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Ratio & Proportation

Q1) In a Class, the number of boys is more than the number of girls by 12% of the total strength of the class. Find the ratio of boys to girls.

Sol

total no of student in class = x

No of boys = $x + 12\%$ of (x)

$$= \frac{112}{100} (x)$$

$$= \frac{56}{50} (x)$$

$$= \frac{14}{12.5} (x)$$

No of girls = $x - 12\%$ of (x)

$$= x - \frac{12}{100} \text{ of } (x)$$

$$= x - \frac{88}{100} \text{ of } (x)$$

$$= \frac{40}{50} \text{ of } (x)$$

So
The ratio of boys & girls
 $\left(\frac{56}{50} \text{ of } (x) \right) \left(\frac{40}{50} \text{ of } (x) \right)$

$$x = 14:11$$

Therefore, the ratio of boys &

girls in the classroom is $14:12$

Q2) Find Ratio of 3.5kg to 280 ~~kg~~ Gram.

Sol.

$$\begin{aligned} 3.5 \text{ kg} &= 3.5 \times 1000 \text{ gram} \\ &= 3500 \text{ gram} \end{aligned}$$

$$\text{Ratio} = \frac{3500}{280} = \frac{12.5}{1}$$

Therefore, the ratio of 3.5kg to 280 gram is $12.5:1$
(Solved through Calculator)

Q3) Two numbers are the ratio 3:4
If 6 is added to each term of the ratio, there is an increase of 20% in given ratio. Find the first and second number.

Sol

Let the two numbers be $3x$ & $4x$

When 6 is added in each term
 $= 3x+6 : 4x+6$

So there is an increase 20% in given ratio that means new ratio is 120%.

$$\frac{(3x+6)}{4x+6} = \frac{120}{100}$$

$$x = 3$$

(Incomplete)

Q) Moiz and Mair share a lottery win of Rs 2000 in the Ratio of 1:4. Moiz then share this part b/w himself, his wife and his son in the ratio 4:5:1. How much more his wife gets over his son?

Sol

Moiz Share lottery win in ratio
1, 4

That mean moiz gets $1/5$ of total win is $2000/5 = \text{Rs } 400$

Moiz share his part b/w ratio of 4:5:1

The wife gets $5/10$ of his part
 $400 \times \frac{5}{10} = 200 \text{ Rs}$

His son get $1/10$ of his part
 $400 \times \frac{1}{10} = \text{Rs } 40$

Moiz wife gets $200 - 40 = \text{Rs } 160$

Therefore, Moiz's wife gets Rs 160 more than his son.