## Grade 9

## Lesson 14 - Loci and Constructions

- A set of points satisfying one or more conditions is known as a locus.


## Basic Loci

- The locus of points on a plane which are at a constant distance from a fixed point is a circle.

- Examples: 1.The path of the tip of a hand of a working clock.

2. The path of child who is swinging.

- The locus of points which are equidistant from two given points is the perpendicular bisector of the line joining the two points.

- Do the exercise 14.1
- The locus of points which are at a constant distance from a straight line are the two straight lines parallel to it and at the given constant distance from it, on either side of it.

- The locus of points equidistant from two intersecting straight lines is the angle bisector of the angles formed by the intersection of the two lines.


The locus of points equidistant from $O A$ and $O B$

## Construction

- Constructing a line perpendicular to a given line from an external point. Do the activity 1 given in the text book.(page no.59)
- Constructing a line perpendicular to a given line through a point on the line. Do the activity 2 given in the text book.(page no.60)
- Constructing the perpendicular bisector of a straight line segment. Do the activity 3 given in the text book.(page no.62)
- Do the exercise 14.3


## Constructions related to angles

- Constructing the angle bisector. Do the activity 1 given in the text book.(page no. 64)
- Do the activities 1 and 2 in the text book to construct angles with the magnitude $60^{\circ}, 120^{\circ}$.(page no.66,67)
- Follow the instructions given in page no.68 and 69 in the text book to construct the angles with the magnitude $30^{\circ}$ and $45^{\circ}$.
- Do the exercise 14.4

