Percentage

Part of something, simply divide by

$100 = \dfrac{1}{100}$

Common Percents

$\dfrac{1}{2}$ of $100 = 50\%$ $\dfrac{1}{4} = 25\%$ $\dfrac{1}{8} = 12.5\%$ $\dfrac{1}{3} = 33.\overline{3}$

finding %.

10% of 260

$$\dfrac{10}{100} \times 260 = 26$$

or 10% placing decimal 1%.

26. 2.6 So on.

To find 39% of 260

find $40\% = \dfrac{40}{100} \times 260 = 104$

1% of $260 = 2.6$

$104 - 2.6 = 101.4$

63%

$60\% + 3\%$

10×6

$So \cdot 0\text{--}$

1) 56% of y is 182 find y

$$\frac{56}{100} \times y = 182$$

$$y = \frac{18200}{56} \qquad y = \frac{325}{2}$$

2) what percent is 42 kg of 336 kg

$$\frac{42}{336} \times 100 = 12.5\%$$

3) if 15% of y is same as 21% of z, then 12.5 of y is equal to what percent of —

$$15\% \text{ of } y = 21\% \text{ of } z$$

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

$$15 \times ? = 21 \times 12.5$$

$$? = 17.5\%.$$

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

Test assume

Rs 100 = wheat

Rice = 100 − (30% of 100) = 100 − 30 = 70

% of what = $\frac{100}{70} \times 100 = 142.85\%$, 100 − 142 = 42.5↑ than rice

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

10% ↑
new = 100+10 = 110
Then 10%
110 - 11 = 99

Change in Price = 100 - 99 = 1 Rc

$$\% = \frac{1}{100} \times 100 = 1\%$$ do

6) If the Price of sugar is raised by 25% then how much percent should a person reduce his consumption of sugar, so that expenditure remain sum

lets assume Price and Quantity be 100c and

$$1 \times 100 = 125 \times c$$

$$c = 0.8 kg$$

we should reduce by 0.2 kg
Total reduction %

$$\frac{0.2}{1} \times 100 = 20\% \downarrow$$

25% ↑
100+25 = 125

7) y has to score 40% marks to Pass. He gets 20 marks and fails by 40 marks. The max marks are

$$40\% \text{ of } M = \frac{40}{100} \times M = \frac{40M}{100} \quad -①$$

$$20M + 40M = \frac{40M}{100}$$

$$M = 150 \text{ marks}$$

8) A Scores 10% and fails by 30 mark.
B scores 40% marks and gets 30 marks
more than min marks. What are maximum mark

$$10\% \text{ of } M = \frac{10}{100} \times M = \frac{10M}{100} + 30 \quad - \text{Pass}$$

$$40\% \text{ of } M = \frac{40M}{100} - 30 \quad - \text{Pass}$$

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

$$\boxed{M = 200 \text{ marks}}$$

9) In a class, 15% of total number failed
in Science, 25% of total number of student
failed in Math and 10% of total failed in
bath. How much percentage of student
passed in bath Maths & Science
   Take care of double count

$$15 + 20 - 10 = 30\%$$
$$\text{pass} = 70\%$$

10) By 20% decrease in price people can buy
1 kg more in rice in Rs 1000. what is
original price 1 kg of rice?

$$\frac{Exp}{100} = \frac{Exr}{100}$$

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

$$A = \frac{8}{0.2}$$

$$A = 40 kg$$

$$\frac{100}{40} = 2.5 Rs$$

11) In an election which contested by 2 candid
one candidate got 40% of total votes and
yet lost by 1000 votes. what is total numb
of votes cast?

40% of votes

$$\frac{40 A}{100} \qquad \frac{60 A}{100}$$

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

$$A = 5000$$

12) 80
Ho
7

20% of 10

0.2P Rs

$$P - 0.1 P = 0.8$$

13

12.) In a country 55% Population is female. 80%. of the male population is illiterate. How much of females are literate if total is 58%.

55% of 100 = 55 females
45 males remain

80% of 45 = $\frac{85}{100} \times 45 = 36$ males

$fL + ML = TL$

$fL + 36 = 58 \quad fL = 22$

finding %.

$\frac{22}{58} \times 100 = 40\%$ female

$TL = 58\%$

$\frac{58}{100} \times 100$

58%

13) If 20% of electricity bill is deducted, Rs 100 is still to be paid. How much was original bill

$80\% = 100$

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

$B = \frac{500}{4} = 125$ Rs

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

B = Rs 100

A - 50% = 100 + 50 = 150

50 Rs ↓   diff

$$= \frac{50}{150} \times 100 = \frac{100}{3} = 33\overline{3}\%$$

↗ A

15) Two numbers are less than a 3rd number by 30% & 37%. How much is Second number less than first

$3^{rd} = 100$

$2^{nd} = 100 - 30\% = 70$

$3^{rd} = 100 - 37\% = 63$

diff

70 - 63 = 7

$$\frac{7}{70} \times 100 = 10\%$$

1st

16) 10% of inhabitants of a village having died of cholera. a Panic setin, during which 25% of remaining inhabitants left village. The population was reduced to 4050. The number of inhabitants were

$100 - 10\% = 90\%$ of $M = \dfrac{90M}{100}$

later 25% marlec

$100\% - 25\% = 75\%$ of $\dfrac{90M}{100M}$

$$\dfrac{7)}{100} \times \dfrac{90M}{100} = M = 6000$$

$100 - 10\% = 90\%$ of $M = \dfrac{90M}{100}$

later 25% marlec