

27/05.

## Percentage

8/05

Book

$$100x \rightarrow 1/2 \text{ of } 100\% = 1/2 \times 100 \\ = 50, \quad 1/8 = 12.5\% \\ 3/4 = 75\%$$

$$1/3 \text{ of } 100\% = 1/3 \times 100 \\ = 33.3\%$$

$$1/4 \text{ of } 100\% = 1/4 \times 100 = 25$$

$$260 \rightarrow 100\%$$

$$10\% \text{ of } 260 \rightarrow 26.0$$

$$260 \\ 39\% \text{ of } 260 \rightarrow 1 \\ \downarrow \\ \text{Find } 40\% \text{ of } 260.$$

$$26.0 \times 4 \\ = 104.$$

$$39\% = 40\% - 1 \\ = 104 - 2.60 \\ = 101.40\%$$

$$350 \rightarrow 100\% \\ 20\% \rightarrow 10 \times 10 \\ 35.0 \rightarrow 10y \\ 35 \times 10y \\ 350 \rightarrow 100y \\ 350 \rightarrow 100\%$$

1) If  $x\% \text{ of } y \text{ is } 182$   
what is  $y$ ?

$$\frac{xy}{100} = 182 \\ y = \frac{182 \times 100}{x}$$

$$= \frac{18200}{x} \Rightarrow 325$$

2) What is  $42\% \text{ of }$

$336\text{kg}$ ,

$$\frac{42}{100} \times 100 = 42$$

$$= 12.5\% \text{ of } 336\text{kg}$$

$$12.5\% \text{ of } 336\text{kg}.$$

$$12.5\% = 12.5\text{kg}$$

$$12.5\% \text{ of } 336\text{kg}$$

.02

3)  $15\% \text{ of } y$  is same as  $21\% \text{ of } z$ , then  $12.5\% \text{ of } y$  is equal to what % of  $z$ ?  
 $(15\% \text{ of } y) = 21\% \text{ of } z$

$$12.5\% \text{ of } y = ?$$

$$\begin{matrix} ? = 21\% \text{ of } z \\ \hline 15 \end{matrix}$$

$$? = 35\% \Rightarrow 17.5\%$$

4) If price of rice is 30% less than that of wheat, then price of wheat is how much percent more than that of rice?

Example 24. Ratio of drama to non drama of movie

wheat = 100  
rice = 100 - 30% of 100  $\Rightarrow 100 - 30 \Rightarrow 70$

$$A = 100 \quad A/B \times 100 = \frac{100}{70} \times 100$$

$$B = 70.$$

$$= \frac{1000}{70} \Rightarrow 142.85$$

$$\text{so} \Rightarrow 142.85 - 100\%$$

= 42.85 percentage more than rice

5) Price of apple is first increased by 10% and then decreased by 10%. What is the change in price.

Assume

$$\text{apple} = 100.$$

$$10\% \text{ of } 100 = 10\text{rs}.$$

$$\text{so apple} = 110\text{rs} \Rightarrow 110$$

$$10\% \text{ of } 110 = 11\text{rs}.$$

$$\begin{matrix} 110 \\ - 11 \\ \hline 100 \end{matrix}$$

$$= 110 - 11\text{rs}$$

$$= 99\text{rs} \rightarrow \text{2nd.}$$

$$100 - 99 = 1\%$$

6) Price of sugar raised by 25%.  
How much sugar should a person reduce so that his expenditure remains same?

Assume

$$\text{Sugar } 1\text{ kg} = 100 \text{ rs.}$$

$$A = 100 \text{ rs}$$

$$\text{D.R. of } 100 = 25.$$

$$B = 125 \text{ rs.}$$

$$C = 100 + 25 = 125.$$

$$= \frac{100}{125} \times 100 = 0.2 \text{ kg.}$$

$$0.2 \text{ kg of } 1 \text{ kg} \xrightarrow{\text{D.R.}} \frac{0.2 \times 100}{100} = 2 \text{ rs.}$$

$$= 20 \text{ rs.}$$

7) Y has to score 40% of marks to pass. He gets 20 marks and fails by 40 marks. The maximum marks of the exam are?

$$40\% \text{ of marks} = \frac{40M}{100}.$$

$$20 \text{ marks} + 40M = \frac{40M}{100}.$$

$$\text{Total marks} \left. \right\} = 150.$$

$$60 = \frac{40M}{100}.$$

$$\frac{600}{4} = M$$

$$M = 150.$$

$$200 - 40 = 160.$$

$$160 - 40 = 120.$$

$$120 \text{ pp} - 200.$$

$$.001 = 10000.$$

$$.0001 = 10000 \times 100.$$

$$.0001 = 100000000.$$

$$.0001 = 100000000.$$

8) A scores 10% and fails by 80m. B scores 40% and gets 30 marks more than the minimum marks needed. What are the maximum marks?

