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Q.1) If an article is sold at a loss of 25% & the selling price is ₹450, C.P = ?
a) 500 b) ₹550 c) ₹600 d) ₹650

→ Loss = 25% S.P = ₹450, C.P = ?
~~i.e 75% of C.P of article = ₹450~~
~~75% of CP of article = ₹450~~

Using formula

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

$$= \frac{450 \times 100}{100 - 25} = \frac{450 \times 100}{75}$$

$$= 600$$

Method 2

Selling price is 75% of cost price
(100 - 25) = 75%
S.P = 450 — given
SP = 75% of C.P

$$450 = \frac{75}{100} \times C.P$$

$$C.P. = \frac{450 \times 100}{75} = 600$$

Method 3 : ratio method
loss = 25%, it means the C.P & S.P are in the ratio:

$$\frac{CP}{SP} = \frac{100}{100-25} = \frac{100}{75} = \frac{4}{3}$$

S.P = 450

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

$$CP = \frac{4}{3} \times 450$$

CP = 600

Q.2) A person bought an item for ₹1200 & sold it for ₹1440, what is the profit percentage?

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

→ using formulae

S.P = 1440 C.P = 1200

profit = SP - C.P = 1440 - 1200 = 240

$$\text{profit \%} = \left(\frac{\text{profit}}{CP} \times 100\right)\%$$

$$= \left(\frac{240^{20}}{1200_{1}} \times 100\right)\%$$

$$= 20\%$$

OR

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

$$= 20\%$$

using ratio

$$\frac{SP}{CP} = \frac{144^{12}\cancel{0}}{120^{10}\cancel{0}} = \frac{6}{5}$$

→ 6:5 indicates S.P is 6 parts, while C.P is 5 parts

→ this means the increase from 5 to 6 parts is the profit

$$\text{profit \%} = \frac{\text{Increase in value}}{\text{original value}} \times 100$$

$$= \frac{6-5}{5} \times 100 = \frac{1}{5} \times 100 = 20\%$$

Q.3) If the selling price of an item is ₹960 & cost price is ₹800, what is the profit percentage?

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

a) 15% b) 20% c) 25% d) 30%

→ S.P = ₹960, C.P = ₹800

$$\text{profit\%} = \left(\frac{S.P - C.P}{C.P}\right) \times 100$$

$$= \frac{960 - 800}{800} \times 100$$

$$= \frac{160}{8} = 20\%$$

Q.4) A shopkeeper sells a pan at ₹1200 with a loss of 20%. Find the C.P

a) ₹1400 b) ₹1500 c) ₹1600 d) ₹1700

→ S.P = 1200, loss = 20% C.P = ?

Method 1

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

$$= \frac{1200 \times 100}{100 - 20}$$

$$= \frac{1200 \times 100}{80} = 1500$$

Method 2

Selling price is 80% of C.P

(100 - 20) = 80%

S.P = 1200

SP = 80% of given C.P

$$1200 = \frac{80}{100} \times C.P$$

$$CP = \frac{1200 \times 100}{80}$$

$$\boxed{C.P = 1500}$$

Q.5) If the C.P of an article is ₹400 & it is sold for ₹480. What is profit percentage?
a) 15% b) 20% c) 25% d) 30%

→ C.P = ₹400, SP = ₹480

$$\text{profit \%} = \left(\frac{480-400}{400} \times 100\right)$$

$$= \frac{80}{4} = \boxed{20\%}$$

Q.6) A traders gives two successive discount of 20% & 10%. Find the net discount percentage.
a) 28% b) 30% c) 32% d) 36%

→ A = 20% B = 10%

Method I

$$\text{Net Discount \%} = A + B - \left(\frac{A \times B}{100}\right)$$

$$= 20 + 10 - \left(\frac{20 \times 10}{100}\right)$$

$$= 30 - 2$$

$$= 28\%$$

Method - II

Let original price = 100

(i) 20% discount new price becomes
= 100 − 20 = 80

(ii) Now apply 10% discount on new price (80₹)
= 80 − 8 = 72₹

Total discount = 100 − 72 = 28

Net discount = $\frac{28}{100} \times 100 = 28\%$

Q.7) A man sold a Shirt for ₹800 after giving a 20% discount find the marked price.

