

AVILIVE

TO GET

MAX DISCOUNT





1) The ratio of the cost price to selling price is 4:5. Find the profit percentage?

A) 25%

B) 20%

C) 15%

D) 30%

$$\frac{CP}{SP} = \frac{4}{5}$$

$SP > CP$   
CP Profit

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

$$\frac{CP}{SP} = \frac{4}{5}$$

$$\frac{SP}{CP} = \frac{5}{4}$$

$$\frac{SP}{CP} - 1 = \frac{5}{4} - 1$$

$$\frac{SP-CP}{CP} = \frac{5-4}{4}$$

25%

AVILIVE

TO GET  
MAX DISCOUNT ON

plus  
Subscription





2) The cost price of 40 articles is equal to selling price of 50 articles. What is the profit or loss percentage?

A) 22% loss

B) 20% loss

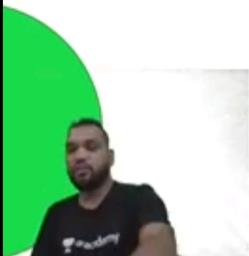
C) 16% profit

D) 18% profit

$$CP \times 40 = SP \times 50$$

$$\frac{CP}{SP} = \frac{5}{4}$$

$$\frac{1}{5} \times 100 = \underline{\underline{20\% \text{ Loss}}}$$



USE CODE

**AVILIVE**

TO GET  
**MAX DISCOUNT** ON

**plus**  
Subscription





3) If the cost price is 80% of the selling price, then what is the profit percent?

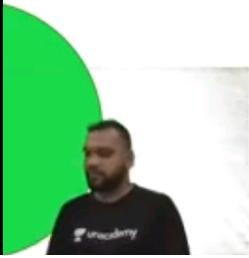
A) 20

B) 25

C) 30

D) 35

$$\begin{aligned} SP &= 100 \\ CP &= 80 \end{aligned}$$
$$\frac{20}{80} \times 100 \rightarrow 25\% \\ = 25\%.$$



USE CODE **AVILIVE** TO GET **MAX DISCOUNT** ON 





## Aptitude for GATE/ESE/PSUs/AE/JE/College Placement, Topic- Profit, Loss &amp; Discount

4) A man buys an article for ₹490 and sells it for ₹465.50. Find his loss percentage

[RRB-2014(JE), BILASPUR]

A) 4%

B) 4.5%

C) 5%

D) 5.5%

$$\begin{array}{ccc} 490 & \xrightarrow[-24.5]{S\% \downarrow} & 465.5 \\ \downarrow & & \end{array}$$

10% → 49  
S% → 24.5

$$\frac{24.5}{490} \times 100 = \underline{\underline{5\% \text{ loss}}}$$



USE CODE

**AVILIVE**

TO GET  
**MAX DISCOUNT** ON

 **plus**  
Subscription





- 5) A man bought an old typewriter for ₹1200 and spent ₹200 on its repair. He sold it for ₹1680. His profit per cent is: [RRB-2014(JE), BILASPUR]

A) 20%

B) 10%

C) 8%

D) 16%

$$\begin{aligned}
 & \frac{SP - CP}{CP} \times 100 \\
 &= \frac{1680 - 1400}{1400} \times 100 \\
 &= \frac{280}{1400} \times 100 = 20\%
 \end{aligned}$$

1200 + 20% →  
 1400 ↑  
CP  
 20% ↑  
 + 280 → 1680  
 ↓ SP

$$\frac{280}{1400} \times 100 = 20\% \text{ Profit}$$



USE CODE **AVILIVE** TO GET **MAX DISCOUNT** ON  Subscription



 Home Work Question

The cost price of 21 oranges is equal to the selling price of 18 oranges. Find the profit or loss percentage?

[ONGC 2014]

A)  $16\frac{2}{3}\%$

B) 16%

C)  $14\frac{2}{3}\%$

D) 14%

$$\begin{aligned} CP \times 21 &= SP \times 18 \\ \frac{CP}{SP} &= \frac{18}{21} = \frac{6}{7} \quad (\text{circled}) \\ \frac{1}{7} \times 100 &= 16\frac{2}{3}\% \quad (\text{circled}) \end{aligned}$$





1) Selling price of a chair is ₹1386. If loss per cent is 23%, then what is the cost price(in ₹) of chair?

A) 1600

B) 1800

C) 1900

D) 1067



$$77\% \rightarrow 1386$$

$$7\% \rightarrow 126$$

$$1\% \rightarrow 18$$

$$100\% \rightarrow 1800$$

USE CODE **AVILIVE** TO GET **MAX DISCOUNT** ON 





2) A person incurs a loss of 5% by selling a watch for ₹1140. At what price should the watch be sold to earn 5% profit?

