

MATHEMATICS

Class-7th

Chapter-5

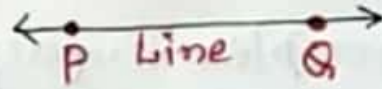
Lines and Angles

Introduction

--BY-AKJ

Class: VII "Mathematics."
Ch - 05. Lines and Angles.
Introduction

Line: A line has no end points. A line PQ is denoted by the symbol \overleftrightarrow{PQ} .



Line segment: A line segment is a portion of a line. It has two end points. A line segment AB is denoted by the symbol \overline{AB} .

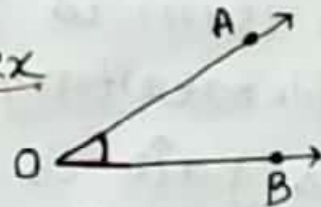


Angle: An angle is formed when two lines or line segments meet at a common point. This common point is called the vertex of the angle and the line segments are called its arms or sides.

Here, O is the vertex

OA and OB

are the arms. And Angle is $\angle AOB$.



Types of Angles.

(i) Acute angle: An angle which is greater than 0° but less than 90° is called an acute angle. Eg: 15° , 50° , 60° , 70° etc.

(ii) obtuse Angle: An angle which is greater than 90° but less than 180° is called an obtuse angle. Eg: 100° , 150° etc.

(iii) Right Angle: An angle whose measure is 90° is called a right angle.

✓ Complementary Angles: Two angles whose sum is 90° form a pair of complementary angles. Each angle of this pair is said to be the complement of the other angle.

For an example: 60° and 30° .
They form complementary angles and 60° is the complement of the 30° angle and vice versa.

✓ Supplementary Angles: Two angles whose sum is 180° form a pair of supplementary angles. Each angle of this pair is said to be the supplement of the other angle.

For example: 100° and 80° .
They form supplementary angles.

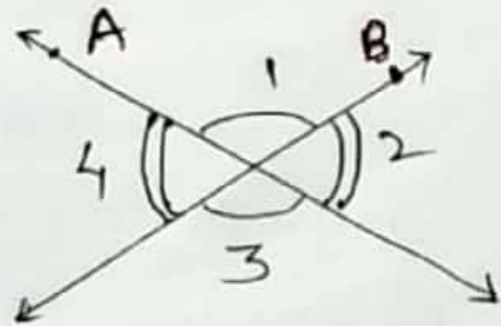
✓ Adjacent Angles: Two angles in a plane are said to be adjacent angles if they have a common vertex and a common arm but no common interior points.

✓ Linear pair: Two adjacent angles form a linear pair, if their non-common arms are two opposite rays, i.e. they form a straight line.

✓ Vertically opposite Angles:

(i) Two angles formed by two intersecting lines having no common arm are said to be vertically opposite angles.

(ii) When two lines intersect, the vertically opposite angles so formed are equal to each other.



Here,

$\angle 1$ is vertically opp. to $\angle 3$

And $\angle 2$ is vertically opp. to $\angle 4$.

By intersecting two lines A and B
four angle as $\angle 1$, $\angle 2$, $\angle 3$ & $\angle 4$
are formed.