a) ₹900 b) ₹1000 c) ₹1100 d) ₹1200

→ Using formula

Selling price = Marked price $\times \left(1 - \frac{\text{Discount\%}}{100}\right)$

S.P = 800%

Discount = 20%

$800 = M.P \times \left(1 - \frac{20}{100}\right)$

$MP = \frac{800}{\left(1 - \frac{2}{10}\right)}$

$MP = \frac{800}{\left(1 - \frac{1}{5}\right)} = \frac{200}{800} \times 5$

$= 1000$

Method 2

Recognize that after a 20% discount the S.P is 80% of the M.P

so, we can write

$$S.P = 80\% \text{ of } M.P$$

$$MP = \frac{800}{0.80} = 1000$$

Q.8) A watch is sold for ₹ 1800 with a 25% profit. Find the cost price

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

→ Method 1

Profit % = 25%

S.P = 1800

$$S.P = CP \times \left(1 + \frac{\text{Profit \%}}{100}\right)$$

$$1800 = C.P \times \left(1 + \frac{25}{100}\right)$$

$$1800 = CP \times \left(\frac{5}{4}\right)$$

$$CP = \frac{1800 \times 4}{5}$$

$$CP = 1440$$

₹1440

Method 2

S.P = 125% C.P.

$$\frac{SP}{CP} = \frac{125}{100}$$

$$\frac{1800}{CP} = \frac{125}{100}$$

$$CP = \frac{1800 \times 100}{125}$$

$$\boxed{CP = 1440} \approx 1400$$

Q.9) A shopkeeper marks an article at ₹1500 and allows a 10% discount. Find the S.P

a) 1300 b) 1350 c) ₹1400 d) ₹1450

→ M.P = 1500, discount = 10%, S.P = ?

$$\text{selling price} = M.P \times \left(1 - \frac{\text{Discount}}{100}\right)$$

$$S.P = 1500 \times \left(1 - \frac{10}{100}\right)$$

$$= 1500 \times \left(\frac{9}{10}\right)$$

$$= 1350$$

Q.10 A merchant buys 10 pens for ₹150 & sells them for ₹200. What is profit percentage

a) 25% b) 30% c) 33.33% d) 40%

→ $\text{Profit \%} = \frac{200 - 150}{150} \times 100$

$= \frac{50}{150} \times 100$

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

$= \boxed{33.33\%}$

Q.11) A trader gives a 15% discount on an item & still makes a profit of 20%. What is the markup percentage?

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

→ **Method I**

Discount = 15% profit = 20%

$\text{Markup \%} = \frac{\text{Profit \%} + \text{Discount \%}}{1 - \frac{\text{Discount \%}}{100}}$

$= \frac{20 + 15}{1 - \frac{15}{100}} = 41.13\%$ Ans

**Method II**

Q.12) A table is sold for ₹2250 at a 10% profit. What is C.P.
a) ₹1800 b) ₹1900 c) ₹2000 d) ₹2100

→ S.P = 2250, C.P = ?
Profit = 10%

Using formula

$$SP = CP \times \left(1 + \frac{\text{Profit \%}}{100}\right)$$

$$CP = \frac{SP}{1 + \frac{\text{Profit \%}}{100}}$$

$$= \frac{2250}{1 + \frac{10}{100}}$$

$$= \frac{2250 \times 10}{11} = 2045.45$$

≈ 2000

Q.13) If a shopkeeper wants a profit of 25% on an item that cost ₹800, what should be the S.P?
a) 900 b) 1000 c) 1050 d) 1100

→ $SP = CP \times \left(1 + \frac{\text{Profit \%}}{100}\right)$

$= 800 \times \left(1 + \frac{25}{100}\right)$

$= \frac{200}{800} \times \left(\frac{5}{4}\right) = 1000$

Q.14) A refrigerator is sold for ₹15000 at a loss of 10%. Find the cost price.

→ a) ₹16,500 b) ₹17000 c) ₹16000 d) ₹14000

→ $SP = CP\left(1 - \frac{\text{Loss\%}}{100}\right)$

$15000 = CP\left(1 - \frac{10}{100}\right)$

$CP = \frac{15000}{\left(1 - \frac{1}{10}\right)}$

$CP = \frac{15000}{\frac{9}{10}}$

$CP = \frac{15000 \times 10}{9}$

$CP = 16,666.67$

≈ 16000

Q.15) An article is marked 50% above the cost price & then sold at a discount of 20%. What is the Profit percentage?