[VIZAG STEEL PLANT, 2015]

A) ₹ 1200      B) ₹ 1230

C) ₹ 1260      D) ₹ 1290

$$\begin{array}{c}
 \text{P}100\% \\
 \text{CP} \xrightarrow[100]{5\% \downarrow} 1140 \\
 \text{G}5\%
 \end{array}
 \quad
 \begin{array}{c}
 95\% \rightarrow 1140 \\
 19\% \rightarrow 228 \\
 1\% \rightarrow 12 \\
 100\% \rightarrow 1200
 \end{array}$$
  

$$\begin{array}{c}
 \text{CP} \xrightarrow[100]{5\% \uparrow} 1260 \\
 +60
 \end{array}$$



USE CODE **AVILIVE** TO GET **MAX DISCOUNT** ON 





Q) Selling price of a glass is ₹1965 and loss per cent is 25%. If selling price is ₹3013, then what will be the profit per cent?

- A) 13      B) 10.4      C) 15      D) 20

$$\begin{array}{l}
 \text{CP} \xrightarrow[2620]{\text{25% loss}} 1965 \\
 \text{CP} \xrightarrow[2620]{15\% \text{ P}} 3013 \\
 \text{15%} \rightarrow 393 \\
 \text{10%} \rightarrow 262 \\
 \text{5%} \rightarrow 131 \\
 \text{15%} \rightarrow 393
 \end{array}$$

$$\frac{393}{2620} \times 100 = 15\%$$

AVILIVE

TO GET  
MAX DISCOUNT ON


**Aptitude for GATE/ESE/PSUs/AE/JE/College Placement, Topic- Profit, Loss & Discount**

4) If the selling price is tripled and cost price doubled the profit would become 65%. What is the present profit(in %) ?

A) 20

B) 15

C) 25

D) 10

$$CP \xrightarrow{10\% \uparrow} SP$$

$$\frac{CP}{SP} = \frac{10}{11}$$

$$2CP \xrightarrow{65\% \uparrow} 3SP$$

$$CP \xrightarrow{165\% \text{ of } (2CP)} 3SP$$

$$\frac{2CP}{100} \times 165 = 3SP$$

$$\frac{CP}{SP} = \frac{3 \times 100}{165 \times 2}$$

$$\frac{CP}{SP} = \frac{150}{330}$$

$$\frac{CP}{SP} = \frac{5}{11}$$

AVILIVE

TO GET  
MAX DISCOUNT



5) If cost price is ₹150 less than the selling price and profit is 20%, then what is the selling price (in ₹)?

A) 750

B) 800

C) 850

D) 900

$$\begin{array}{ccc} \text{CP} & \xrightarrow{20\% \text{ P}} & \text{SP} \\ \text{---} & & \text{---} \\ \text{CP} & & \text{CP} + 150 \end{array}$$

$150 \rightarrow 20\%$   
 $100\% \rightarrow 650$

USE CODE **AVILIVE**

TO GET  
**MAX DISCOUNT** ON





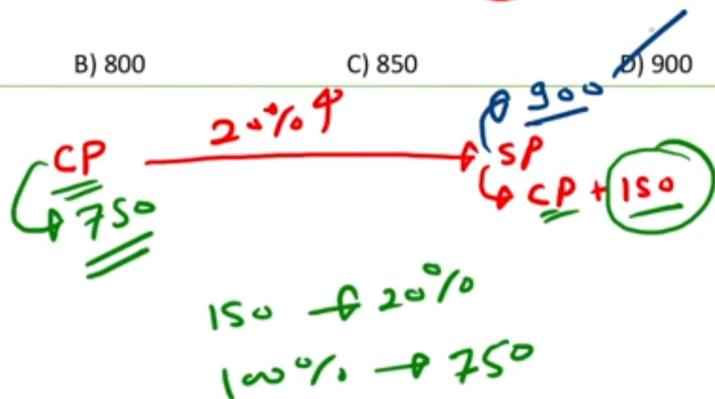
Q) If cost price is ₹150 less than the selling price and profit is 20%, then what is the selling price (in ₹)?

A) 750

B) 800

C) 850

D) 900



USE CODE **AVILIVE**

TO GET  
**MAX DISCOUNT** ON





Q) If cost price is ₹150 less than the selling price and profit is 20%, then what is the selling price (in ₹)?

- A) 10%
- B) 20%
- C) 16.67%
- D) NOTA



USE CODE

AVILIVE

TO GET  
MAX DISCOUNT ONplus  
Subscription

 Home Work Question

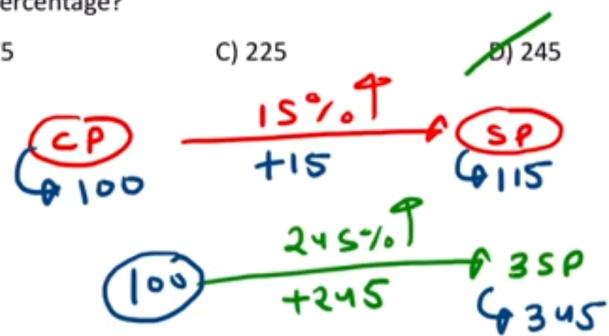
A man gains 15% by selling a calculator for a certain price. If he sells it at the triple the price, then what will be the profit percentage?

