Decimals

paring Decimals

If a **block of one unit** is divided into 10 equal parts, then each part is $\frac{1}{10}$ (one – tenth) of the unit. It is written as 0.1 in **decimal** representation. The **dot** denotes the **decimal point**.
Every fraction whose denominator is 10 can be written in decimal notation.
Eg: $\frac{5}{10} = 0.5; \frac{7}{10} = 0.7$

If a block of one unit is divided into 100 equal parts, then each part is $\frac{1}{100}$ (one $-$ hundredth) of the unit. It is written as 0.01 in decimal notation. Every fraction whose denominator 100 can be written in decimal notation.
Eg: $\frac{5}{100} = 0.05; \frac{7}{100} = 0.07$

To read decimals, we can use the following chart. The first digit to the right after the decimal point represents the **tenths** parts, the second the **hundredths** parts, and so on.

Decimal point	Tenths	Hundredths	Thousandths
.	$\frac{1}{10} = 0.1$	$\frac{1}{100} = 0.01$	$\frac{1}{1000} = 0.001$

All decimal numbers can be represented on the **number line**. Every decimal number can be represented as a **fraction**. Any two decimal numbers can be compared. The comparison starts with the whole part of the numbers. If the whole parts are equal, then the tenth parts can be compared, and so on. Decimal numbers are used in many ways in real life. For example, in representing the units of money, length and weight, we use decimal numbers.

Addition and Subtraction of Decimals

To **add or subtract decimal numbers**, make sure that the **decimal points** of the given numbers are **placed exactly one below another**. While adding or subtracting two decimal numbers, the **number of digits after the decimal point should be equal**. In case they are not equal, the gaps must be filled with zeros after the last digit.
For example:

- To add 6.82 and 5

First insert zeros in the empty places after the decimal point so that both the numbers have the same number of digits after the decimal point. Next, write the numbers such that their decimal points are one below another.
$6.82 + 5 =$

$$\begin{array}{r} 6.82 \\ + \ 5.00 \\ \hline 11.82 \end{array}$$

- To subtract 5 from 6.82

First insert zeros in the empty places after the decimal point so that both the numbers have the same

number of digits after the decimal point. Next, write the numbers such that their decimal points are one below another.

$6.82 - 5 =$

$$\begin{array}{r} 6.82 \\ - \ 5.00 \\ \hline 1.82 \end{array}$$

Addition or subtraction should be carried out from the **extreme right side**. Place the decimal point correctly after performing the addition or subtraction.