6th Standard Maths

Mensuration

With each plane figure, two things are positively associated:

(i) Region

(ii) Boundary.

For comparison of two plane figures, some measures are needed.

Perimeter

The perimeter of a closed figure is the distance covered along the line forming the closed figure when we make a complete round of the figure once.

The concept of the parameter is widely used in our daily life. For example, in fencing a field, in preparing a track to conduct sports, in building a compound wall on all sides of a house, etc.

Perimeter of a rectangle = Sum of the lengths of its four sides = 2 × (Length + Breadth)

Perimeter of regular shapes

Perimeter of an equilateral triangle = 3 × length of a side

The perimeter of a square = 4 × length of a side

There is an interesting similarity between a square and an equilateral triangle. They are figures having the sides of equal length and all the angles of equal measure. Such figures are known as regular closed figures. Thus, a square and an equilateral triangle are regular closed figures.

Area

The amount of surface enclosed by a closed figure is called its area.

The comparison of two figures as to which one has a larger area is difficult to make just by looking at these figures. To solve the purpose, we put the figure on a squared paper or graph paper whose every square measure 1 cm × 1 cm. Make an outline of the figure. Look at the squares enclosed by the figure. Some of them are completely enclosed, some half, some less than half and some more than half. To overcome this difficulty, the following convention is adopted:

The area of one full square is taken as 1 square unit. If it is a centimeter square sheet, the area of one full square will be 1 sq cm.

Ignore portions of the area that are less than half a square.

If more than half of a square is in a region, just count it as one square.

If exactly half the square is counted, take its area as 1/2 sq unit.

Finally, the area of the figure is the number of centimeter squares that are needed to cover it.

Area of a rectangle = Length × Breadth

Area of a square = Side × Side.