A) 125

B) 175

C) 225

D) 245



USE CODE **AVILIVE** TO GET **MAX DISCOUNT** ON 





1) Some articles were brought at ₹5 and sold at ₹6. Find the overall profit percentage?

A) 44

B) 4

C) 42

D) 6

$$\begin{aligned}
 & (\text{₹5} \rightarrow \text{₹6}) \times 5 \\
 & (\text{₹6} \rightarrow \text{₹5}) \times 6
 \end{aligned}$$

CP  
 ₹25      ₹30  
 ₹36      ₹30  
 SP

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

USE CODE **AVILIVE**

TO GET  
**MAX DISCOUNT** ON



**Aptitude for GATE/ESE/PSUs/AE/JE/College Placement, Topic- Profit, Loss & Discount**

2) Some articles were bought at 9 for ₹10 and same numbers of articles were bought at 11 for ₹10. Then sold whole quantity at 1 for ₹1. Find the overall profit or loss percentage?

- A) 1% profit      B) 1% loss      C) 2% loss      D) 2% profit

$$\begin{array}{l} \cancel{\text{₹10}} \rightarrow \cancel{9} \\ \cancel{\text{₹10}} \rightarrow \cancel{11} \end{array}$$

$$\begin{array}{r} \cancel{\text{₹110}} \rightarrow \cancel{99} \\ \cancel{\text{₹290}} \rightarrow \cancel{99} \\ \hline \boxed{\text{₹200}} \\ \hline \cancel{\text{₹198}} \end{array}$$

$\frac{2}{200} \times 100$

$$= \frac{2}{200} \times 100$$

**AVILIVE**

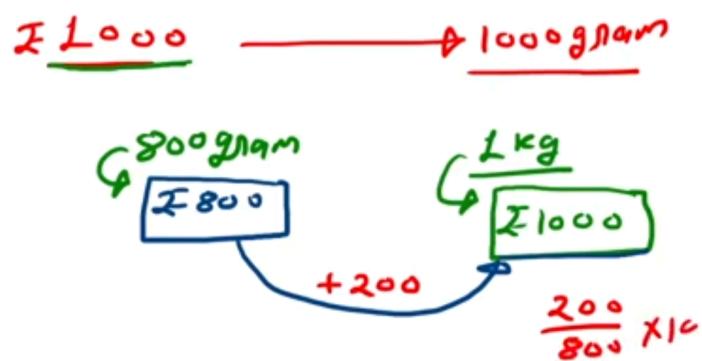
TO GET  
MAX DISCOUNT





Q) A shopkeeper sells his goods at the cost price but uses 800 grams instead of 1 kg. Find his overall profit or loss percentages?

- A) 25% profit      B) 20% profit      C) 25% loss      D) 20% loss



USE CODE

AVILIVE

TO GET  
MAX DISCOUNT ONplus  
Subscription



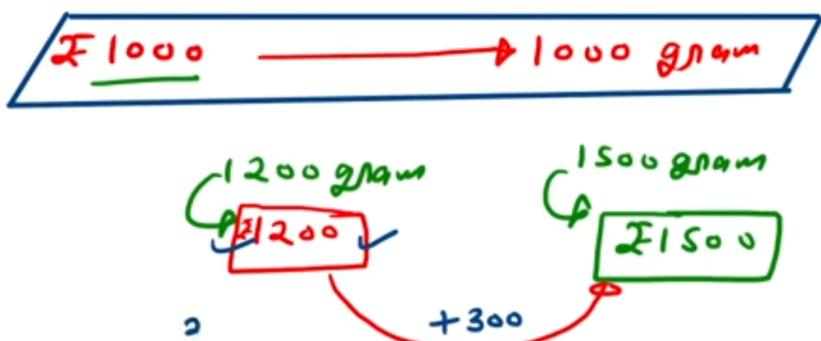
5) A shopkeeper sells his good at the cost price but uses 1200 grams instead of 1500 grams. Find his overall profit or loss percentage?

