MATHS

Decimals

1. The fractional numbers having denominators 10, 100, 1000 etc are calleddecimals.

2. A decimal number has two parts, a whole number part and a decimal number part with a dot or a decimal point, in between, separatingthem.

   Place value chart:

Thousands	Hundres	Tens	Ones	Decimal point	Tenths	Hundredths	Thousandths
1000	100	10	1	(.)	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
Whole number part					Fractional part		

3. If we add any number of zeroes after the extreme right digit in the decimal number part, it will not change the value of the fractionalnumber.

4. All decimals can be represented on a numberline.

5. The number of digits contained in the decimal part of a decimal number is called the number of its decimalplaces.

6. Decimals having the same number of decimal places are called like decimals; otherwise, they are known as unlikedecimals.

7. Comparison of twodecimals
   i. Compare the whole number parts. The decimal number having greater whole number part is greater.
   ii. If the whole number parts are equal, then compare the tenth digits. The decimal number having greater tenth digit is greater.
   iii. If the whole number parts and the tenth digits are equal, then compare the hundredth digits and so on.

8. Conversion of decimal to fraction:
   i. Count the number of decimal places in the decimal number.
   ii. Ignore the decimal point and write all the digits as the numerator of thefraction.
   iii. Write as many zeroes after 1 in the denominator, as there were decimal places in the decimal number.
   iv. Reduce the fraction into its simplestform.

9. Conversion of fractions to decimals, when the denominator is 10, 100, 1000etc.
   i. Count the number of zeroes in the denominator after 1.
   ii. In the numerator, start from the extreme right and move the decimal point to the left by the number obtained in step1.

10. To convert fractions to decimals, when denominator is not of the form 10, 100, 1000 etc, divide the numerator by the denominator and write the quotient in decimalform.

11. Addition ofdecimals:
    Step 1: Convert the given decimals into like decimals.
    Step 2: Write the addends one under the other so that the decimal points of all the addends are in the same column.
    Step 3: Add as in case of whole numbers.
    Step 4: In the sum, put the decimal point directly under the decimal points in the addends.
    Example:

$$\begin{array}{r} 13.789 \\ +12.220 \\ \hline 26.009 \end{array}$$

12. Subtraction ofdecimals:
    Step 1: Convert the given decimals into like decimals.
    Step 2: Write the smaller number under the larger one such that their decimal points are in the same column.
    Step 3: Subtract as in the case of whole numbers.
    Step 4: In the difference, put the decimal point directly under the decimal points of the given numbers.
    Example:

$$\begin{array}{r} 13.789 \\ -12.220 \\ \hline 1.569 \end{array}$$

13. Decimals are used in many ways in our lives. For example, in representing units of money, length, weight and capacity.