

PG-DAC FEB 25 APTITUDE QUESTION BANK

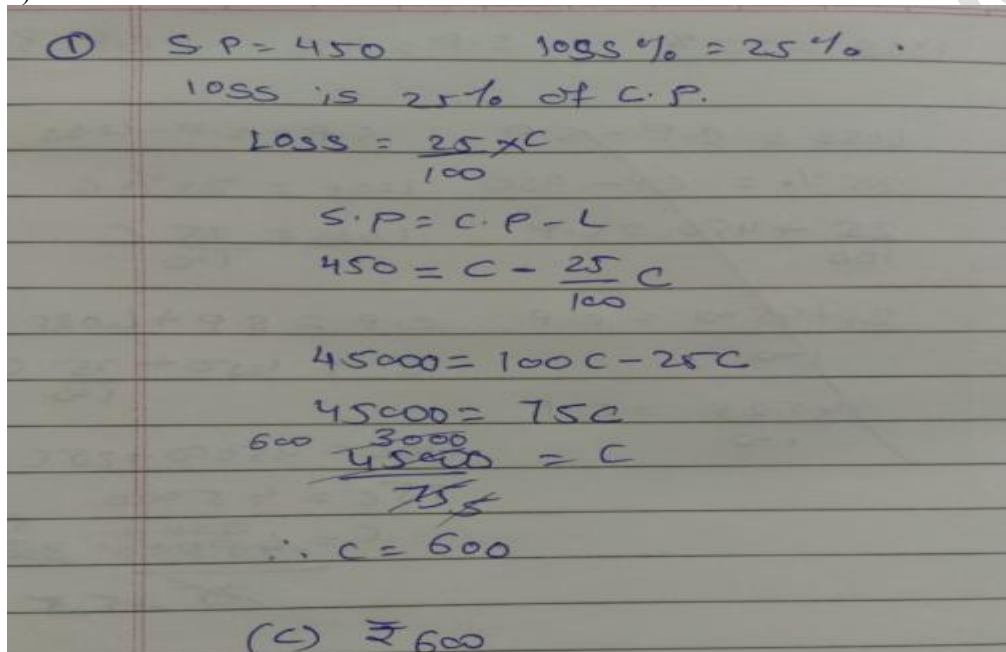
Topic: Profit & Loss , Percentage

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If an article is sold at a loss of 25%, and the selling price is ₹450, find the cost price.

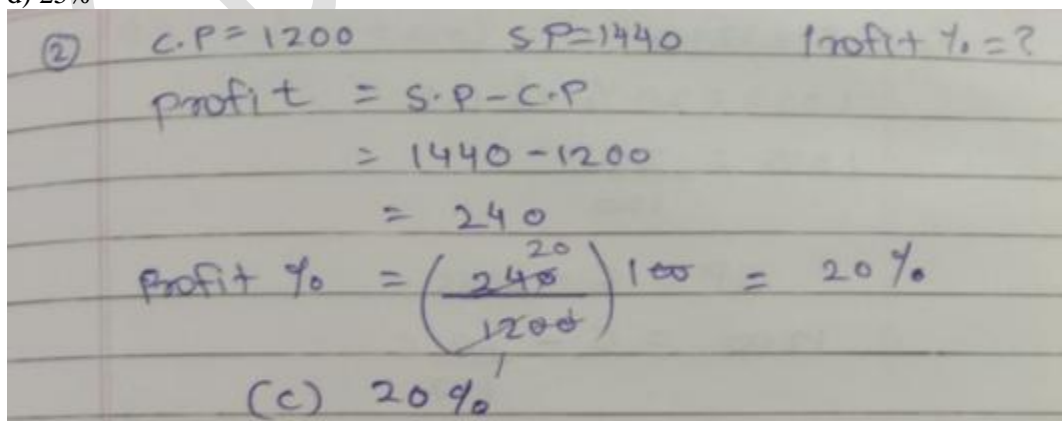
- a) ₹500
- b) ₹550
- c) ₹600
- d) ₹650



① $S.P = 450$ $\text{Loss \%} = 25\%$
 $\text{Loss is } 25\% \text{ of C.P.}$
 $\text{Loss} = \frac{25 \times C}{100}$
 $S.P = C.P - L$
 $450 = C - \frac{25}{100}C$
 $45000 = 100C - 25C$
 $45000 = 75C$
 $\frac{45000}{75} = C$
 $\therefore C = 600$
(C) ₹600

A person bought an item for ₹1200 and sold it for ₹1440. What is the profit percentage?

- a) 10%
- b) 15%
- c) 20%
- d) 25%



② $C.P = 1200$ $S.P = 1440$ $\text{Profit \%} = ?$
 $\text{profit} = S.P - C.P$
 $= 1440 - 1200$
 $= 240$
 $\text{Profit \%} = \left(\frac{240}{1200} \right) 100 = 20\%$
(C) 20%

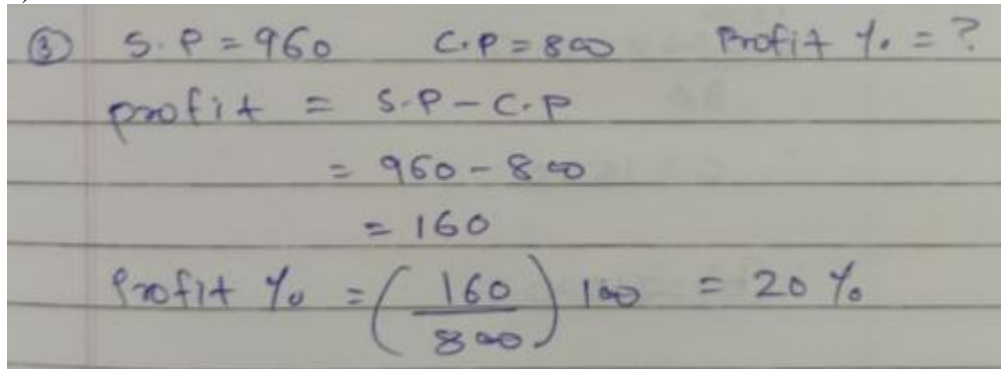
If the selling price of an item is ₹960 and the cost price is ₹800, what is the profit percentage?

a) 15%

b) 20%

c) 25%

d) 30%



③ S.P = 960 C.P = 800 Profit % = ?

$$\text{profit} = \text{S.P} - \text{C.P}$$
$$= 960 - 800$$
$$= 160$$
$$\text{Profit \%} = \left(\frac{160}{800} \right) 100 = 20 \%$$

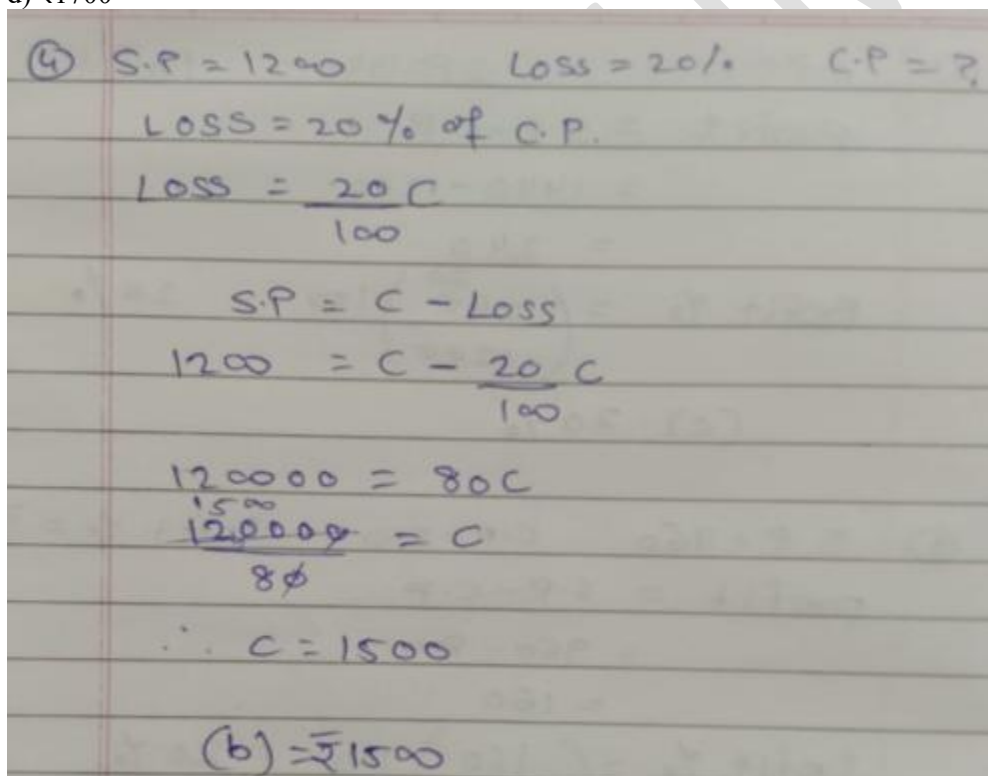
A shopkeeper sells a fan at ₹1200 with a loss of 20%. Find the cost price.

a) ₹1400

b) ₹1500

c) ₹1600

d) ₹1700



④ S.P = 1200 Loss = 20% C.P = ?