A) 20% profit

B) 25% profit

C) 25% loss

D) 20% loss



USE CODE **AVILIVE** TO GET **MAX DISCOUNT** ON 





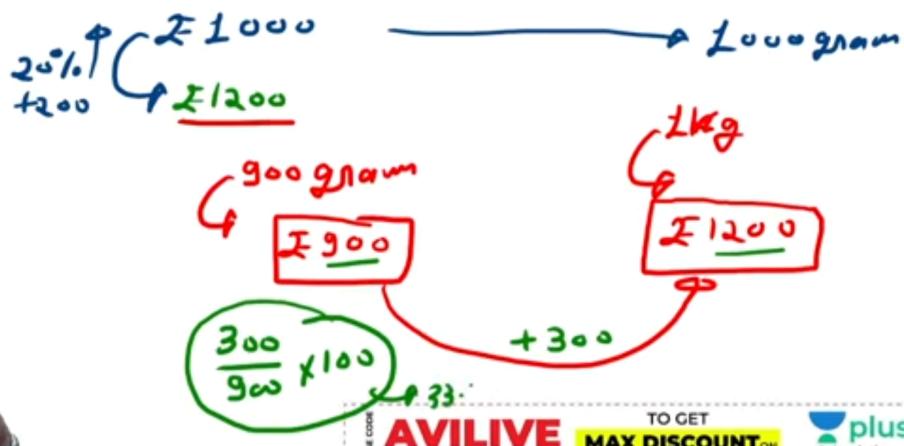
6) A shopkeeper sells his goods at 20% profit and uses 900 grams instead of 1 kg. Find his overall profit percentage?

A) 66.33

B) 66.67

C) 32.33

D) 33.33



USE CODE  
**AVILIVE**

TO GET  
**MAX DISCOUNT** ON

**plus**  
Subscription

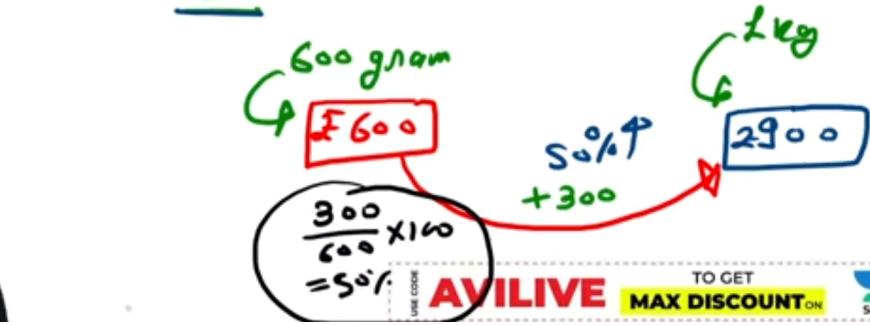




7) A shopkeeper sells his good at 10% discount/loss uses 600 grams instead of 1kg. Find his overall profit or loss percentages?

- A) 45% profit      B) 50% profit      C) 45% loss      D) 50% loss

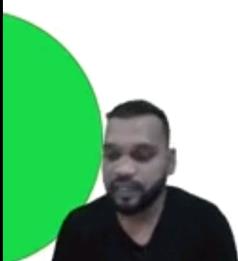
$$\begin{array}{r} \text{£1000} \\ -10\% \\ \hline \text{£900} \end{array} \quad \rightarrow 1000 \text{ gram}$$



USE CODE

AVILIVE

TO GET  
MAX DISCOUNT

  
plus  
Subscription


## ✓ Home Work Question

A dealer professing to sell his goods at cost price, uses 900 gram weight for 1 kg. His gain percent is

[RRB-2014(JE), BILASPUR]

- A) 9%      B) 10%      C) 11%      D)  $11\frac{1}{9}\%$

$$\begin{aligned} & \text{£1000} \rightarrow \text{1000 g or 1kg} \\ & \text{£900} \rightarrow \text{900g or 900 grams} \\ & \text{Profit: } £100 \\ & \text{Gain \%: } \frac{100}{900} \times 100 = 11\frac{1}{9}\% \end{aligned}$$

USE CODE **AVILIVE**

TO GET  
**MAX DISCOUNT** ON

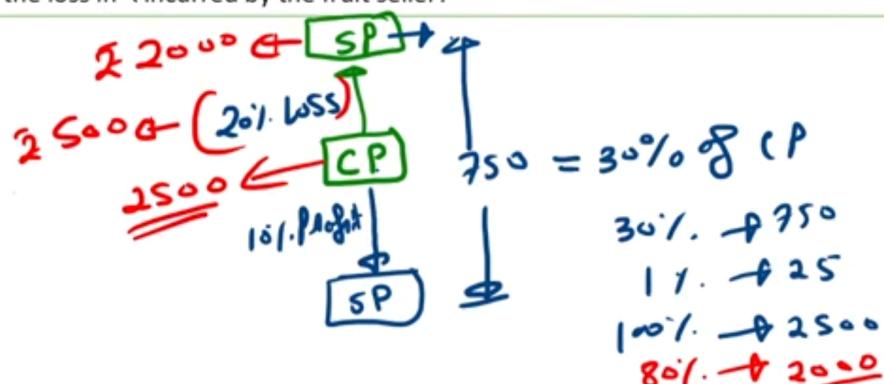
**plus**  
Subscription



~~Ques~~ A shopkeeper sold an article at a loss of 20%. Instead if he sold it for ₹750 more, he would have made a 10% profit.

A) What is his cost price? ~~₹2500~~

B) What is the loss in ₹ incurred by the fruit seller?



