

BASICS OF GEOMETRY

Point .

A point is a simple dot with no length and thickness. It marks a particular location. Points are named using capital letters.

Line

A line is a path of points that extends on and on in both directions without ever ending. We cannot measure the length of a line. A line is named by taking any two points on the line and naming them using capital letters.

Line Segment

A line segment is a part of a line. It has two endpoints and therefore has a fixed length that can be measured.

Ray

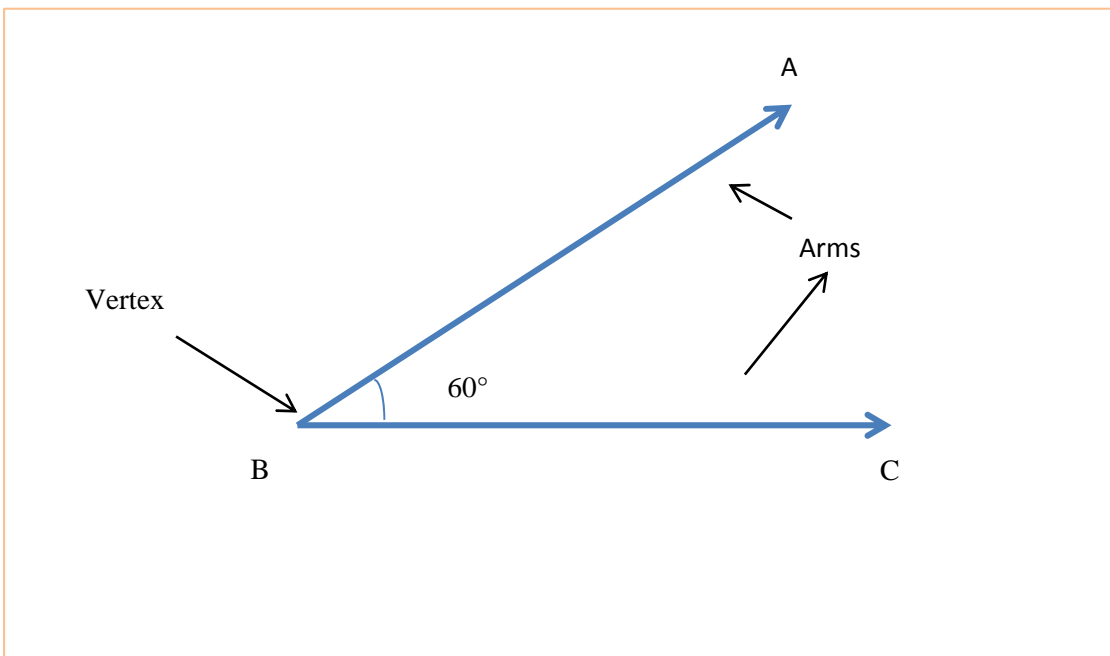
A ray is a straight path that extends only in one direction. It has a fixed starting point but no endpoint.

Plane

A plane is a flat surface which extends in all directions endlessly. We only use parts of a plane. Points and lines lie on a plane

Angle

When two rays meet at a point they form an angle. The two rays are called the **arms** of the angle and the point where they meet is called the **Vertex**.



Angles can be named in three ways

1. Using a three letter name in the order. A point on one ray, vertex and then a point in the other ray.
 $\angle ABC$ or $\angle CBA$
2. Using only one letter that is the vertex. However this can be done only if there is only one angle. $\angle B$
3. Writing a number within the rays of the angle and naming the angle using this number. $\angle 60^\circ$

Interior angle

The angle formed in between the two arms is called the Interior angle.

Exterior angle

The angle formed on the outside of the arms is called the Exterior angle.

Protractor

The instrument used to measure angles.

Types of Angles

1. Acute angle
An angle which is less than 90° .
2. Right angle
An angle which is equal to 90° .
3. Obtuse angle
An angle which is greater than 90° but less than 180° .
4. Straight angle
An angle which is equal to 180° .
5. Reflex angle
An angle which is greater than 180° but less than 360° .
6. Complete angle
An angle which is equal to 360° .

Types of Lines

1. Parallel Lines
Lines which do not meet each other.
2. Intersecting Lines
Lines which meet each other at some point.
3. Perpendicular Lines
Intersecting lines which make an angle of 90° when they meet.