Loss = 20% of C.P.

$$\text{Loss} = \frac{20}{100} C$$
$$\text{S.P} = C - \text{Loss}$$
$$1200 = C - \frac{20}{100} C$$
$$120000 = 80C$$
$$\frac{120000}{80} = C$$
$$\therefore C = 1500$$

(b) = ₹1500

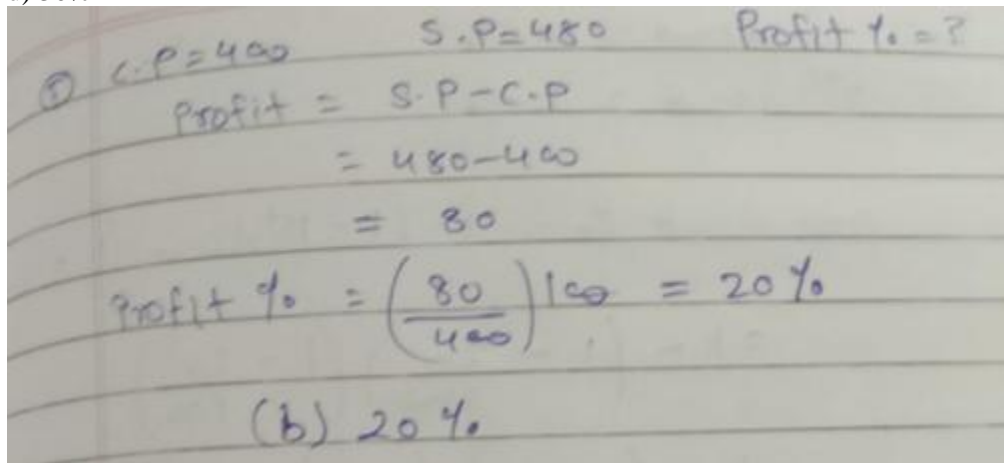
If the cost price of an article is ₹400 and it is sold for ₹480, what is the profit percentage?

a) 15%

b) 20%

c) 25%

d) 30%



Handwritten solution for profit percentage:

$$\begin{aligned} \text{C.P.} &= 400 & \text{S.P.} &= 480 & \text{Profit \%} &= ? \\ \text{Profit} &= \text{S.P.} - \text{C.P.} \\ &= 480 - 400 \\ &= 80 \\ \text{Profit \%} &= \left(\frac{80}{400} \right) 100 = 20\% \\ & \text{(b) } 20\% \end{aligned}$$

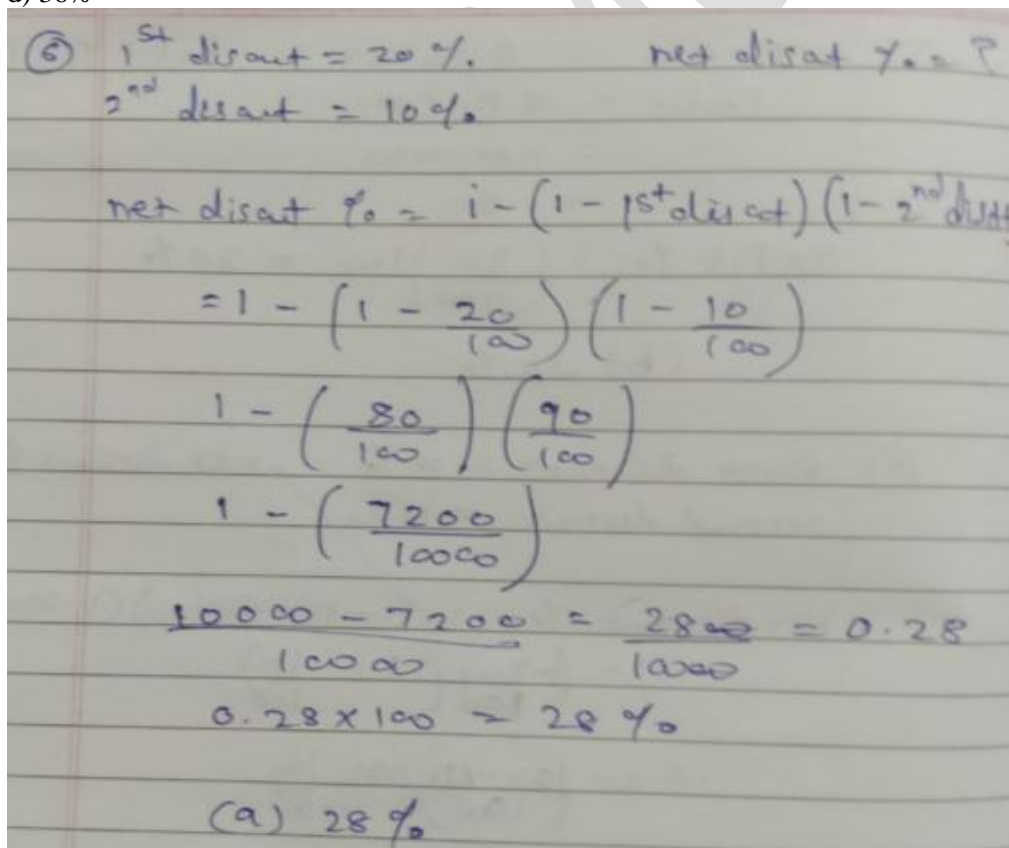
A trader gives two successive discounts of 20% and 10%. Find the net discount percentage.

a) 28%

b) 30%

c) 32%

d) 36%

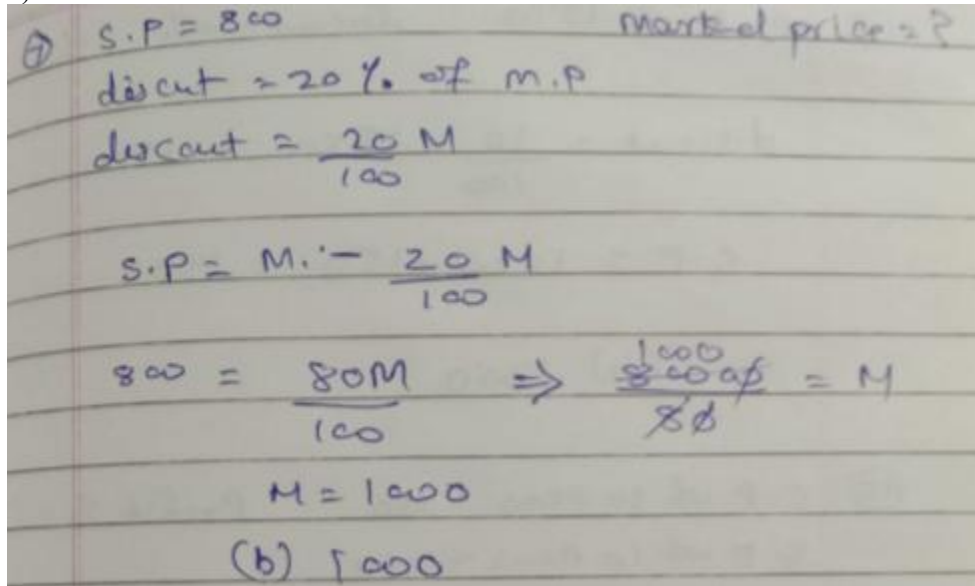


Handwritten solution for net discount percentage:

$$\begin{aligned} \text{⑥ } 1^{\text{st}} \text{ discount} &= 20\% & \text{net discount \%} &= ? \\ 2^{\text{nd}} \text{ discount} &= 10\% \\ \text{net discount \%} &= 1 - (1 - 1^{\text{st}} \text{ discount}) (1 - 2^{\text{nd}} \text{ discount}) \\ &= 1 - \left(1 - \frac{20}{100} \right) \left(1 - \frac{10}{100} \right) \\ &= 1 - \left(\frac{80}{100} \right) \left(\frac{90}{100} \right) \\ &= 1 - \left(\frac{7200}{10000} \right) \\ &= \frac{10000 - 7200}{10000} = \frac{2800}{10000} = 0.28 \\ &0.28 \times 100 = 28\% \\ & \text{(a) } 28\% \end{aligned}$$

A man sold a shirt for ₹800 after giving a 20% discount. Find the marked price.

- a) ₹900
- b) ₹1000
- c) ₹1100
- d) ₹1200

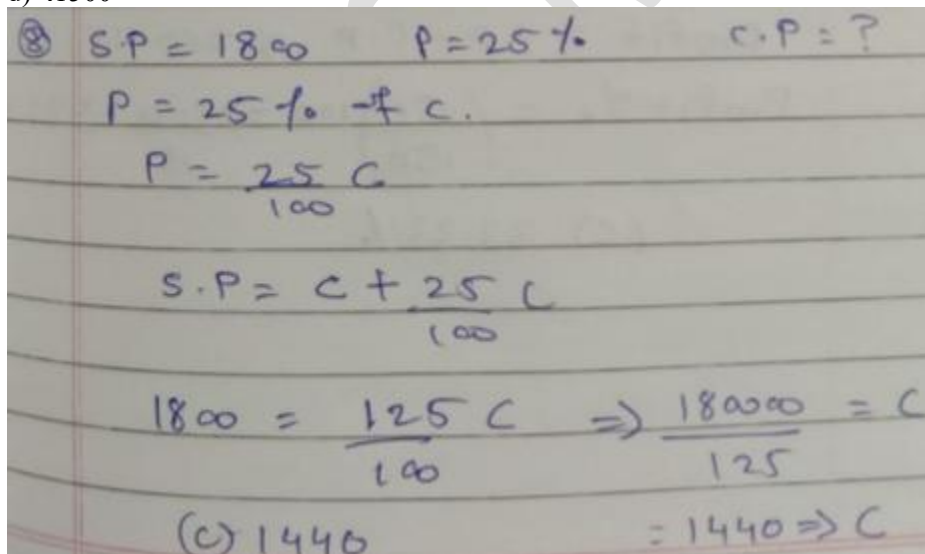


Handwritten solution for the shirt problem:

Q S.P = 800 marked price = ?
discount = 20% of M.P
discount = $\frac{20}{100} M$
 $S.P = M - \frac{20}{100} M$
 $800 = \frac{80M}{100} \Rightarrow \frac{100}{80} \times 800 = M$
 $M = 1000$
(b) 1000

A watch is sold for ₹1800 with a 25% profit. Find the cost price.