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

→

→ MP = 50% above the CP
Discount = 20%
Let C.P = 100

∴ MP = 100 + 50% of 100 = 100 + 50 = ₹150

$MP = CP \times \left(1 + \frac{5\%}{10\%}\right) = 100 \times 1.50 = ₹150$

$SP = MP \times \left(1 - \frac{20}{100}\right) = ₹120$

$\text{profit\%} \Rightarrow \left(\frac{120 - 100}{\text{Cost price}} \times 100\right)$

$= \left(\frac{20}{100} \times 100\right) = 20\%$

Doubt

(Q.16) A dealer makes a profit of 12% after allowing a 5% discount. Find the Marked price of an article whose C.P is ₹400
a) ₹500 b) ₹510 c) ₹520 d) ₹530

→ C.P = ₹400
% profit = 12%
% Discount = 5%

$SP = CP \times \left(1 + \frac{\text{profit\%}}{100}\right)$

$= 400 \times \left(1 + \frac{12}{100}\right)$

$SP = 400 \left(\frac{112}{100}\right) = 400 \times 1.12 = 448$

$$SP = MP \times \left(1 - \frac{\text{Discount } \%}{100}\right)$$

$$448 = MP(1 - 0.05) = MP \times 0.95$$

$$= \frac{448}{0.95} = 471.58$$

Q.17) A book is bought for ₹480 & sold for ₹576. What is the profit %

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

→

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

$$= \frac{96}{480} \times 100 = 20\%$$

Q.18) 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%

$$\text{Profit \%} = \left(\frac{\text{Profit}}{CP} \times 100\right)$$

$$= \left(\frac{50}{500} \times 100\right)$$

$$= 10\%$$

Q.19) A shopkeeper sells a cycle at a 15% profit & the selling price is ₹ 2300. Find the C.P.

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

→ Profit = 15%

S.P = 2300

C.P = ?

$$SP = CP\left(1 + \frac{\text{Profit }\%}{100}\right)$$

$$2300 = CP\left(1 + \frac{15}{100}\right)$$

$$CP = \frac{2300}{\left(1 + \frac{15}{100}\right)}$$

$$CP = \frac{2300 \times 100}{115}$$

$$= 2000$$

Q.20) the cost price of an article is ₹750 & it is sold at ₹900. What is the gain percentage?

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

→ CP = 750, SP = 900, gain% = ?

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

$$= \frac{900 - 750}{750} \times 100$$

$$= \frac{150}{75} \times 10 = 20\%$$

Q.21) A man sells an item at 20% loss. If the selling price is ₹640, find the CP.

a) 700 b) 750 c) ₹800 d) ₹850

→ loss% = 20%, SP = ₹640

$$SP = CP\left(1 - \frac{\text{loss}\%}{100}\right)$$

$$640 = CP\left(1 - \frac{20}{100}\right)$$

$$640 = CP\left(\frac{80}{100}\right)$$

$$CP = \frac{640 \times 5}{4} = 800$$

Q.22) A trader sells a mobile phone for ₹ 9600 at a profit of 20% find the CP
a) 7500 b) 8000 c) 8200 d) 8500

→ SP = 9600, profit % = 20%

$$SP = CP\left(1 + \frac{\text{profit \%}}{100}\right)$$

$$9600 = CP\left(1 + \frac{\text{profit \%}}{100}\right)$$

$$CP = \frac{9600}{\left(1 + \frac{20}{100}\right)}$$

$$CP = \frac{9600}{\left(1 + \frac{1}{5}\right)} \quad 1600 \quad 3200$$

$$CP = \frac{9600 \times 5}{6}$$

₹ 1

$$CP = 8000$$

Q.23) A shopkeeper sells an item for ₹ 500 at a 20% profit. What was the C.P
a) 400 b) 416 c) 420 d) 430

→ S.P = 500 profit = 20, CP = ?

$$SP = CP\left(1 + \frac{\text{profit \%}}{100}\right)$$

$$500 = CP\left(1 + \frac{20}{100}\right) \quad 5 \quad 250$$

$$CP = \frac{500 \times 5}{6} = 416.67$$

₹ 3

Q.24) A man buys 100 articles for ₹1500 each. He sells one at a 20% profit & 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