USE CODE  
**AVILIVE**

TO GET  
**MAX DISCOUNT** ON

**plus**  
Subscription





## Aptitude for GATE/ESE/PSUs/AE/JE/College Placement, Topic- Profit, Loss &amp; Discount

2) A fruit seller sold a basket of fruits at 12.5% loss. Had he sold it for ₹108 more, he would have made a 10% gain. What is the loss in ₹ incurred by the fruit seller?

[GATE 2018, 2 MARKS (CE)]

- A) 48      B) 52      C) 60      D) 108

$$\begin{aligned}
 22.5\% \text{ of CP} &= 108 \\
 \underline{\underline{22.5\%}} &\rightarrow 108 \\
 12.5\% - 10\% &\rightarrow 108 \\
 2.5\% &\rightarrow 108 \\
 10\% &\rightarrow 216 \\
 5\% &\rightarrow 108 \\
 2.5\% &\rightarrow 54 \\
 1.25\% &\rightarrow 48
 \end{aligned}$$

USE CODE AVILIVE

TO GET  
MAX DISCOUNT ON

plus  
Subscription



## Discounts

Market Price  
[MP]  
or  
Tag Price

SP ✓

CP ✓

Discount ✓  
% Discount ✓



USE CODE

**AVILIVE**

TO GET  
**MAX DISCOUNT ON**

 **plus**  
Subscription



 unacademy

M.P.

E-COMMERCE

Aphitude  
Book

~~₹ 800~~ ₹ 640  
20% OFF

$$\text{Discount} = \text{MP} - \text{SP}$$
$$\% \text{ Discount} = \frac{\text{MP} - \text{SP}}{\text{MP}} \times 100$$

$$\text{MP} = ₹ 800$$

$$\text{SP} = ₹ 640$$

$$\text{Discount} = ₹ 160$$

$$\% \text{ Discount} = 20\%$$



$$\text{Discount} = \text{MP} - \text{SP}$$

$$\text{if } \text{MP} = \text{SP}$$

$$\text{Discount} = 0$$

$$\% \text{ Discount} = \left( \frac{\text{MP} - \text{SP}}{\text{MP}} \right) \times 100$$

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

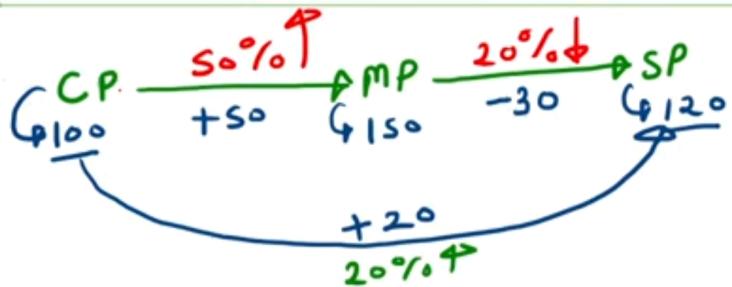
$$\% \text{ Loss} = \frac{\text{CP} - \text{SP}}{\text{CP}} \times 100$$





Q) A trader marks his goods at 50% above the cost price but allows a discount of 20% on market price. Find the profit percentage.

- A) 19      B) 20      C) 21      D) 22

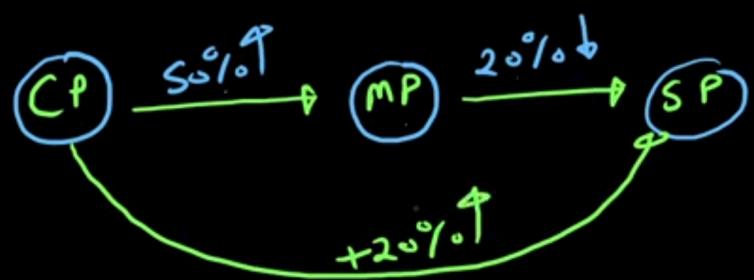


USE CODE

AVILIVE

TO GET  
MAX DISCOUNT plus  
Subscription

M-11



Consecutive Change  $a = +50\%$ ,  $b = -20\%$

$$\Rightarrow a + b + \frac{ab}{100} = +50 - 20 + \frac{(50)(-20)}{100} = 30 - 10 = \underline{\underline{20\%}}$$





Q) After giving a discount of 10% on books in printed price, a shopkeeper gets a profit of 12%. The ratio of its actual purchased price and printed price is---

A) 45:56

B) 45:51

C) 47:56

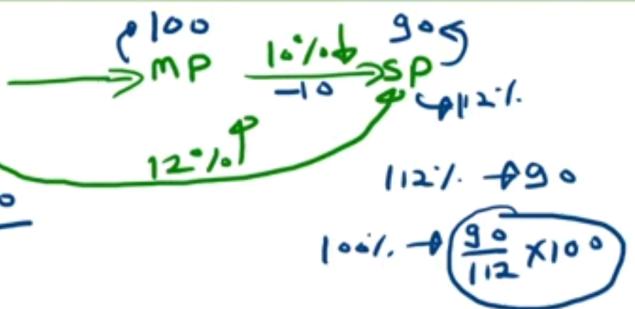
D) 47:51

[CGPSC-2014]

$$\frac{CP}{MP} = \frac{90 \times 100}{112}$$

$$= \frac{90}{112}$$

$$= \frac{45}{56}$$



USE CODE **AVILIVE** TO GET **MAX DISCOUNT** ON **plus** Subscription





Q) If a discount of 10% is given on the market price of an article, the gain is 20%. If the discount is increased to 20%, then find the profit percentage?