- a) ₹1200
 - b) ₹1300
 - c) ₹1400
 - d) ₹1500
- 1440



Handwritten solution for the watch problem:

Q S.P = 1800 P = 25% C.P = ?
P = 25% of C.
 $P = \frac{25}{100} C$
 $S.P = C + \frac{25}{100} C$
 $1800 = \frac{125C}{100} \Rightarrow \frac{180000}{125} = C$
(c) 1440 = 1440 $\Rightarrow C$

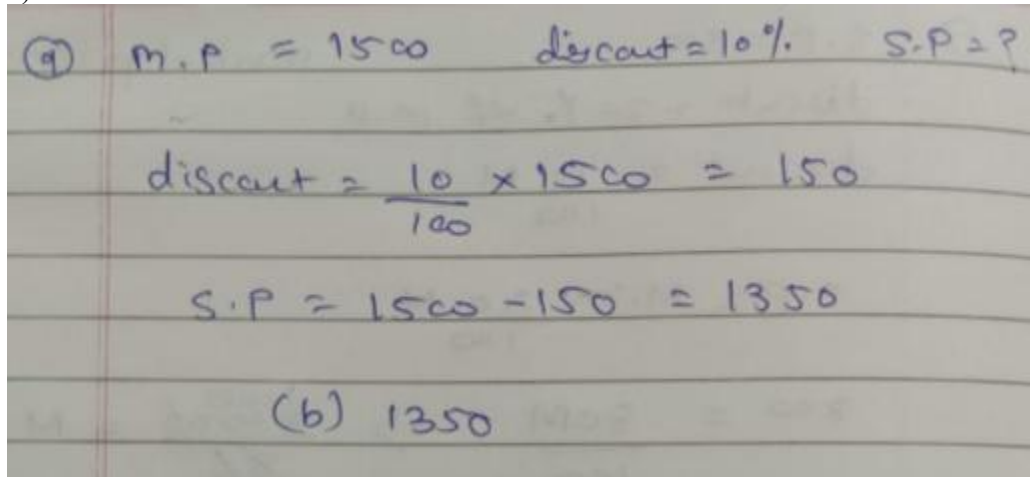
A shopkeeper marks an article at ₹1500 and allows a 10% discount. Find the selling price.

a) ₹1300

b) ₹1350

c) ₹1400

d) ₹1450



⑨ M.P = 1500 discount = 10% S.P = ?

$$\text{discount} = \frac{10}{100} \times 1500 = 150$$
$$\text{S.P} = 1500 - 150 = 1350$$

(b) 1350

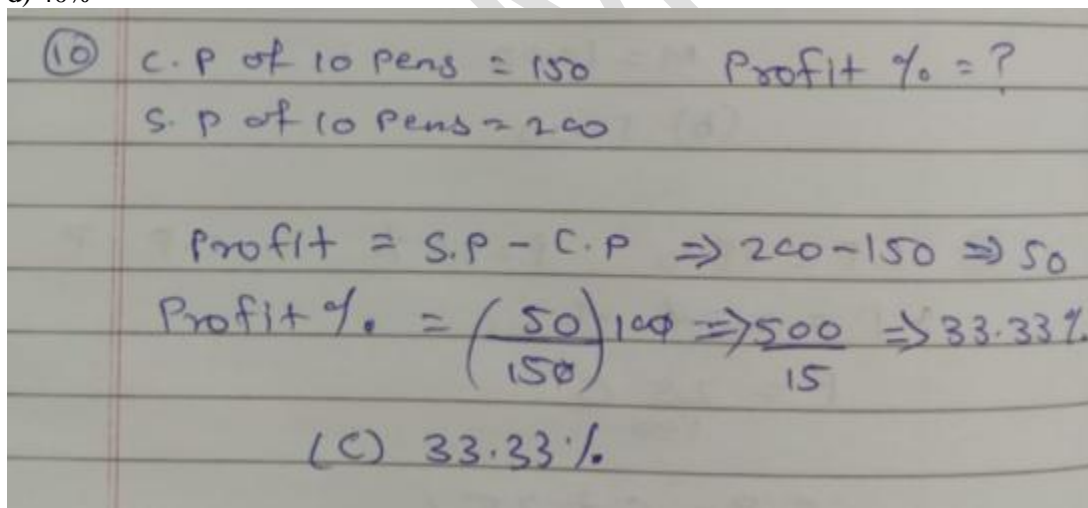
A merchant buys 10 pens for ₹150 and sells them for ₹200. What is his profit percentage?

a) 25%

b) 30%

c) 33.33%

d) 40%



⑩ C.P of 10 pens = 150 Profit % = ?
S.P of 10 pens = 200

$$\text{Profit} = \text{S.P} - \text{C.P} \Rightarrow 200 - 150 \Rightarrow 50$$
$$\text{Profit \%} = \left(\frac{50}{150} \right) 100 \Rightarrow \frac{500}{15} \Rightarrow 33.33\%$$

(C) 33.33%

A trader gives a 15% discount on an item and still makes a profit of 20%. What is the markup percentage?

- a) 30%
- b) 35%
- c) 40%
- d) 45%

⑪ discount = 15% Profit = 20% Markup % = ?

$$S.P = C.P \times \frac{120}{100}$$

$$S.P = M.P \times \frac{85}{100}$$

$$C.P \times \frac{120}{100} = M.P \times \frac{85}{100}$$

$$M.P = \frac{C.P \times 120}{85} = \frac{24}{17} C.P = 1.41176 C.P$$

$$M.P \% = \left(\frac{M.P - C.P}{C.P} \right) 100$$

$$= \left(\frac{1.41176 C.P - C.P}{C.P} \right) 100$$

$$= \left(\frac{0.41176 C.P}{C.P} \right) 100$$

$$M.P \% = 0.41176 \times 100 = 41.18\%$$

(c) 40 %

A table is sold for ₹2250 at a 10% profit. What is the cost price?

- a) ₹1800
- b) ₹1900
- c) ₹2000
- d) ₹2100

⑫ S.P = 2250 Profit = 10% C.P = ?

$$Profit = \frac{10}{100} C$$

$$S.P = C + \frac{10}{100} C$$

$$2250 = 110 C$$

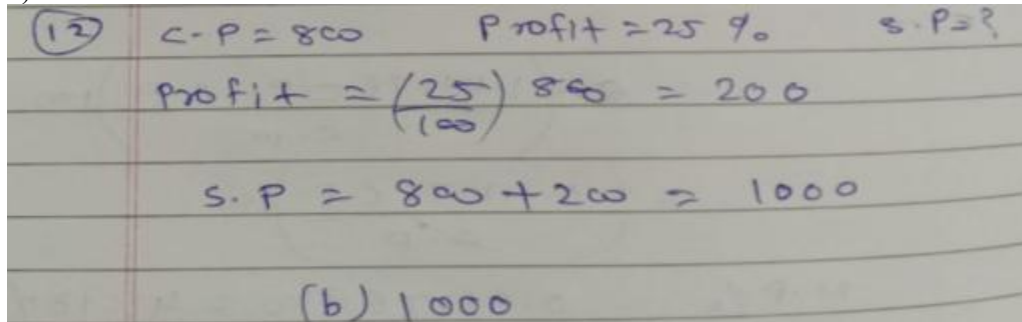
$$\frac{2250}{110} = C$$

$$2045.45 = C$$

(c) 2000

If a shopkeeper wants a profit of 25% on an item that costs ₹800, what should be the selling price?

- a) ₹900
- b) ₹1000
- c) ₹1050
- d) ₹1100



⑫ C.P = 800 Profit = 25% S.P = ?

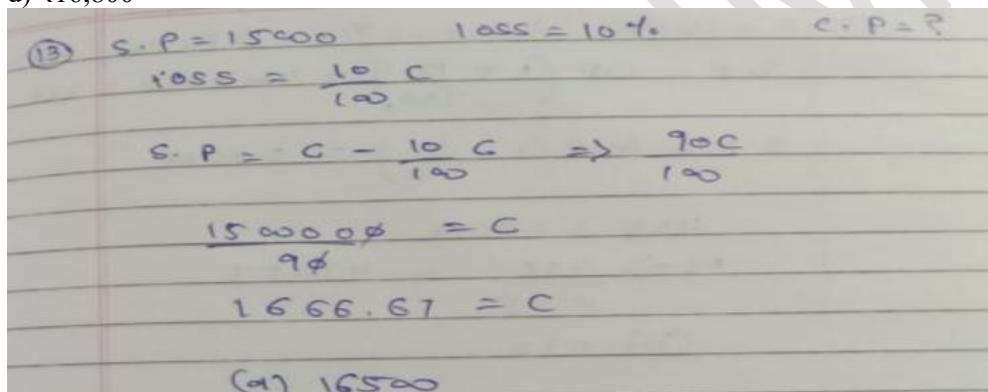
$$\text{Profit} = \left(\frac{25}{100} \right) 800 = 200$$

$$\text{S.P} = 800 + 200 = 1000$$

(b) 1000

A refrigerator is sold for ₹15,000 at a loss of 10%. Find the cost price.