→ 20% profit

$$SP_1 = 1500\left(1+\frac{20}{100}\right)$$

10% loss

$$SP_2 = 1500\left(1-\frac{10}{100}\right)$$

Total CP = 1500 + 1500 = 3000

Total SP = $SP_1 + SP_2$

= 1800 + 1350 = 3150

Net profit/loss = Total SP − total CP

= 3150 − 3000 = 150

$$\text{Net } \% = \frac{\text{Net profit/loss}}{\text{total CP}} \times 100$$

$$= \frac{150}{3000} \times 100 = 5\%$$

Q.25) A trader sells an article at 1250 with a loss of 12%. Find C.P.

→ a) 1800 b) 1400 c) 1450 d) 1500

→

$$SP = CP \times \left(1 - \frac{\text{loss}\%}{100}\right)$$

$$1200 = CP \times \left(1-\frac{12}{100}\right)$$

$$1200 = CP \times \left(\frac{88}{100}\right)$$

$$CP = 1420$$

Q.26) Find the profit percent earned after selling an article at a doubled rate for half quantity.
a) 200% b) 300% c) 400% d) 450%

→ (i) let CP = 100
CP for half quantity = 50
(ii) original S.P for the whole quantity = ₹100
selling price for half quantity = 100 at double rate

profit calculation = SP - CP = 100 - 50 = 50

(iii) profit % = $\frac{\text{profit}}{CP} \times 100$

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

$= 100\% \, 2 = 200\%$

Q.27) 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

→ let the number be x.
(i) multiply no. by 20% of itself
product = $x \times \frac{20}{100} \times x = 0.2x^2$

(ii) The sum of no & the product
$x + 0.2x^2$

(iii) Double this sum:-
$2(x + 0.2x^2) = 490$

$x + 0.2x^2 = 245$

$0.2x^2 + x - 245 = 0$

Multiplying by 5 to eliminite the decimal

$x^2 + 5x - 1225 = 0$

$x = \frac{-5}{2} + \frac{5\sqrt{197}}{2}$ or $x = \frac{-5}{2} - \frac{5\sqrt{197}}{2}$

$\approx 32.54233$

Q.28) An article is sold at 20% less than its cost price. If the selling cost is 50 & 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 Rs b) 200 Rs c) 250 Rs d) 300 Rs

→ ~~SP = 5%~~

(i) Selling cost = 5% of selling price

$50 = 5\%$ of selling price

$\text{Selling price} = \frac{50}{0.05} = 1000$ rupees

(ii) cost price Calculation :-

$\text{Cost price} = \frac{1000}{0.8} = 1250$ rupees

(iii) Loss Calculation :-

$\text{loss} = \text{cost price} - (\text{SP} + \text{S.C})$

$= 1250 - (1000 + 50)$

$= \boxed{200 \text{ Rs}}$

Q.29) If the seller sells half of his goods at 20% loss & the rest of his goods at 50% profit, find the profit % on the entire transaction.

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

→ ~~Net profit %~~ = ~~total~~ / 2

CP of

(1) total goods = 100 units

CP of half of goods = 50 units

CP of the other half = 50 units

(2) Calculate the S.P for each half

(i) first half sold at 20% loss:-

SP = 50 − (20% of 50) = 50 − 10 = 40

(ii) second half sold at 50% profit

SP = 50 + (50% of 50) = 50 + 25 = 75

(iii) total selling price = 40 + 75 = 115

(iv) profit = Total S.P − Total C.P = 115 − 100 = 15

(v) profit % = $\left(\frac{\text{profit}}{\text{cost price}} \times 100\%\right) = \left(\frac{15}{100} \times 100\%\right)$

= 15%

Q.30) If the expense of selling an article worth rupees 6000, is 50 Rs, If the selling expenses is 10% more than the loss, find the loss %

a) 7.5% b) 8.33% c) 9.09% d) 10%

→ $50 = x + \frac{10}{100} \times x$

$50 = x + 0.1x$

$50 = 1.1x$

$x = \frac{50}{1.1} = \frac{500}{11} = 45.45 \text{ RS}$

$\text{Loss percentage} = \frac{\text{Loss}}{CP} \times 100$

$= \frac{45.45}{6000} \times 100$

$= 7.575\%$

Q.31) The profit on selling 1 article is equal to the cost price of 2 such article. Find the profit %

