28-03-2025

Aptitude

Percentage, Profit & Loss Question Bank

Assignment 1

Submitted By :- Satyajeet Virendra Khamkar

① 25 % of 200 → As 25 % of 100 is 25
so double
∴ 50

② 40 % of a number is 80
40 % + 40 % + 20 % = 100 %
80 + 80 + 40 = 200

③ 75 % of a number is 150
$\therefore \frac{75}{100} = \frac{150}{x}$
$75x = 150 \times 100$
$75x = 15000$
$x = \frac{15000}{75}$
$x = 200$

④ 15 % of 120
100 → 15 % → 15
10 → 15 % → 1.5
10 → 15 % → 1.5
18

⑤ If 30 % of no. is 90, then no. is
$\frac{30}{100} = \frac{90}{x}$
$30x = 90 \times 100$
$x = \frac{9000}{30}$
$= 300$

⑥ The price is increased from 200 to 250, what is percentage increase

→ 200 → 250 $250 - 200 = Rs\ 50$ increase

$\therefore \frac{50}{200} = \frac{1}{4} = \underline{25\%}$ increase

⑦ A salary increase from Rs 40,000 to Rs 50,000, what is percentage increase

→ 40,000 → 50,000 10,000 → increase

$\frac{10,000}{40,000} = \frac{1}{4} = \underline{25\%}$ increase.

⑧ Population decreased from 10,000 to 80,000.

$\frac{2000}{10,000} = \frac{1}{5} = \underline{20\%}$ decrease.

⑨ Book price Rs 500 to Rs 400

$\frac{100}{500} = \frac{1}{5} = \underline{20\%}$ decrease

⑩ Cost price is Rs 600 & selling price is Rs 450, loss %?

→ C.P. = 600 S.P. = 450 loss = Rs 150

$\frac{150}{600} \times 100 = \frac{1}{4} \times 100 = \frac{100}{4} = \underline{25\%}$ loss

⑪ Which is greater, 30% of 400 or 40% of 300

$\frac{30}{100} = \frac{x}{400}$

$\frac{30 \times 400}{100} = 100x$

$120 = x$

$\frac{40}{100} = \frac{x}{300}$

$\frac{40 \times 300}{100} = x$

$120 = x$

$100 \times 4 = 400$

$\therefore 30 \times 4 = 120$

$100 \times 3 = 300$

$40 \times 3 = 120$

$\therefore$ Same

$\therefore$ Same

(12) A person spends 60 % of his income & save Rs 8,000
Total income = ?

→ 60 % income
+ 8000
Total income

$\frac{40}{100} = \frac{8000}{x}$

$40x = 800000$

$x = \frac{800000}{40}$

$= 20,000$

(13) A is 20 % more than B. Then B is how much less than A

→ A + 20 % = B

B = 100 ∴ A = 120

$\frac{20}{120} = \frac{1}{6} = 16.67\ \%$

(14) Sugar price increase by 25 %. by how sugar consumption should be reduced to maintain same expense.

→ 100 $\xrightarrow{25\%}$ 125 $\xrightarrow[25]{}$ 100

$\frac{25}{125} \times 100 = \frac{1}{5} \times 100 = 20\ \%$

(15) A income is 40 % more than B income. then B income is what percentage less than A

→ A $\xrightarrow{40\%}$ B ∴ 100 → 140 $\xrightarrow[40]{}$ 100

$\frac{40}{140} \times 100 = \frac{2}{7} \times 100 = 28.57\ \%$

(16) The price of item is increased by 20 %, then decrease by 10 %. Net % change ?

→ 100 → 120 → (120 - 12) → 108

∴ 8 % increase.

(17) A no. is increased by 30% & then decreased by 20%. final % change

→ 100 $\xrightarrow{30\%}$ 130 $\xrightarrow{20\%}$ (130 - 26) → 104

4% increase

(18) Population increase by 25% & then decrease by 20% net % change

→ 100 $\xrightarrow{25\%}$ 125 $\xrightarrow{20\%}$ (125 - 25) → 100

0%

(19) Price increase by 40% & then decrease by 30%, the final change is

→ 100 $\xrightarrow{40}$ 140 $\xrightarrow{-30\%}$ (140 - 42) → 98

2% decrease

(20) Salary first increased by 20% & then decreased by 10% % change

→ 100 $\xrightarrow{+20\%}$ 120 $\xrightarrow{-10\%}$ 108

8% increase

(21) Article sold at profit of 25%, then the selling price is what % of cost price.