- a) ₹16,500
- b) ₹17,000
- c) ₹16,000
- d) ₹16,800



⑬ S.P = 15000 Loss = 10% C.P = ?

$$\text{Loss} = \frac{10}{100} C$$

$$\text{S.P} = C - \frac{10}{100} C \Rightarrow \frac{90C}{100}$$

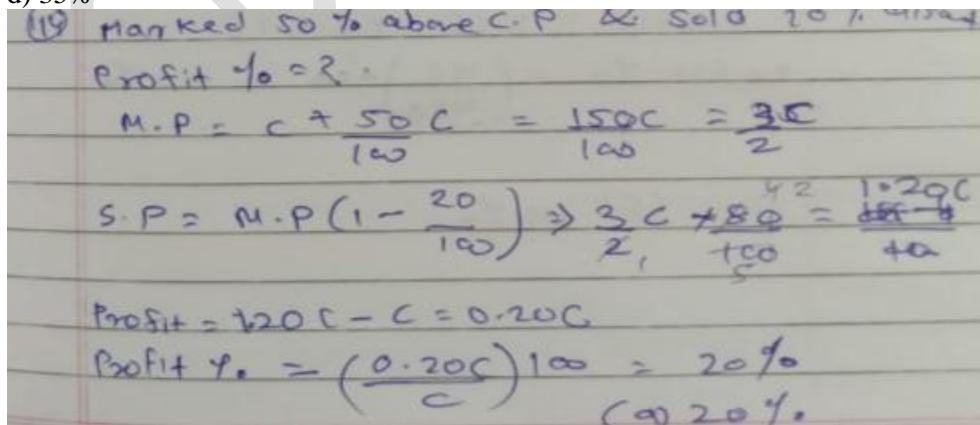
$$\frac{15000 \times 100}{90} = C$$

$$1666.67 = C$$

(a) 16500

An article is marked 50% above the cost price and then sold at a discount of 20%. What is the profit percentage?

- a) 20%
- b) 25%
- c) 30%
- d) 35%



⑭ Marked 50% above C.P & sold 20% discount

Profit % = ?

$$\text{M.P} = C + \frac{50C}{100} = \frac{150C}{100} = \frac{3C}{2}$$

$$\text{S.P} = \text{M.P} \left(1 - \frac{20}{100} \right) \Rightarrow \frac{3C}{2} \times \frac{80}{100} = \frac{120C}{200} = \frac{3C}{5}$$

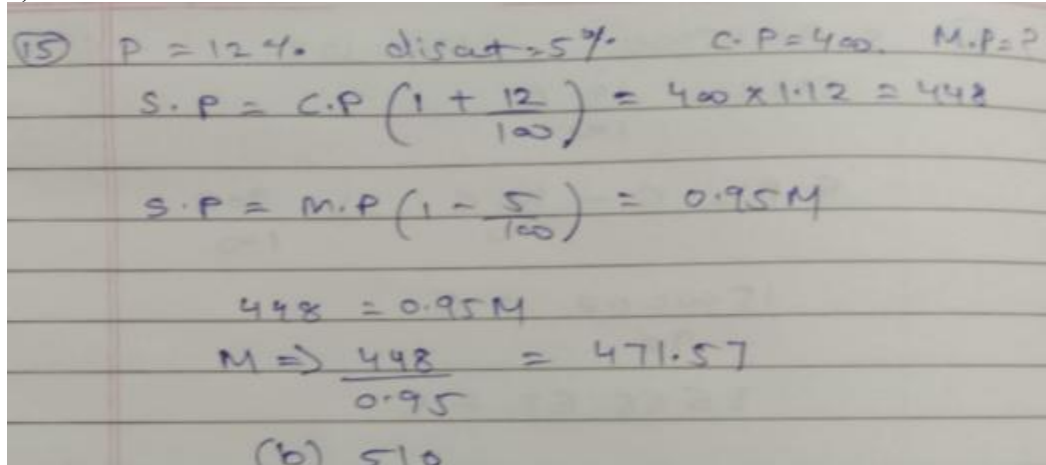
$$\text{Profit} = \frac{3C}{5} - C = 0.20C$$

$$\text{Profit \%} = \left(\frac{0.20C}{C} \right) 100 = 20\%$$

(a) 20%

A dealer makes a profit of 12% after allowing a 5% discount. Find the marked price of an article whose cost price is ₹400.

- a) ₹500
- b) ₹510
- c) ₹520
- d) ₹530



Handwritten solution for Question 15:

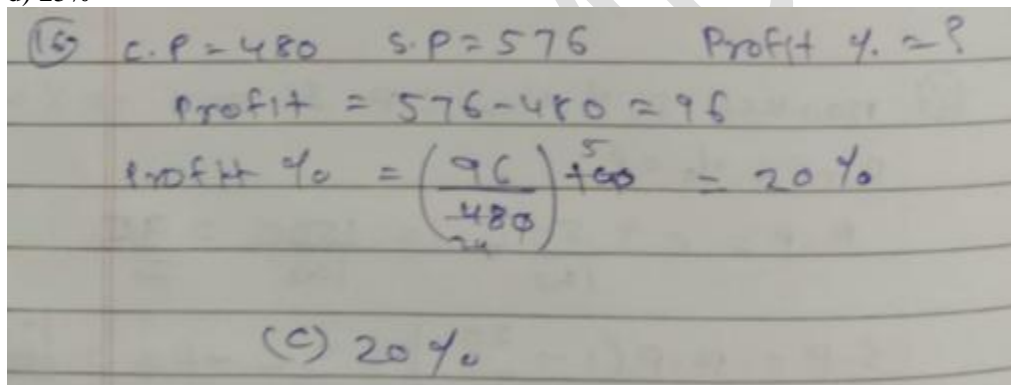
15) $P = 12\%$, discount $= 5\%$, C.P. = 400, M.P. = ?

$$S.P. = C.P. \left(1 + \frac{12}{100}\right) = 400 \times 1.12 = 448$$
$$S.P. = M.P. \left(1 - \frac{5}{100}\right) = 0.95M$$
$$448 = 0.95M$$
$$M \Rightarrow \frac{448}{0.95} = 471.57$$

(b) 510

A book is bought for ₹480 and sold for ₹576. What is the profit percentage?

- a) 15%
- b) 18%
- c) 20%
- d) 25%



Handwritten solution for Question 16:

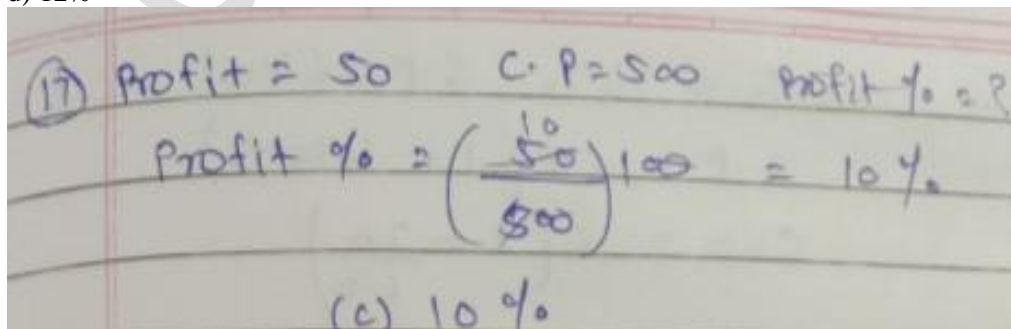
16) C.P. = 480, S.P. = 576, Profit % = ?

$$\text{Profit} = 576 - 480 = 96$$
$$\text{Profit \%} = \left(\frac{96}{480}\right) \times 100 = 20\%$$

(c) 20%

If a profit of ₹50 is made on an article whose cost price is ₹500, what is the profit percentage?

