22.5 c)Rs2.25 d)Rs45

CP of 1 pen = 1

CP = 60

P = 15

SP = 75

CP : SP

60 : 75

4 : 5

4 — 36

1 — 9

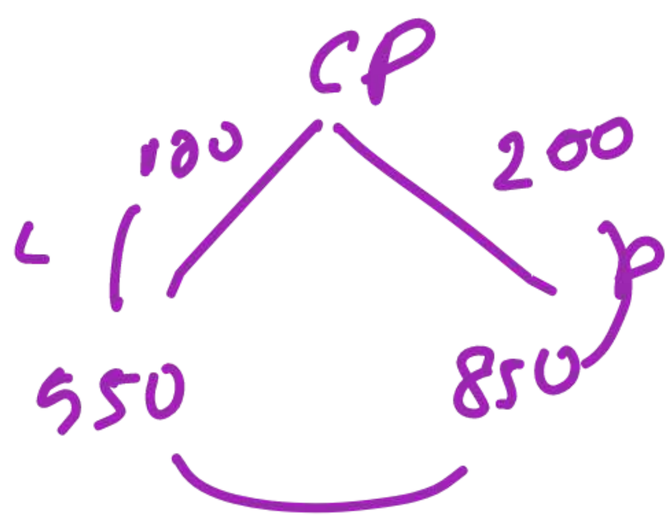
5 → 45 SP of 20 pen

20 $\frac{\cancel{40}\,9}{\cancel{20}\,4} = \frac{9}{4}$ 2.25

The ratio of cost price and selling price is 5 : 4, the loss percent is :

$$\frac{CP}{SP} = \frac{5}{4} \quad 1/5 \times 100 = 20\% \ L$$

Loss incurred by selling an article for Rs 550 is equal to half of the profit gained by selling same article for Rs 850 Find the cost price of this article?



L = ½ P

P/2 = 2/1

1 : 2
00 : 00

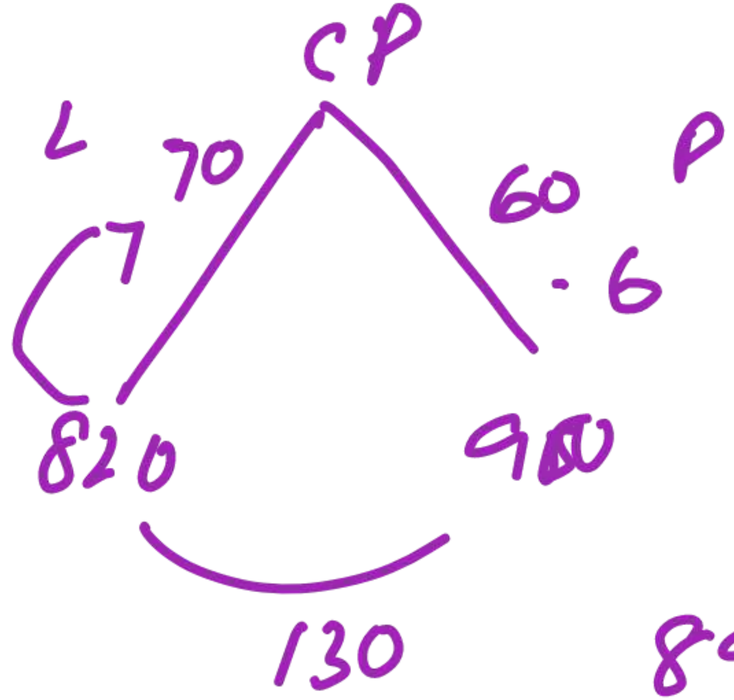
3 → 300
1 → 100
2 200

650 ✓

Ratio of Loss incurred by selling an article for Rs 820

and profit gained by selling same article for Rs 950

is 7:6. Find the cost price of this article?