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

→ let CP = x or one article

profit = 2x

SP = CP + profit

$= x + 2x = 3x$

$\text{profit \%} = \left(\frac{\text{Profit}}{CP} \times 100\%\right)$

$= \left(\frac{2x}{x} \times 100\%\right)$

$= 200\%$

Q.32) 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 % was 20% of cost price

a) 80₹ b) 900₹ c) 1000₹ d) 1250

→ Initial profit :- Given as 500₹

profit % = 20% of CP

Initial profit = $20\% \times CP = \frac{x}{5} = 500$

$x = ₹2500$

Selling price (SP) :-

SP = CP + profit = 2500 + 500 = 3000

New CP after 20% decreases :-

New CP = 2500 − 20% × 2500 = 2500 × 0.8

= 2000

New profit = SP − New CP = 3000 − 2000

= ₹1000

Q.32) The price of a pair of slippers is decreased by 10% & 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%

→ Let the initial C.P be x.
The initial profit % is given as 25%

Initial profit = 25% × x = $\frac{25x}{100} = \frac{x}{4}$

Selling price = CP + profit

$= x + \frac{x}{4} = \frac{4x+x}{4} = \frac{5x}{4}$.

The selling price remains constant.

New cost price after 10% decrease :-

New CP = x − 10% × x = $x - \frac{x}{10} = \frac{9x}{10}$

New profit = SP − New CP = $\frac{5x}{4} - \frac{9x}{10}$

New profit = $\frac{25x}{20} - \frac{18x}{20} = \frac{7x}{20}$

New profit % = $\left(\frac{\text{New Profit}}{\text{New CP}} \times 100\%\right)$

$= \left(\frac{\frac{7x}{20}}{\frac{9x}{10}} \times 100\right)$

$= \frac{70}{180} \times 100$

$= \frac{350}{9} = 38.8\%$

Q.33) The cost price of slipper is decreased by 10% & the selling price is constant. If the initial profit % was 500%, find the profit % now?

a) 25% b) 50% c) 100% d) 250%.

→ (i) Initial Scenario

- Let the CP be x
- profit % = 500%, so profit = 5x

SP = x + 5x = 6x.

(ii) New Scenario

- cost price is doubled, so the new CP = 2x
- The S.P. is halved

new S.P = $\frac{6x}{2} = 3x$

new profit = SP' - CP' = 3x - 2x = x

New profit % = $\left(\frac{\text{Profit}'}{CP} \times 100\%\right) = \left(\frac{x}{2x} \times 100\right)$

= 50%

Q.) 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% decreases

c) 20% increase d) 20% decrease.

→ Increase in price = 25%

∴ To maintain the same expenditure, the product of price & consumption should remain constant.

So, if the price increases by 25%, the consumption should decrease by:

$$\text{Decrease} = \frac{\text{Increase}}{100+\text{Increase}} \times 100\%$$

$$= \frac{25}{100+25} \times 100$$

$$= \frac{25}{125} \times 100 = \boxed{20\% \text{ dec}}$$

Q.35) The profit on selling 15 articles is equal to the C.P of 2 articles. Find the profit %

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

→ C.P. of 15 article = 15x

profit of selling 15 article = C.P of 2 articles

Profit = 2x

$$\text{profit \%} = \left(\frac{\text{Profit}}{\text{C.P}} \times 100\right)$$

$$= \left(\frac{2}{15} \times 100\right) = \boxed{13.33\%}$$

Q.36) 40% of a no a is 50% of a no b, find the value of a:b

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

→

$40\%$ of $a = 50\%$ of $b$

$\frac{40}{100} \times a = \frac{50}{100} \times b$

$$\boxed{\frac{a}{b} = \frac{5}{4}}$$

Q.37) The marked price of an article is 5 times the discount. Find the selling price in terms of discount.