- a) 8%
- b) 9%
- c) 10%
- d) 12%



Handwritten solution for Question 17:

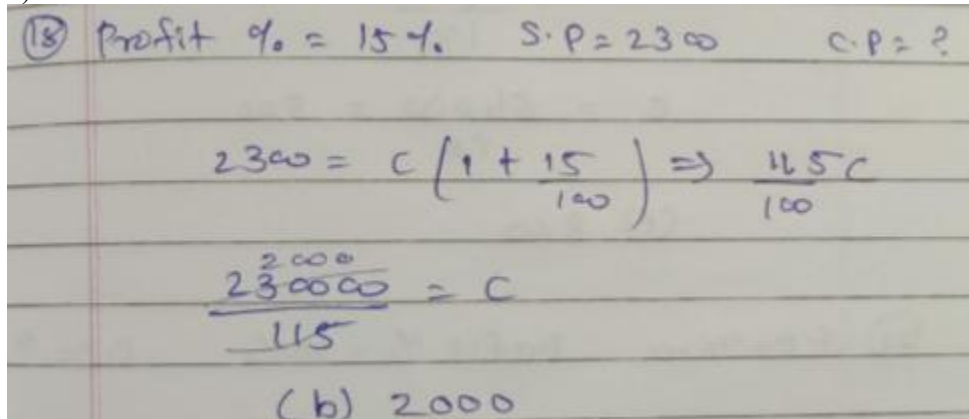
17) Profit = 50, C.P. = 500, Profit % = ?

$$\text{Profit \%} = \left(\frac{50}{500}\right) \times 100 = 10\%$$

(c) 10%

A shopkeeper sells a cycle at a 15% profit and the selling price is ₹2300. Find the cost price.

- a) ₹1900
- b) ₹2000
- c) ₹2100
- d) ₹2200



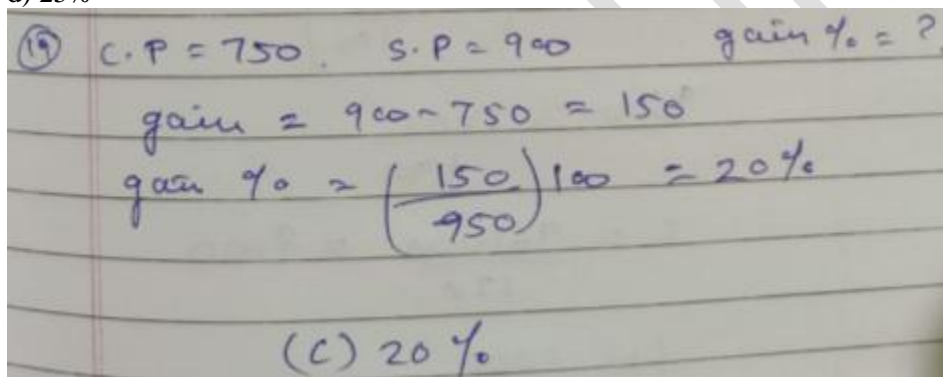
⑮ Profit % = 15% S.P = 2300 C.P = ?

$$2300 = C \left(1 + \frac{15}{100} \right) \Rightarrow \frac{115C}{100}$$
$$\frac{2300 \times 100}{115} = C$$

(b) 2000

The cost price of an article is ₹750 and it is sold at ₹900. What is the gain percentage?

- a) 15%
- b) 18%
- c) 20%
- d) 25%



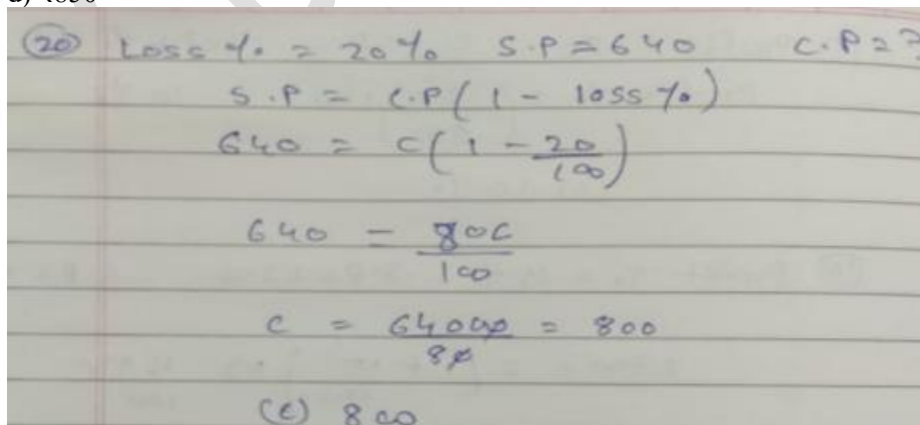
⑯ C.P = 750 S.P = 900 gain % = ?

$$\text{gain} = 900 - 750 = 150$$
$$\text{gain \%} = \left(\frac{150}{750} \right) 100 = 20\%$$

(c) 20%

A man sells an item at 20% loss. If the selling price is ₹640, find the cost price.

- a) ₹700
- b) ₹750
- c) ₹800
- d) ₹850



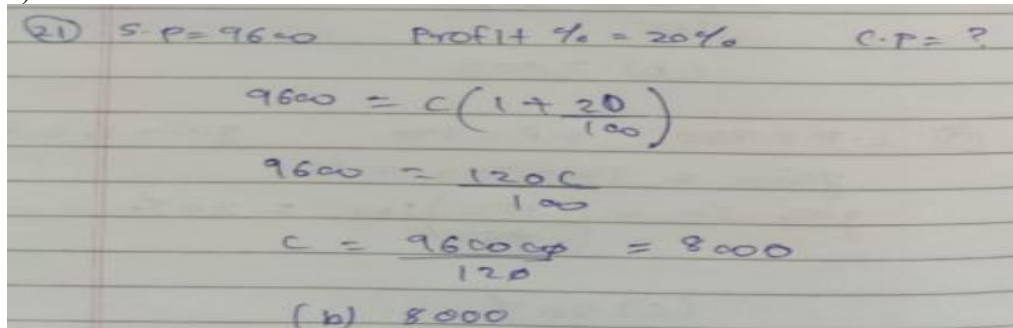
⑳ Loss % = 20% S.P = 640 C.P = ?

$$S.P = C.P \left(1 - \text{loss \%} \right)$$
$$640 = C \left(1 - \frac{20}{100} \right)$$
$$640 = \frac{80C}{100}$$
$$C = \frac{64000}{80} = 800$$

(c) 800

A trader sells a mobile phone for ₹9600 at a profit of 20%. Find the cost price.

- a) ₹7500
- b) ₹8000
- c) ₹8200
- d) ₹8500



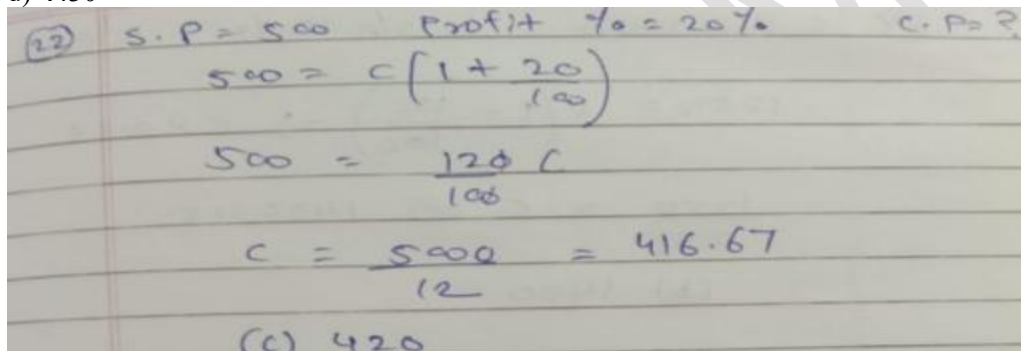
②1) S.P = 9600 Profit % = 20% C.P = ?

$$9600 = C \left(1 + \frac{20}{100} \right)$$
$$9600 = \frac{120C}{100}$$
$$C = \frac{9600 \times 100}{120} = 8000$$

(b) 8000

A shopkeeper sells an item for ₹500 at a 20% profit. What was the cost price?

- a) ₹400
- b) ₹410
- c) ₹420
- d) ₹430



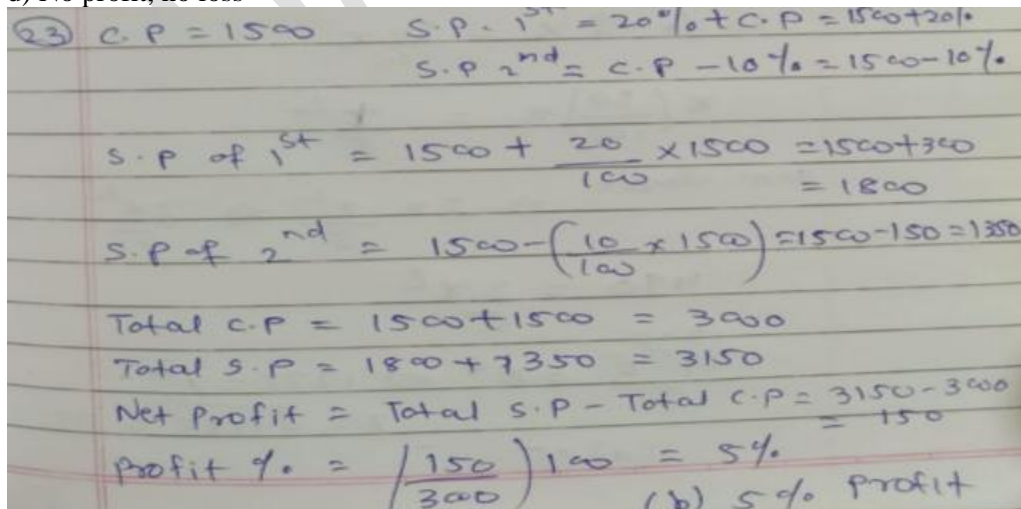
②2) S.P = 500 Profit % = 20% C.P = ?

$$500 = C \left(1 + \frac{20}{100} \right)$$
$$500 = \frac{120C}{100}$$
$$C = \frac{500 \times 100}{120} = 416.67$$

(c) 420

A man buys two articles for ₹1500 each. He sells one at a 20% profit and the other at a 10% loss. Find his net profit/loss.

