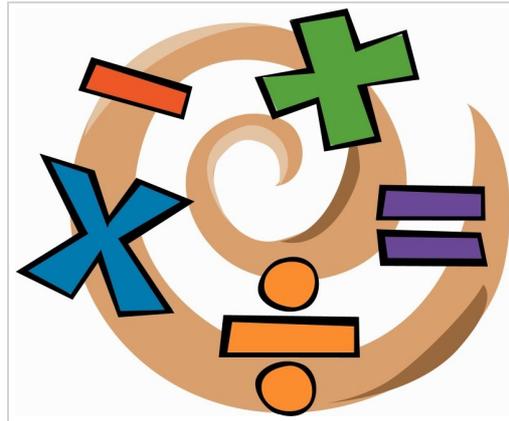


Comparing Quantities



Ratios are used to **compare** quantities. Ratios help us to compare quantities and determine the relation between them. We write ratios in the form of fractions, and then compare them by converting them into like fractions. If these like fractions are equal, then we say that the given ratios are **equivalent**.

Eg: 6 pens cost Rs 90. What would be the cost 10 such pens?

Solution:

Cost of 6 pens :Rs 90

Cost of 1 pen = $90/6=Rs\ 15$

Hence, cost of 10 pens = $10 \times 15 = 150$

The ratio of two quantities in the same unit is a fraction that shows how many times one quantity is greater or smaller than the other. When two ratios are equivalent, the four quantities are said to be in **proportion**.

Ratio and proportion problems can be solved by using two methods, the **unitary method** and equating the ratios to make proportions, and then solving the equation.

Percentages:

Percentage is another method used to compare quantities. Percentages are **numerators of fractions with the denominator 100**.

Meaning of percentage:

Per cent is derived from the Latin word '**per centum**', which means **per hundred**.

Per cent is represented by the symbol - %.

Ratios and Proportions

- The ratio of two quantities in the same units is a fraction that shows how many times one quantity is greater/smaller than the other.
- To calculate the ratio of two quantities, the units must be the same.

- Compare different ratios to determine whether they are equivalent ratios or not.
- If two fractions are equal then the given ratios are equivalent.
- When two ratios are equivalent then the four quantities are said to be in proportion.
- Ratio and proportion problems can be solved by using two methods, unitary method and equating ratios to make proportions and solve
- the equation.
- Percentage means per hundred. It is another method used to compare quantities.
- Fractions can be compared by converting them into percentages.

Conversions

To convert a percentage into fraction:

Step 1: Drop the percentage sign, and then divide the number by hundred.

To convert a percentage into a decimal:

Step 1: Remove the percent sign.

Step 2: Divide the number by hundred or move the decimal point two places to the left in the numerator.

To convert a decimal into percentage:

Step 1: Convert the decimal into a fraction

Step 2: Multiply the fraction by hundred or shift the decimal point two places to the right

Step 3: Put a percent sign next to the number

Application of Percentages

If you are given any three of these quantities the fourth one can be calculate using the interest formula.