A) 5

B) 6

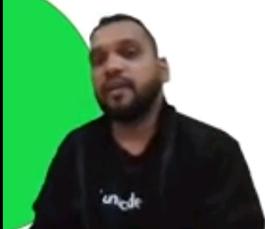
C) 6.67

D) 3.33

$$\begin{aligned}12\% \rightarrow 9\% \\12\% \rightarrow 9 \\4\% \rightarrow 3 \\100\% \rightarrow 95\end{aligned}$$

$$\frac{CP}{100\%} = \frac{95}{100}$$

$$\begin{aligned}100\% MP &\xrightarrow{-10\%} 90\% SP \\&\xrightarrow{+20\%} 120\% SP \\100\% MP &\xrightarrow{-20\%} 80\% SP \\75\% CP &\xrightarrow{+5\%} 80\% SP\end{aligned}$$



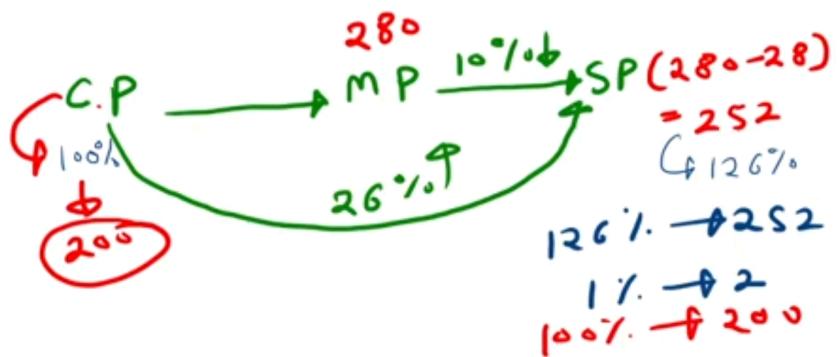
USE CODE **AVILIVE** TO GET **MAX DISCOUNT** ON **plus** Subscription