a) 2.5 time the discount

b) 3.5 time

c) 4 time

d) 5

→

$MP = 5D$

$SP = MP - D$

$SP = 5D - D$

$= 4D$

Q.38) Solve for x; x = 20% of 12% of 120% of 6250

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

→ (i) $\frac{12}{100} \times 6250$

(ii) $\frac{12}{100} \times 7300 = 876$

(iii) $\frac{15}{100} \times 8.76 = 1.314$

$x = 20\% \times 12\% \times 120\% \times 6250$

$= 0.2 \times 0.12 \times 1.2 \times 6250$

$= \boxed{180}$

Q.39) A shopkeeper purchased an article for 500₹. At what price should he mark the article to allow a discount of 35% & still earn 100% profit.

a) 1539₹ b) 1593₹ c) 1535₹ d) 1599₹

→ CP = 500₹

Profit % = 100%

Discount % = 35%

SP = CP + Profit = 500 + 500 = 1000₹

let MP be x

$SP = x - (35\% \times x)$

$= x \times (1 - 0.35)$

$= (0.65x)$

Set the equation for S.P

$0.65x = 1000$

$x = \frac{1000}{0.65}$

$= \boxed{1539}$

Q.40) A is 25% more than b. By what % is b smaller than a?
a) 13.33 b) 20% c) 22% d) 30%

→ $A = 25\ B$

$A + 25\%B = 100 + 25$

$= 125$

Diff = $a - b = 125 - 100 = 25$

% decrease = $\left(\frac{25}{125} \times \frac{20}{100}\right)$

$= 20\%$

Q.41) If the discount is twice the C.P & the M.P is 10,000, find the S.P. No profit or loss was made
a) 1111.11₹ b) 3333.33₹
c) 5555.55₹ d) 7777.77₹

→ MP = 10,000₹

No profit or loss, so SP = CP

Discount = 2 × CP

'discount

$D = MP - SP$

$2 \times CP = MP - SP$

$2SP = 10000 - SP$

$2 \times SP + SP = 1000$

$SP = 3333.33$₹

Q.42) The C.P. of an article is 30% less than the SP. The discount is 40% of the S.P. If the marked price is 12600 ₹. find the CP

a) 6300 ₹ b) 10 000 ₹ c) 8400 ₹ d) 5600 ₹

→ (i) discount = 40%

SP = 60% MP

$= \frac{60}{100} \times 12600$

$= 60 \times 126 = 7560$

(ii) CP is 30% less than SP

CP = 70% × 7560

$= \frac{70}{100} \times 7560 = 5292$

CP = SP × (1 − 0.3) = 0.7 × SP

CP = 6300

Q.) If 33.33% of a no is 20 more than 16.66% of the no. find the 120% of no.

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

→ 33.33 of x = 16.66% x + 20

$\frac{1}{3} x = \frac{1}{6} x + 20$

$\frac{1}{3} x - \frac{1}{6} x = 20$

$\frac{3x}{18} = 20$

$x = \frac{20 \times 186}{\cancel{31}} = 120$

$120\%$ of $x = \frac{120}{100} \times 120 = \boxed{144}$

g.44) Find the number if, 20% of a no is 20 more than 20% of another number 20.

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

→ 20% of $x$ = 20% of 20 + 20

$$\frac{20}{100} x = \frac{20}{100} \times 20 + 20$$

$$\frac{x}{5} = 4 + 20$$

$$x = 24 \times 5$$

$$\boxed{x = 120}$$

Q.45) A no. is doubled, then tripled & this process is repeated twice. What is the % change?

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

→ initial number be $x$

Doubling: $x \times 2 = 2x$

Tripling: $2x \times 3 = 6x$

~~% change~~ second repetion

Doubling: $6x \times 2 = 12x$

tripling: $12x \times 3 = 36x$

$$\% \text{ change} = \left(\frac{36x - x}{x}\right) \times 100$$

$$= \left(\frac{35x}{x}\right) \times 100 = 3500\%$$

Q.46) By how much should 234 is reduced to make it 65% of itself

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

→ Step1) $65\% \times 234 = \frac{65}{100} \times 234 = 0.65 \times 234$

$= 152.1$

Step2) Reduction = $234 - 152.1 = 81.9$

Q.) what is 90% of 900% of 9000% of 9

→ $\frac{9\cancel{0}}{1\cancel{00}} \times \frac{9\cancel{00}}{1\cancel{00}} \times \frac{9\cancel{000}}{1\cancel{00}} \times 9$

$81 \times 9$

729

$729 \times 9$

6561