7:6 − 13 = 130

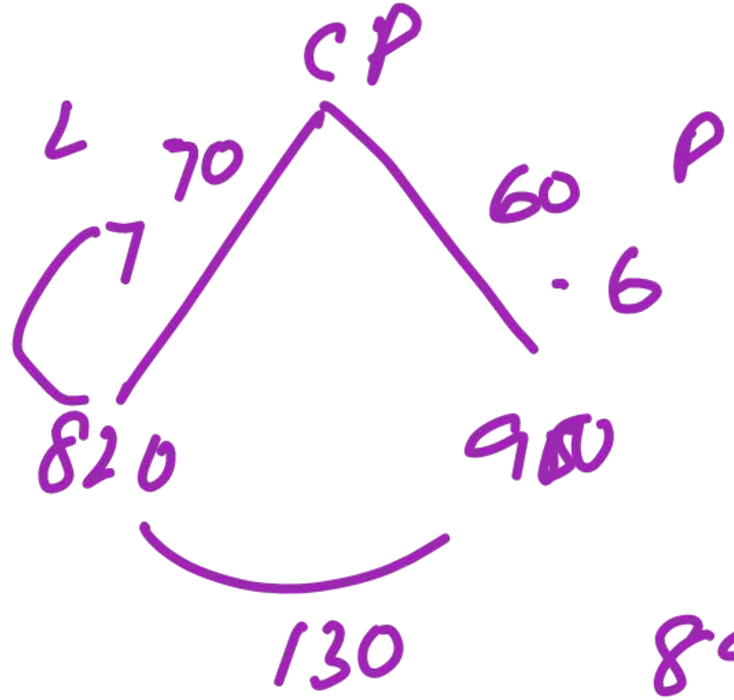
1 = 10

70 60

Ratio of Loss incurred by selling an article for Rs 820

and profit gained by selling same article for Rs 950

is 7:6. Find the cost price of this article?



7:6 − 13 = 130

1 = 10

70 60

On selling 17 articles for Rs 720 a person incurred loss equal to cost price of 5 articles. Find the C.P. of each article ?

SP

Total Product = 17

CP: 17

L: 5

SP: 12 = 720

CP - 17 = $\frac{720}{12} \times 17 = 60 \times 17$

CP of 17 Product = 60×17

" " = 60 Rs

If the cost price of 850 articles is equal to the selling price of 595 articles then the gain or loss % is:

a)51% b)42.84% c)35% d)35.7%

$1/7 = 14.28\%$

850 CP = 595 SP

$\frac{CP}{SP} = \frac{595}{850}$

$CP/SP = 7/10$

$P\% = \frac{P}{CP} \times 100$

$= \frac{3}{7} \times 100$

$= 42.84\%$

An article is sold at a 10% profit. If it been sold for Rs18 less there would have been a loss of 12.5% on it. Find the SP of article for 37.5% profit.

a)100 b)80 c)88 d)104

10% = 1/10

12.5% = 1/8

3/8

CP 80 – 80RS

1/10 P 8

1/8 L 10

88

70

18 – 18

1 – 1RS

10 × 3/8

30 P

110 SP

A person bought some articles at rate of 11 for Rs 10 and sold them at the rate of 10 for Rs 11 Find the profit/loss %.

LCM : 110

NO OF PRODUCT

$11 \times 10 = 110$

$10 \times 11 = 110$

PRICE

$10 \times 10 = 100$) 21

$11 \times 11 = 121$

P% = 21%

A person bought some articles at rate of 6 for Rs 5 and sold them at the rate of 5 for Rs 6. Find the profit or loss %.

NO

$6 \times 5 = 30$

$5 \times 6 = 30$

Price

$5 \times 5 = 25$

$6 \times 6 = 36$

11

$P\% = \frac{11}{25} \times 100 = 44\%$

A person bought some caps at rate of 60 for Rs 93 and sold them at the rate of 50 for Rs 93.Find the profit or loss %.