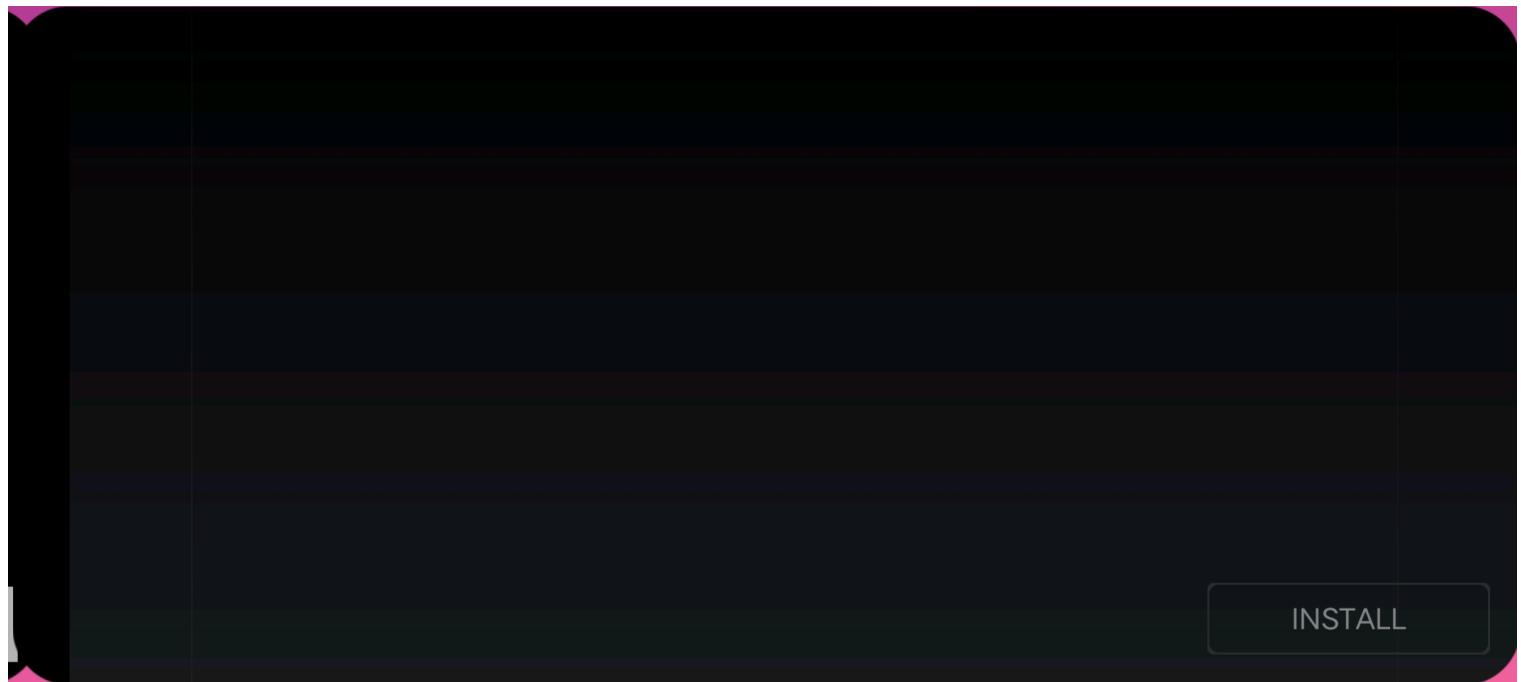


### ✓ Home Work Question

A trader offers his customers 10% discount and still makes a profit of 26%. What is the actual cost to him of an article marked ₹280

- A) ₹200      B) ₹220      C) ₹230      D) ₹240

USE CODE  
**AVILIVE**TO GET  
**MAX DISCOUNT** ON plus  
Subscription



INSTALL



## Aptitude for GATE/ESE/PSUs/AE/JE/College Placement, Topic- Profit, Loss &amp; Discount

3) A shopkeeper sells two shirts at the same price, one at discount of 20% and another at a gain of 20%. Find the overall loss or the gain he earned.

- A) 4% loss      B) 2% gain      C) 3% loss      D) 5% gain

$$\begin{array}{ccccccc}
 100 & \xrightarrow{20\% \text{ off}} & 120 & & & & \\
 \text{CP} & \xrightarrow{20\% \text{ off}} & 120 & \xrightarrow{\text{Same}} & & & \\
 \hline
 150 & & 240 & & 80\% \rightarrow 120 & & \\
 \hline
 250 & & 240 & & 4\% \rightarrow 6 & & \\
 & & -10 & & 100\% \rightarrow 150 & & \\
 & & \frac{10}{250} \times 100 = 4\% & & & & \\
 \end{array}$$

AVILIVE

TO GET MAX DISCOUNT ON 

3) A shopkeeper sells two shirts at the same price, one at discount of 20% and another at a gain of 20%. Find the overall loss or the gain he earned.

- A) 4% loss      B) 2% gain      C) 3% loss      D) 5% gain



$$\begin{array}{c}
 \text{Diagram showing two shirts sold at the same price. One is sold at } 20\% \text{ discount (CP to 120)} \text{ and another at } 20\% \text{ profit (CP to 120).} \\
 \text{CP} = 150 \\
 \text{Total CP} = 250 \\
 \text{Total SP} = 240 \\
 \text{Overall loss} = -10
 \end{array}$$

100 → 20% ↓ → 120  
 Same  
 CP → 25% ↑ → 120  
 8% → 120  
 4% → 6  
 10% → 150

$$\frac{10}{250} \times 100 = 4\%$$

USE CODE

**AVILIVE**TO GET  
**MAX DISCOUNT** ON

  
Subscription




- Q) A shopkeeper marks his good at 20% above the cost price and also allows a discount of 20% but uses 800 grams instead of 1 kg. Find overall profit or loss percentage?
- A) 20% loss      B) 21% profit      C) 20% profit      D) 20% loss

$$\begin{array}{c}
 \text{CP} = \text{Rs } 1000 \\
 \text{SP} = \text{Rs } 1200 \quad (\text{Marked Price}) \\
 \text{Discount} = 20\% \quad (\text{Given})
 \end{array}$$