$$10\% \text{ of } m = \frac{10m}{100} + 30 \text{ marks (less marks)}$$

$$40\% \text{ of } m = \frac{40m}{100} - 30 \text{ marks}$$

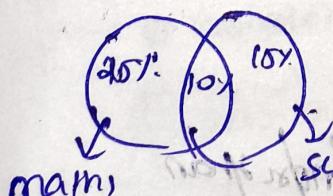
$$\frac{10m}{100} + 30 = \frac{40m}{100} - 30$$

$$\frac{10m + 3000}{100} = \frac{40m - 3000}{100}$$

$$6000 = 30m$$

$$m = 200.$$

9) 15% failed in science, 25% failed in maths, 10% in both. Students passed in both (maths and science)



$$= 100 - 25 - 15 - 10$$

$$= 100 - 50$$

$$= 70\%$$

10) By 20% decrease in price of rice. People can buy 10kg more rice in 10rs. What is original price.

Note-p.

expenditure = 100.

Arg of rice.

20% decrease of P.

$$A \times P = (A + 10) \times 0.8P$$

$$\frac{10}{100} \times P = 0.2P$$

$$A = 0.8A + 8$$

$$P - 0.2P = 0.8P \Rightarrow 10 \text{ kg}$$

$$8 = 0.2A$$

$$A = \frac{8}{0.2} \Rightarrow \frac{100}{40} = 2.5 \text{ kg}$$

$$= 40 \text{ kg.} \quad \text{or } \frac{100}{0.8} = 125 \text{ kg}$$

ii) 2 candidates.

one candidate got 40% of total votes and get lost by 1000 votes. what is the total number of vote casted?

Total = 8000

Votes = 1800

A got 40% of P

(40% of vote) & B got 60% of vote

$$\frac{40A}{100}$$

$$\frac{60A}{100}$$

$$\frac{40A}{100} + 1000 = \frac{60A}{100}$$

(more than required)

$$\frac{40A + 1000 \times 100}{100} = \frac{60A}{100}$$

$$20A = 1000 \times 100$$

$$A = 5000$$

12) If population (female) 80% of male pop is literate. How much female pop is literate if total literacy is 55%.

$$\text{population} = 100.$$

$$\text{female } 55\% \text{ of } 100 = 55.$$

$$\text{male} = 45$$

$$\text{literate male} = 80\% \text{ of } 45$$

$$= \frac{80}{100} \times 45$$

$$= 36 \text{ male literate.}$$

$$\text{L.E. (P.L + M.L)} = 55$$

$$45 + 36 = 81$$

$$81 - 100 =$$

$$-19 =$$

$$\text{percentage} = \frac{22}{55} \times 100 = 40\%.$$

13) If 20% of electricity bill is deducted then rs. 100 is still to be paid. Original bill?

$$100 - 20 = 80\%.$$

$$80\% \text{ of original} = 100$$

$$\frac{80}{100} \times b = 100$$

$$b = \frac{100 \times 100}{80}$$

$$b = 125.$$

$$\frac{\text{Mod}}{100} = \frac{100}{80} = 1.25$$

14) A's salary is 50% more than B's. How much percent is B's salary less than A?

$$B = 100\text{rs}$$

$$A = 50\% \text{ of } 100 = 50$$

$$= 100 + 50 = 150\text{rs}$$

$$= 150.$$

$$\frac{150 - 100}{100} = \frac{50}{100} = 50\%$$

$A+B=100$ , जैसा है 100. (लोगों की संख्या) और उनमें से 100  
 $B=50%$ .

$$\frac{20}{3} \times 100 = 100/3$$

$$15\varphi_3 = 33.3\%$$

15) Two numbers are less than a third number by 30% and 37%. How much percentage is the 2nd number less than 1st.

3rd number = 100.

$$\begin{aligned}1st &= 100 - \left( \frac{30\%}{100} \right) \\&= 100 - 30 \Rightarrow 70 \\&\quad \vdots \\&= 70 - 63\end{aligned}$$

$$\text{and} = 100 - (37\% \text{ of } 100) \\ = 100 - 37 \\ = 63.$$

$$V_{dp} = 0.01 \times \frac{50}{20} = 0.025$$

$$\frac{1}{7} \times 100 = 101. \text{ (lesser among numbers)}$$

- 16) Nov. people died in cholera. 201 people left the  
village. The population reduced to 4050. No. of  
people in the village.

$$100\% - 10\% = \frac{90M}{100}$$

$$100\% - x - 25\% = 95$$

$$\frac{94M}{100} \times \frac{75}{100} = 42.5$$

$$= \frac{150 \times 10 \times 4}{3}$$

6000 (total)

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