→ 100 $\xrightarrow{25}$ 125 $\frac{25}{100} \times 100 =$ 125%

(22) Shopkeeper allows a discount of 10% on the marked price & still makes a profit 8%. Marked price is 500. what is cost price?

→ 500 $\xrightarrow{-10\%}$ 450 420

(23) profit is 20% of cost price, then what is profit % on selling price?

→ 100 $\xrightarrow{20\%}$ 120 (CP)

$\frac{20}{120} \times 100 = \frac{1}{6} \times 100 = \underline{16.67\ \%}$

(24) A product is marked at RS 1,200 & sold for RS 960 what is % discount given?

→ 1200 → 960

$\begin{array}{r} 1200 \\ -960 \\ \hline 240 \end{array}$

$\frac{240}{1200} \times 100 = \frac{2}{10} \times 100$

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

(25) Article bought for RS 500 & sold for RS 650, % profit.

→ 500 → 650

$\begin{array}{r} 650 \\ -500 \\ \hline 150 \end{array}$

$\frac{150}{500} \times 100 = \frac{3}{10} \times 100 = \frac{300}{10} = \underline{30\ \%}$

(26) A's income is 20% more than B's then B income is what % less than A?

→ B + 20% = A

100 (B) → 120 (A) → 100 (B)

$\frac{20}{120} \times 100 = \frac{1}{6} \times 100$

$\underline{16.67\ \%}$

(27) Boys to girl ratio in school is 3:2, what % of total students are boys.

→ $\frac{B}{G} = \frac{3}{2}$ $\quad \frac{3}{3+2} = \frac{3}{5} \times 100 = \frac{300}{5} = \underline{60\ \%}$

(28) Population increased from 2,00,000 to 2,50,000 in 2 years what % increase.

→ 2,00,000 ⟶ 2,50,000

25 % increase

(29) In election, a candidate gets 65 % of total votes & win by 3000 votes. How many total votes were cast.

→ 65 35 = 100

65 - 35 = 30 % = 3000

$\frac{30}{3000} = \frac{100}{x}$; $3x = 30000$; $x = \frac{30,000}{3}$

$= 10,000$

(30) Article price reduced by 30%, by what percentage must the new price be increased to restore original price.

→ 100 $\xrightarrow{-30\%}$ 70 % ⟶ 100

$\frac{30}{70} \times 100 = \frac{300}{7} = 42.85$ %

$7\overline{)300}$ 42.
28
20
14
6

(31) No. increased by 50 % & then decreased by 50 %. Net % change?

→ 100 (original) $\xrightarrow{+50\%}$ 150 $\xrightarrow{-50\%}$ 75 = −25 %

(32) A is 20 % taller than B, then B is shorter than A by

→ 100 (B) $\xrightarrow{+20\%}$ 120 (A) ⟶ 100

16.67 %

(33) If 30% of a no. is 90, what is 60% of the same no.

→ $\frac{30}{90} = \frac{60}{x}$; $x = 180$

(34) A person spends 75% of his income & save Rs 5000. What is his total income

75%
+5000 → 25%
Total income

$\frac{25}{5000} = \frac{75}{x}$; $\frac{1}{200} = \frac{75}{x}$

$x = 200 \times 75$ $x = 15,000$ → spends

Now $15,000 + 5000 = 20,000$

5000 is 25% ∴ $5000 \times 4 = 20,000$

(35) Petrol price increase by 20%. By what % should consumption be reduced to maintain same expences.

→ 100 $\xrightarrow{+20\%}$ 120 → 100 $\frac{20}{120} \times 100 = \frac{1}{6} \times 100$

Original

$= \frac{100}{6}$

$= 16.67$

(36) TV price increase by 20% then 10% decrease, overall % change?

→ 100 $\xrightarrow{+20\%}$ 120 $\xrightarrow{-10\%}$ (120 − 12) → 108

8% increase

(37) Shopkeeper marks 25% above C.P. & gives 20% discount what is profit or loss %.