No	Price	
60	93	CP
50	93	SP

$60 \times CP = 50 \times SP$

$\frac{CP}{SP} = \frac{5}{6}$) 1 P

$P\% = \frac{P}{CP} \times 100 = \frac{1}{5} \times 100 = 20\%$

A person bought some article at rate of 36 for Rs 189 and sold them at the rate of 45 for Rs 189. Find the profit or loss %.

NO	Price	
36	189	CP
45	189	SP

$\overset{4}{\cancel{36}}\,CP = \overset{5}{\cancel{45}}\,SP$

$\frac{CP}{SP} = \frac{5}{4} > 1$ L

$L\% = \frac{1}{\cancel{5}} \times \overset{20}{\cancel{100}} = 20\%$ L

A person bought some article at rate of 11 for Rs 10 and bought same number of articles at the rate of 9 for Rs 10. And sold all the stock at the rate of 1 for Rs 1. Find the profit or loss %.

	NO	price
N_1	$11 \times 9 = 99$	10×9 $CP_1 = 90$
$\parallel$		
N_2	$9 \times 11 = 99$	10×11 $CP_2 = 110$
	198	200
		198

$200 \rightarrow 2L$

$100 \rightarrow 1L$

$\boxed{1\% L}$

CP

SP

2L

A person bought some article at rate of 6 for Rs.20 and bought double number of articles at the rate of 8 for Rs.26 and sold all the stock at the rate of 24 for Rs. 118. Find the profit or loss% ?

NO	Rate
$12 = 6 \times 2$	$20 \times 2 = 40$
$24 = 8 \times 3$	$26 \times 3 = 78$
36	118 RS CP
24	118 SP

$\overset{3}{\cancel{36}}$ CP = $\overset{2}{\cancel{24}}$ SP

$\frac{CP}{SP} = \frac{2}{3}$)1P

P% = $\frac{1}{2} \times 100$

= 50% ↑

A person bought 4 articles for Rs. 15 and sold 6 articles for Rs. 25 over all he gains Rs. 25. Find the number of articles he bought?

$5 \times 12 = 60$

12 $\quad 4 \times 3 \quad 15 \times 3 = 45$ CP

12 $\quad 6 \times 2 \quad 25 \times 2 = 50$ SP

5×5 25

60

Two articles were sold for Rs. 2890 each. First was sold at 18% loss and second at 18% profit. Find over all profit or loss.

SP - same

1st . 18% L

2nd → 18% P

Overall = $\frac{x^2}{100}$ % L

$= \frac{18^2}{100}\% = \frac{324}{100} = 3.24\%$ L

Two horses were sold for Rs. 2880 each. First was sold at 20% loss and second at 20% profit. Find over all profit or loss.

$H_1 \rightarrow SP_1 = 2880$

$H_2 \rightarrow SP_2 = 2880$

SP → same

1st 20% L

2nd 20% P

Overall loss $= \frac{x^2}{100}\% = \frac{20^2}{100} = \frac{400}{100} = 4\%$ L

Two horses were sold at Rs. 1280 each. First was sold at 20% profit and second at 25% loss. Find the over all profit or loss %.

SP - same

1st — 20% P

2nd — 25% L

$P\% = 20\% = \frac{1}{5} \begin{matrix} -P \\ -CP \end{matrix}$ $SP_1 - 6$

$L\% = 25\% = \frac{1}{4} \begin{matrix} -L \\ -CP \end{matrix}$ $SP_2 - 3$

	CP		SP
①	5	$\xrightarrow{+1}$	6
②	4×2	$\xrightarrow{-1 \times 2}$	3×2

	CP		SP
①	5	$\xrightarrow{+1}$	6
②	8	$\xrightarrow{-2}$	6
	13	$\xrightarrow[L]{-1}$	12

$L\% = \frac{L}{CP} \times 100 = \frac{1}{13} \times 100$

$= \frac{100}{13}\%$

Two horses were sold at Rs.1520. First was sold at 10% loss and second at 25% profit. If the cost price of first horse is equal to selling price of second horse. Find the over all profit or loss in rupees.