- a) 5% loss
- b) 5% profit
- c) 10% profit
- d) No profit, no loss



②3) C.P = 1500 S.P 1st = 20% + C.P = 1500 + 20%
S.P 2nd = C.P - 10% = 1500 - 10%

$$\text{S.P of 1}^{\text{st}} = 1500 + \frac{20}{100} \times 1500 = 1500 + 300 = 1800$$
$$\text{S.P of 2}^{\text{nd}} = 1500 - \left(\frac{10}{100} \times 1500 \right) = 1500 - 150 = 1350$$
$$\text{Total C.P} = 1500 + 1500 = 3000$$
$$\text{Total S.P} = 1800 + 1350 = 3150$$
$$\text{Net Profit} = \text{Total S.P} - \text{Total C.P} = 3150 - 3000 = 150$$
$$\text{Profit \%} = \left(\frac{150}{300} \right) 100 = 5\%$$

(b) 5% Profit

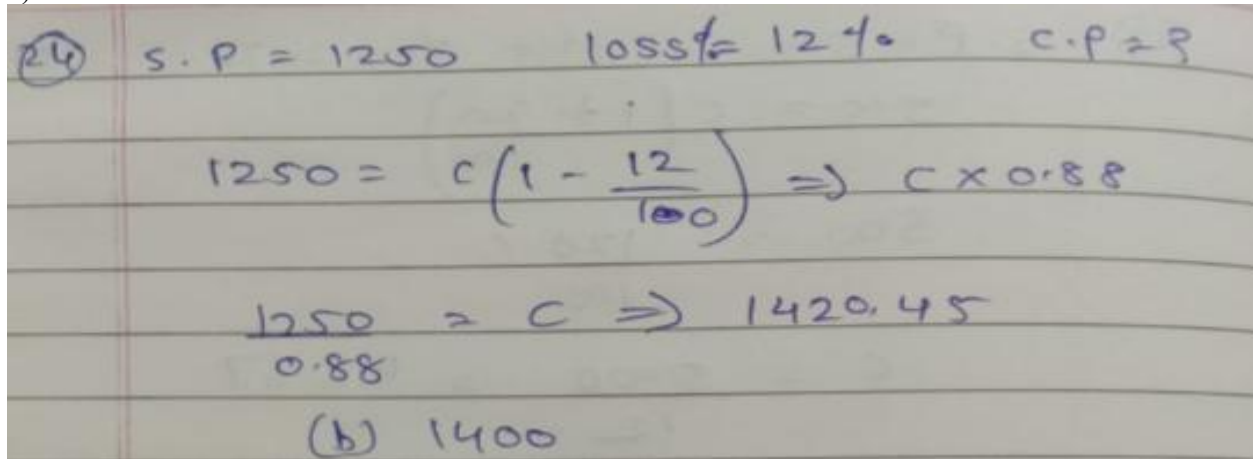
A trader sells an article at ₹1250 with a loss of 12%. Find the cost price.

a) ₹1300

b) ₹1400

c) ₹1450

d) ₹1500



Handwritten solution for question 24:

$$\textcircled{24} \quad \text{S.P} = 1250 \quad \text{loss} = 12\% \quad \text{C.P} = ?$$
$$1250 = C \left(1 - \frac{12}{100}\right) \Rightarrow C \times 0.88$$
$$\frac{1250}{0.88} = C \Rightarrow 1420.45$$

(b) 1400

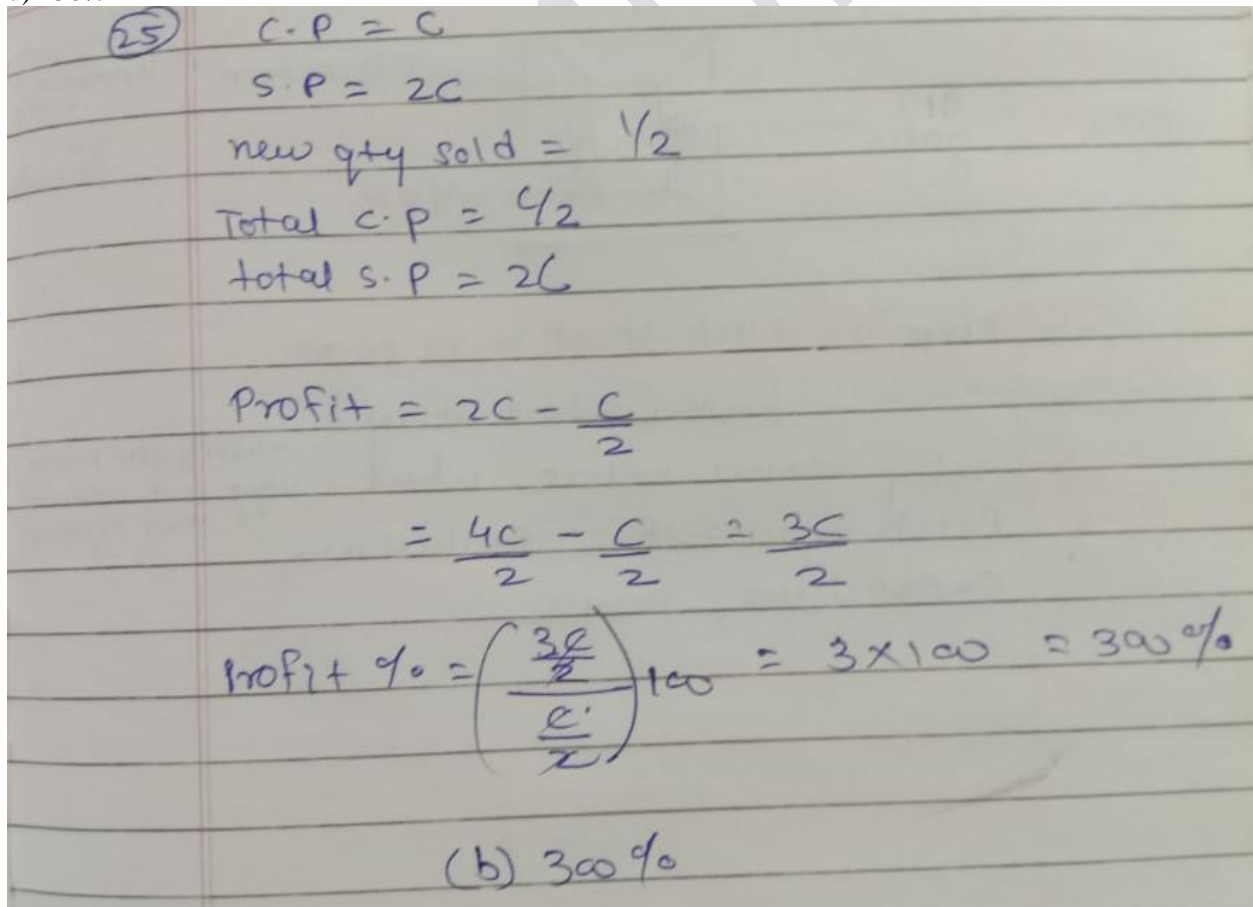
Find the profit percent earned after selling an article at a doubled rate for half quantity.

a) 200%

b) 300%

c) 400%

d) 450%



Handwritten solution for question 25:

$$\textcircled{25} \quad \text{C.P} = C$$
$$\text{S.P} = 2C$$
$$\text{new qty sold} = \frac{1}{2}$$
$$\text{Total C.P} = \frac{C}{2}$$
$$\text{total S.P} = 2C$$
$$\text{Profit} = 2C - \frac{C}{2}$$
$$= \frac{4C}{2} - \frac{C}{2} = \frac{3C}{2}$$
$$\text{Profit \%} = \left(\frac{\frac{3C}{2}}{\frac{C}{2}} \right) 100 = 3 \times 100 = 300\%$$

(b) 300%

A number is multiplied by 20% of itself, the sum is then doubled. If the final value is 490, find the number.

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

26) number be x .

$$20\% \text{ of } x = \frac{20x}{100}$$

$$x \left(\frac{20}{100} \right) x = \frac{x^2}{5}$$

sum double $\Rightarrow 2 \times \frac{x^2}{5} \Rightarrow \frac{2x^2}{5}$

$$490 = \frac{2x^2}{5}$$

$$\frac{1225}{2} = x^2 \Rightarrow 1225 = x^2$$

$$x = \sqrt{1225} = 35$$

(a) 35

An article is sold at 20% less than its cost price. If the selling cost is 50 rupees and the selling cost is 5% of the selling price, find the loss. (Selling cost here is the expense occurred to sell the article, it is levied on the seller)

- a) 150 rupees
- b) 200 rupees
- c) 250 rupees
- d) 300 rupees

27) sold 20% less

S.C = 50 & 5% of S.P

S.P is 5% more

Selling cost = 5% of S.P

$$50 = \left(\frac{5}{100} \right) S.P$$

$$S.P = \frac{5000}{5} = 1000$$

S.P = 80% of C.P

$$1000 = \frac{80}{100} C.P$$

$$C.P \Rightarrow \frac{100000}{80} = 1250$$

Loss = C.P - S.P

$$= 1250 - 1000$$

$$= 250$$

(c) 250

If the seller sells half of his goods at 20% loss and the rest of his goods at 50% profit, find the profit percentage on the entire transaction.

