

GEOMETRY- FUNDAMENTAL CONCEPTS

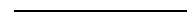
• **A point** is a mark of position, it is neither length nor width nor thickness. So it occupies no space.



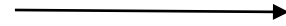
• **A line** has only length. It has neither width nor thickness. It has infinite length.



• **A line segment** is a part of a line whose both ends are fixed. It has definite length.



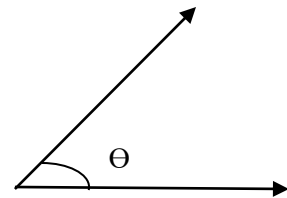
• **A ray** is a part of a line whose one end is fixed and the other end can be extended infinitely.



• **A plane** is a flat surface. It has length and width, but no thickness.

• **The space** is made up of everything which exists in the universe. Every surface etc is a part of space.

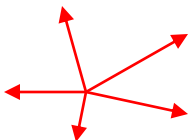
• **An angle** is formed when two line segments or two rays have common end point



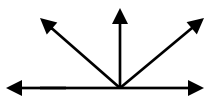
TYPES OF ANGLES

- **Acute Angle:** $0^\circ < \theta \leq 90^\circ$
- **Right Angle:** $\theta = 90^\circ$
- **Obtuse Angle:** $90^\circ < \theta \leq 180^\circ$
- **Straight Angle:** $\theta = 180^\circ$
- **Reflex Angle:** $180^\circ < \theta \leq 360^\circ$

MORE ABOUT ANGLES



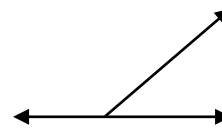
Angles on a Point



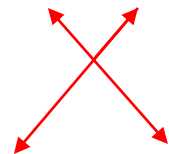
Angles on same side of straight line



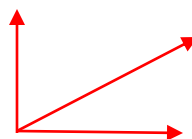
Adjacent angle



Supplementary angles



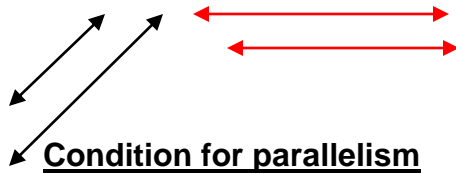
Vertically opposite angles



Complementary angles

GEOMETRY- FUNDAMENTAL CONCEPTS

Parallel lines are straight lines which are coplanar and do not intersect each other even when produced on both sides.



Condition for parallelism

- **Alternate angles are equal or**
Interior : $\angle e = \angle g$; $\angle f = \angle h$ and
Exterior: $\angle b = \angle d$; $\angle a = \angle c$
- **Corresponding angles are equal or**
 $\angle a = \angle g$; $\angle b = \angle h$; $\angle f = \angle d$; $\angle e = \angle c$
- **Co interior angles are supplementary**
 $\angle e + \angle f = 180^\circ$; $\angle h + \angle g = 180^\circ$;

Transversal is a straight line that cuts two or more co planar lines.