$SP_1 + SP_2 = 1520$ $\quad$ $1/10$ $\quad$ $1/4$

$CP_1 = SP_2$

	CP		SP
①	10	$\xrightarrow{-1}$	9
②	$4_{\times 2}$	$\xrightarrow{+1}$	$5_{\times 2}$
	18	$\xrightarrow{+1}$	19

$19 \rightarrow 1520$

$1 = \frac{1520}{19} \times 1 = 180$ Rs profit

A man purchases some number of apples at the rate of 36 for Rs. 1. How many apples for a rupee should he sell to gain 44% profit?

a)20 b)25 c)24 d)28

	E	P	QTY
Buy	1	100%	36
Sell	1	144%	x
			25

$E = P \times QTY$

$\frac{1}{1} = \frac{\cancel{100}^{25}}{\cancel{144}_{\cancel{36}\,\cancel{4}}} \times \frac{\cancel{36}^{\cancel{6}}}{x}$. $x = 25$

A person bought 189 articles for Rs15. How many articles should he sell for Rs17.5 to gain 26% profit?

a)150 b)175 c)160 d)180

	E	% P	QTY
Buy	15	100%	189
sell	17.5	126%	x
			↓
			175

E = P × QTY

$$\frac{150}{175} = \frac{100}{126} \times \frac{189}{x}$$

$x = 25 \times 7 = 175$

On selling 140 articles for Rs360 a person bears a loss of 36%. How many articles he should sell for Rs198 to earn a profit of 54%?

a)32 b)64 c)44 d)36

	E	P	QTY
Sell,	360	64%	140
sell 2	198	154%	x

E = P × QTY

$$\frac{\cancel{360}^{\cancel{6}\,2}}{\cancel{198}_{\cancel{33}\,\cancel{11}}} = \frac{\cancel{64}^{32}}{\cancel{154}_{\cancel{14}}} \times \frac{\cancel{140}}{x}$$

x = 32

By selling 96 articles for Rs144 there is loss of 35%. How many articles should sell for Rs108 to get a profit of 17%?

a)45 b)40 c)35 d)50

	E	P	Qty
1	144	65%	96
2	108	117%	x

$$\frac{144}{108} = \frac{65}{117} \times \frac{96}{x}$$

$$x = 5 \times 8$$

$$x = 40$$

On selling 80 articles for Rs. 140 a person incurred a loss of 30%. How many articles he should sell for Rs. 104 to earn profit of 30%.

	C	P	Q
1	100	70	80
2	104	130	x
			32

$$\frac{\cancel{140}^{\,2}}{\underset{8}{\cancel{104}}} = \frac{\cancel{70}}{\cancel{130}} \times \frac{\cancel{80}^{\,4}}{x}$$

$x = 4 \times 8 = 32$

On selling 70 articles for Rs. 160 a person incurred loss of 20%. How many articles he should sell for Rs. 96 to earn profit of 20%.

C.P	S.P	Q
160	80	70
96	120	x

$$\frac{160}{96} = \frac{80}{120} \times \frac{70}{x}$$

$$\boxed{x = 28}$$

A person bought 7 apples for Rs. 3. At what price ~~his~~ we should sell 100 apples to get the profit of 33%.

$300 \times \frac{133}{100}$

700 — 300

) 33% 99

700 — 399

÷7

100 → 57 — (B)

After selling 4 article for Rs. 1 a person incurred loss of 4 % if he had sold 3 article for Rs. 1 his profit would be?

C	P	Q
1	96%	4
1	x	3

$$\frac{1}{1} = \frac{96}{x} \times \frac{4}{3}$$

$$x = 32 \times 4 = 128\%$$

$$\boxed{P\% = 28\%}$$

By selling oranges at 32 a rupee, a man loses 40%. How many for a rupee should he sell in order to gain 20% ?

E	P	Q
1	60%	32
1	120%	x

$$\frac{1}{1} : \frac{60}{120} \times \frac{32}{x}$$

$x : 16$