20% off  $\rightarrow$  SP =  $1200 - (20/100 \times 1200) = 960$

Actual weight used = 800 grams

Weight given = 1 kg

Profit =  $960 - 1000 = -160$

Profit % =  $\frac{-160}{1000} \times 100 = -16\%$

USE CODE **AVILIVE** TO GET **MAX DISCOUNT** ON **plus** Subscription



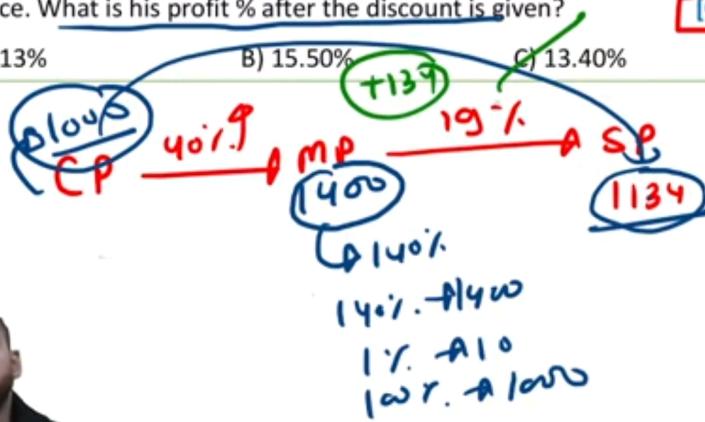


## Aptitude for GATE/ESE/PSUs/AE/JE/College Placement, Topic- Profit, Loss &amp; Discount

5) A person sells branded shirts each at ₹1134 after giving discount of 19% on the market price. Had he not given the discount, he would have earned a profit of 40% on the cost price. What is his profit % after the discount is given?

[ONGC 2014]

- A) 13%      B) 15.50%      C) 13.40%      D) 15%



$$\begin{aligned} & 100\% \rightarrow 1134 \\ & 91\% \rightarrow 126 \\ & 1\% \rightarrow 14 \\ & 10\% \rightarrow 140 \end{aligned}$$

USE CODE **AVILIVE** TO GET **MAX DISCOUNT** ON **plus** Subscription

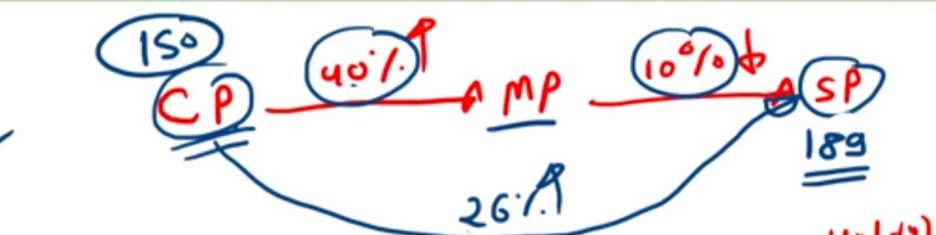


## Aptitude for GATE/ESE/PSUs/AE/JE/College Placement, Topic- Profit, Loss &amp; Discount



$$\begin{array}{r} 189 \\ \times 2 \\ \hline 378 \end{array}$$

Q) In a shop, shirts are usually sold at 40% above the cost price. During a sale, the shopkeeper offers a discount of 10% on usual selling price. If he manages to sell 72 shirts for ₹13,608, then his cost price per shirt is [VIZAG STEEL PLANT, 2015]



$$\begin{array}{r} 189 \\ \times 12\% \\ \hline 22.8 \end{array}$$

$$\begin{array}{r} 189 \\ \times 42\% \\ \hline 63 \end{array}$$

$$\begin{array}{r} 189 \\ \times 14\% \\ \hline 21 \end{array}$$

$$\begin{array}{r} 189 \\ \times 2\% \\ \hline 3 \end{array}$$

$$+ 40 - 10 + \frac{40(10)}{100}$$

$$30 - 4 = 26$$

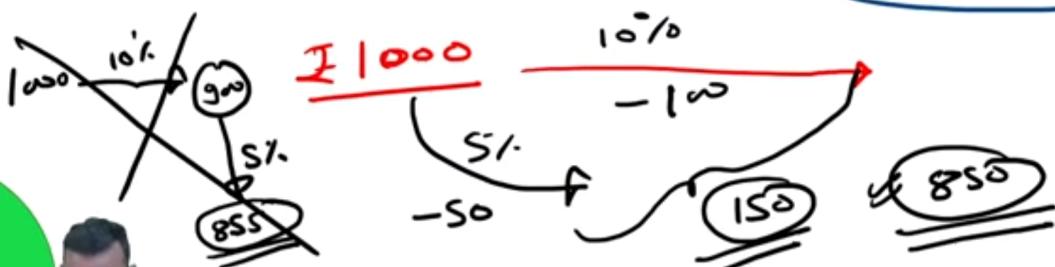
AVILIVE

TO GET  
MAX DISCOUNT ON



7) Round trip tickets to a tourist destination are eligible for a discount of 10% on the total fare. In addition, group of 4 or more get a discount of 5% on the total fare. If the one way single person fare ₹100, a group of 5 tourists purchasing round trip ticket will be charged ₹.....?

[GATE 2014, 2 MARKS]



USE CODE

**AVILIVE**

TO GET  
**MAX DISCOUNT** ON

**plus**  
Subscription



 Home Work Question

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) 10%

B) 12%

C) 14%

D) 18%

$$\begin{array}{c} CP \xrightarrow{25\% \uparrow} MP \xrightarrow{12\% \downarrow} SP \\ \curvearrowleft 10\% \uparrow \quad \curvearrowright 9+6+\frac{96}{100} \\ +25-12+\frac{25(-12)}{100} \\ -13-9=10\% \end{array}$$

USE CODE **AVILIVE** TO GET **MAX DISCOUNT** ON 