- a) 12% profit
- b) 15% profit
- c) 20% profit
- d) 25% profit

Q8) good sold 20% loss & other at 50% profit Profit % = ?

$$\begin{aligned} \text{C.P of first} &= \frac{C}{2} \\ \text{C.P of second} &= \frac{C}{2} \\ \text{S.P of first} &= \frac{C}{2} \left(1 - \frac{20}{100}\right) = \frac{80C}{200} = \frac{4C}{10} = \frac{2C}{5} \\ \text{S.P of second} &= \frac{C}{2} \left(1 + \frac{50}{100}\right) = \frac{150C}{200} = \frac{3C}{4} \\ \text{Total S.P} &= \frac{2C}{5} + \frac{3C}{4} = 0.4C + 0.75C = 1.15C \\ \text{Profit} &= \text{Total S.P} - \text{Total C.P} = 1.15C - C = 0.15C \\ \text{Profit \%} &= \left(\frac{0.15C}{C}\right) 100 = 15\% \end{aligned}$$

(b) 15%

The expense of selling an article, worth rupees 6000, is 50 rupees. If the selling expenses is 10% more than the loss, find the loss percentage.

- a) 7.5% according to 500 rupees
- b) 8.33%
- c) 9.09%
- d) 10%

Q9) C.P = 6000 Selling expense = 50
Selling expense 10% more than loss. loss % = ?

$$\begin{aligned} \text{Selling expense} &= L + 10\%L = 1.10L \\ 1.10L &= 50 \\ L &= \frac{50}{1.10} = 45.45 \\ \text{loss \%} &= \left(\frac{45.45}{6000}\right) 100 = 0.7575\% \end{aligned}$$

(a) 7.5%

The profit on selling 1 article is equal to the cost price of 2 such articles. Find the profit percentage.

- a) 100%
- b) 150%
- c) 200%
- d) 225%

③ Profit on selling 1 =
 $\text{Profit} = S.P - C.P \Rightarrow S - C$
 $\text{Profit} = 2C$
 $S - C = 2C \Rightarrow S = 3C$
 $\text{Profit \%} = \left(\frac{2C}{C} \right) 100 = 200\%$
(C) = 200%

The initial price of an article is decreased by 20% but the selling price remains constant. If the initial profit was 500 rupees, find the new profit. It is known the initial profit percent was 20% of cost price

- a) 800 rupees
- b) 900 rupees
- c) 1000 rupees
- d) 1250 rupees

③ initial price \downarrow 20% $S.P = \text{constant}$
initial Profit = 500 Profit % = 20% of C.P
Initial Profit = $S - C = 500$
Initial Profit % = 20% of C = $0.20C$
 $S - C = 0.20C$
 $S = 1.20C$
New C.P = $C - 20\%C \Rightarrow 0.80C$
New Profit = $S - \text{new C.P} \Rightarrow 1.20C - 0.80C$
 $= 0.40C$
new Profit $\Rightarrow 0.20C = 500$
 $C = \frac{500 \times 100}{20} = 2500$
New Profit = $0.40C$
 $= 0.40 \times 2500 = 1000$
(C) 1000

The price of a pair of slippers is decreased by 10% and the selling price is constant. If the initial profit percentage was equal to 25%, find the new profit percentage.

a) 35%

b) 38.8%

c) 40%

d) 42%

32) Price of pair ↓ 10% S.P = constant
 initial Profit % = 25%
 $\text{Profit} = S - C$
 $\text{Profit \%} = \left(\frac{S - C}{C} \right) 100 = 25$

$$\frac{S - C}{C} = \frac{25}{100} = 0.25$$

 $S - C = 0.25C$
 $S = 1.25C$
 new C.P = $0.90C$
 new Profit = $S - \text{new C.P}$
 $\Rightarrow 1.25C - 0.90C = 0.35C$
 $\text{new Profit \%} = \frac{0.35C \times 100}{0.90C} = 38.8\%$
 (b) 38.8%

The cost price of an article is doubled, and the selling price is made half. If the initial profit percentage was 500%, find the profit percentage now.

a) 25%

b) 50%

c) 100%

d) 250%

33) initial Profit % = 500%
 C.P is double & S.P is half
 $\text{Initial Profit} = S - C$
 $\text{Initial Profit \%} = \left(\frac{S - C}{C} \right) 100 = 500\%$

$$\frac{S - C}{C} = \frac{500}{100} = 5$$

 $S - C = 5C \Rightarrow S = 6C$
 new C.P = $2C$
 new S.P = $S/2 = \frac{6C}{2} = 3C$
 new Profit = $3C - 2C = C$
 $\text{new Profit \%} = \left(\frac{\text{new Profit}}{\text{new C.P}} \right) 100$
 $= \left(\frac{C}{2C} \right) 100 = 50\%$
 (b) 50%

A shopkeeper increases the price of sugar by 25%. By how much a family should decrease their consumption to maintain the regular price?

- a) 25% increase
- b) 25% decrease
- c) 20% increase
- d) 20% decrease

(34) new price = $P + 25\% \text{ of } P$
 $= P + \left(\frac{25}{100}\right)P \Rightarrow \frac{125P}{100}$
 initial consmp = Q now it is Q'
 Total = $\frac{125}{100} P Q'$
 maintain $P \times Q = \frac{125}{100} P Q'$
 $Q = \frac{125}{100} Q' \Rightarrow Q = 1.25 Q'$
 $Q' = \frac{100}{125} Q = 0.8 Q$
 $Q - Q' = Q - 0.8 Q = 0.2 Q$
 $\frac{Q - Q'}{Q} = 0.2$
 decrease = 20%
 (d) 20%

The profit on selling 15 articles is equal to the cost price of 2 articles. Find the profit percentage.

- a) 11.11%
- b) 12.22%
- c) 13.33%
- d) 14.44%

(35) Profit 15 articles = C.P of 2 articles
 Profit % = P
 $15S - 15C = 2C$
 $S - C = \frac{2C}{15}$ — 1 article
 Profit % = $\left(\frac{\frac{2C}{15}}{C}\right) 100 \Rightarrow \left(\frac{2}{15}\right) 100 = 13.33\%$
 (c) 13.33%

40% of a number a is 50% of a number b, find the value of a : b.

- a) 2 : 3
- b) 1 : 4
- c) 1 : 5
- d) 3 : 5

5:4

(36) 40% of a = 50% of b
 $\frac{40}{100} a = \frac{50}{100} b$
 $4a = 5b$
 $\frac{a}{b} = \frac{5}{4}$
 $a : b = 5 : 4$

The marked price of an article is 5 times the discount. Find the selling price in terms of discount.

- a) 2.5 times the discount
- b) 3.5 times the discount
- c) 4 times the discount
- d) 5 times the discount

(37) $M.P. = 5 \text{ times discount.}$
 discount D
 $M.P. = M$
 $S.P. = S$
 $M = 5D$
 $S = M - D$
 $S = 5D - D$
 $S = 4D$
 $S.P. \text{ is } 4 \text{ times of discount.}$
 (c) 4 times the discount

Solve for x; $x = 20\%$ of 12% of 120% of 6250.

- a) 270
- b) 225
- c) 200
- d) 180

(38) $x = 20\% \text{ of } 12\% \text{ of } 120\% \text{ of } 6250$
 $120\% \text{ of } 6250 = \frac{120}{100} \times 6250 = 1.2 \times 6250 = 7500$
 $12\% \text{ of } 7500 = \frac{12}{100} \times 7500 = 0.12 \times 7500 = 900$
 $20\% \text{ of } 900 = \frac{20}{100} \times 900 = 0.2 \times 900 = 180$
 $x = 180$

A shopkeeper purchased an article for 500 rupees. At what price should he mark the article to allow a discount of 35% and still earn 100% profit.