→ 100 (C.P) $\xrightarrow{+25\%}$ 125 $\xrightarrow{-20\%}$ (125 − 25) = 100

0%

(38) C.P. of article is Rs 500 & it is sold at a loss of 20%. what is S.P

→ 500 (C.P.) $\xrightarrow{-20\%}$ 400

(39) Salary increase by 10% & decrease by 10%. final % change

→ 100 $\xrightarrow{+10\%}$ 110 $\xrightarrow{-10\%}$ (110 − 11) → 99

1% decrease

(40) Student needs 40% marks to pass. He gets 200 marks & failed by 20 marks. what is total marks

→ 200 + 20 = 220 ⟷ 40%.

$\frac{220}{40} = \frac{x}{100}$; $\frac{11}{2} = \frac{x}{100}$; $\frac{1100}{2} = x$

$x = 550$

(41) Man spends 20% salary on rent. 30% on food & 10% on transport. If he saves Rs 18,000, what is salary

→ 20% + 30% + 10% = 60%

∴ 40% → 18,000

$\frac{18000}{40} = \frac{x}{100}$; $\frac{900}{2} = \frac{x}{100}$; $\frac{90,000}{2} = x$

$x = 45,000$

(42) Cost of item is increased by 30% then 30% decrease, what is overall % change

→ 100 $\xrightarrow{+30\%}$ 130 $\xrightarrow{-30\%}$ (130 − 39) → 91

−9% decrease

(43) Town population 10% increase / year. current population is 10,000 what will after 3 years.

→ $10,000 \xrightarrow[①]{+10\%} 11,000 \xrightarrow[②]{+10\%} 12100 \xrightarrow{+10\%} \underline{13,310}$

(44) If 15% of A is equal to 20% of B. then A : B is

→ $15\% A = 20\% B \quad \frac{15}{100} A = \frac{20}{100} B$

$\frac{15A}{100} = \frac{20B}{100}$; $15A = 20B$

$\frac{A}{B} = \frac{20}{15} = \frac{4}{3}$ or $4:3$

(45) If C.P. of object is ₹800 & profit made is 25%. S.P = ?

→ $800 \xrightarrow{+25\%} (800 + 200) \rightarrow \underline{1,000}$

(46) If C.P of an item is RS 200 & the S.P. is RS 250. profit % ?

→ C.P → S.P
200 250

25 %

(47) Article sells for RS 720 at a profit of 20%. final C.P.

→ $20 \xrightarrow{+20\%} 7.20 \rightarrow \underline{20}$

$100 \xrightarrow{+20\%} 120 \rightarrow 100$

$\frac{20}{120} \times 100 = \frac{1}{6} \times 100 = \frac{100}{6} = 16.67\%$.

Now,
$\frac{1}{6} \times 720 = 120$
$720 - 120$
$= \underline{600}$

(48) Sells items at loss of 15%. If C.P. is RS 500. find S.P.

→ 500 C.P. $\xrightarrow{-15\%} (10\% + 5\%)$ $(50 + 25)$ → 500 − 75 = 425

(49) Cycle purchased for RS 1500 & sold at 10% loss. S.P = ?

1500 $\xrightarrow{-10\%}$ 1350

(20) Tendeea marks his goods at 30% above C.P. & allows 5 discount of 10%. what is gain %

→ 100 $\xrightarrow{+30\%}$ 130 $\xrightarrow{-10\%}$ 117

∴ 17 % gain

Study

$\frac{1}{1} = 100\%$, $\frac{1}{2} = 50\%$ $\frac{1}{3} = 33.33\%$

$\frac{1}{4} = 25\%$, $\frac{1}{5} = 20\%$, $\frac{1}{6} = 16.67\%$

$\frac{1}{7} = 14.28\%$, $\frac{1}{8} = 12.5\%$, $\frac{1}{9} = 11.11\%$

$\frac{1}{10} = 10\%$, $\frac{1}{11} = 9.09\%$, $\frac{1}{12} = 8.33\%$

$\frac{1}{3} \times 2 = \frac{2}{3} = 66.66\%$

$\frac{1}{4} \times 2 = \frac{2}{4} = \frac{1}{2} = 50\%$, $\frac{1}{4} \times 3 = \frac{3}{4} = 75\%$