- a) 1539 rupees
- b) 1593 rupees
- c) 1555 rupees
- d) 1599 rupees

(39) $C.P. = 500$
 for 100% Profit $S.P. =$
 $S.P. = C.P. + 100\% \text{ of } C.P. = 500 + 500 = 1000$
 $S.P. = M.P. - 35\% \text{ of } M.P.$
 $M - 0.35M = 0.65M$
 $0.65M = 1000$
 $M = \frac{1000}{0.65} = 1538.46$
 $M = 1539$
 (a) 1539

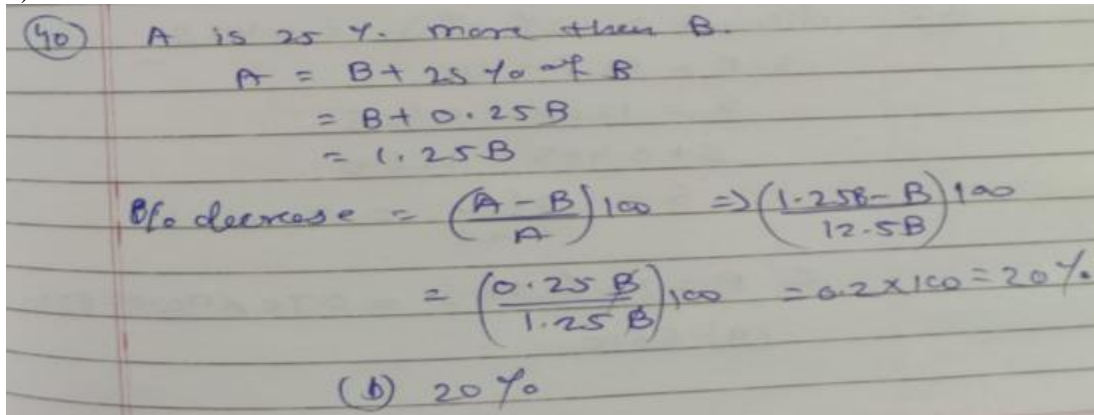
A is 25% more than b. By what percent is b smaller than a?

a) 13.33%

b) 20%

c) 22%

d) 30%



40) A is 25% more than B.
 $A = B + 25\% \text{ of } B$
 $= B + 0.25B$
 $= 1.25B$
% decrease = $\left(\frac{A-B}{A}\right)100 \Rightarrow \left(\frac{1.25B-B}{1.25B}\right)100$
 $= \left(\frac{0.25B}{1.25B}\right)100 = 0.2 \times 100 = 20\%$
(b) 20%

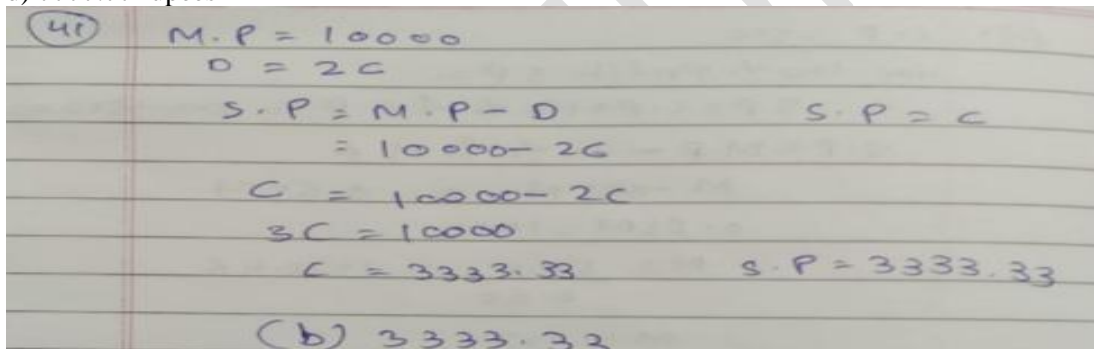
If the discount is twice the cost price and the marked price is 10000, find the selling price. No profit or loss was made.

a) 1111.11 rupees

b) 3333.33 rupees

c) 5555.55 rupees

d) 7777.77 rupees



41) M.P = 10000
 $D = 2C$
 $S.P = M.P - D$
 $= 10000 - 2C$
 $C = 10000 - 2C$
 $3C = 10000$
 $C = 3333.33$
 $S.P = 3333.33$
(b) 3333.33

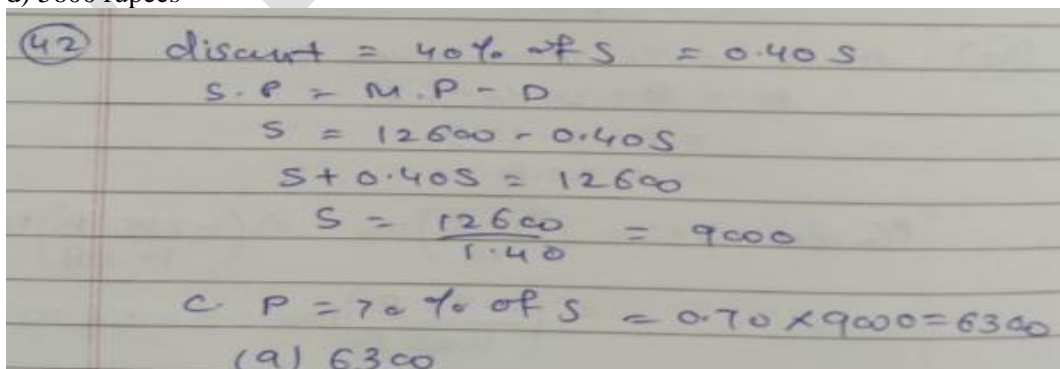
The cost price of an article is 30% less than the selling price. The discount is 40% of the selling price. If the marked price is 12600 rupees, find the cost price.

a) 6300 rupees

b) 10000 rupees

c) 8400 rupees

d) 5600 rupees



42) discount = 40% of S = 0.40S
 $S.P = M.P - D$
 $S = 12600 - 0.40S$
 $S + 0.40S = 12600$
 $S = \frac{12600}{1.40} = 9000$
 $C.P = 70\% \text{ of } S = 0.70 \times 9000 = 6300$
(a) 6300

If 33.33% of a number is 20 more than 16.66% of the number, find 120% of the number.

- a) 121
- b) 139
- c) 144
- d) 169

43) 33.33% of number is 20 more than 16.66% of number
 $33.33\% = \frac{1}{3}$ number = x
 $16.66\% = \frac{1}{6}$
 $\frac{1}{3}x = \frac{1}{6}x + 20$
 $\frac{2x}{6} = 120 + x$
 $x = 120$
 $120\% \text{ of } x = 1.20 \times 120 = 144$
 (c) 144

Find the number if, 20% of a number is 20 more than 20% of another number 20.

- a) 100
- b) 110
- c) 120
- d) 125

44) 20% of $x = 20\% \text{ of } 20 + 20$
 $0.20x = (0.20)20 + 20$
 $0.20x = 4 + 20$
 $x = 24 / 0.20 = 120$
 (c) 120

A number if doubled, then tripled and this process is repeated twice. What is the percentage change?

- a) 3500%
- b) 3000%
- c) 2500%
- d) 1750%

45) number = x
 1^{st} doubling = $2x$
 1^{st} tripling = $3 \times 2x = 6x$
 2^{nd} doubling = $2 \times 6x = 12x$
 2^{nd} tripling = $3 \times 12x = 36x$
 $\% \text{ change} = \left(\frac{\text{final} - \text{original}}{\text{original}} \right) 100$
 $= \left(\frac{36x - x}{x} \right) 100$
 $= \left(\frac{35x}{x} \right) 100$
 $\% \text{ change} = 35 \times 100 = 3500\%$

By how much should 234 be reduced to make it 65% of itself?

- a) 80.9
- b) 81.9
- c) 82.9
- d) 83.9

(46) $65\% \text{ of } 234 = 0.65 \times 234 = 152.1$
 $234 - 152.1 = 81.9$
number reduce by 81.9 to make 65%.
(b) 81.9

What is 90% of 900% of 9000% of 9?

- a) 7290
- b) 729
- c) 6156
- d) 6561

(47) 90% of 900% of 9000% of 9
 $0.90 \times 9.00 \times 90.00 \times 9$
 $0.90 \times 9.00 = 8.10$
 $8.10 \times 90.00 = 729$
 $729 \times 9 = 6561$
(d) 6561

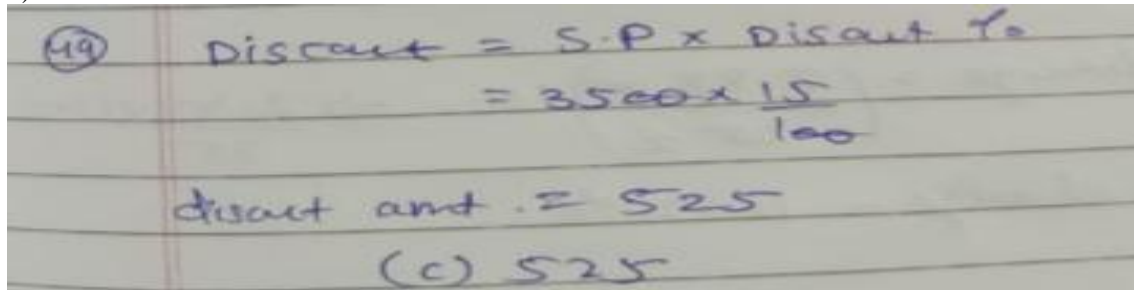
Out of 25 employees of a company, 13 are set of and the salaries of rest of the employees is increased by 24%. Find the total increase of decrease in company's expenditure.

- a) 40.48% decreased
- b) 40.44% increased
- c) 44.48% decreased
- d) 44.84% increased

(48) Total emp = 25 laid off = 13 remain = 12
sal. ↑ = 24% initial sal = S
initial total sal = 25S of 25 emp.
after change sal of 12 emp.
new sal = $S + 0.24S = 1.24S$
new total sal = $12 \times 1.24S = 14.88S$
change = $14.88S - 25S = -10.12S$
% change = $\left(\frac{-10.12S}{25S} \right) 100 = -40.48\%$
40.48% decreased.
(a) 40.48% decreased.

Zayn bought tickets to concert for Rs. 3500. He wants to sell them at a discount of 15%. What is the discount in Rs.?

- a) Rs.1525
- b) Rs.350
- c) Rs.525
- d) Rs.1050



Handwritten solution on lined paper:

$$\text{Discount} = S.P \times \frac{\text{Discount \%}}{100}$$
$$= 3500 \times \frac{15}{100}$$

discount amt. = 525

(c) 525