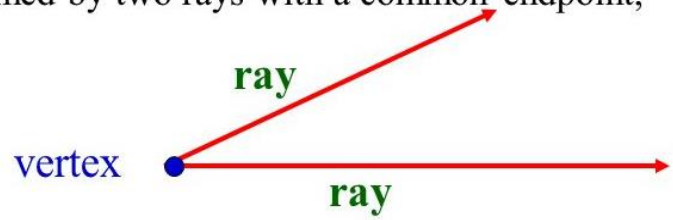
Lines and Angles

Recap Geometrical Terms

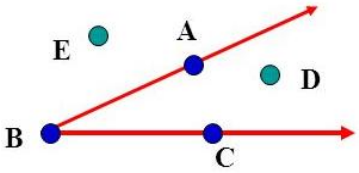
Point		An exact location on a plane is called a point.
Line		A straight path on a plane, extending in both directions with no endpoints, is called a line.
Line segment		A part of a line that has two endpoints and thus has a definite length is called a line segment.
Ray		A line segment extended indefinitely in one direction is called a ray.

Angle and Points

- An Angle is a figure formed by two rays with a common endpoint, called the **vertex.**



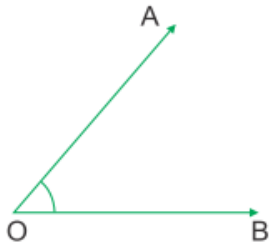
- Angles can have points in the interior, in the exterior or on the angle.



Points A, B and C are on the angle. D is in the interior and E is in the exterior. B is the vertex.

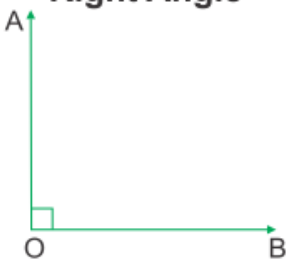
Types of Angles

Acute Angle



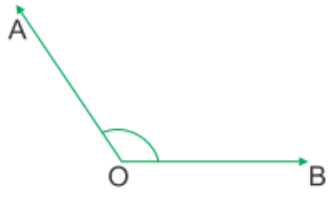
$0^\circ < \text{Measure} < 90^\circ$

Right Angle



Measure = 90°

Obtuse Angle

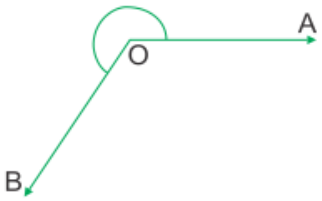


$90^\circ < \text{Measure} < 180^\circ$

Straight Angle

Measure = 180°

Reflex Angle

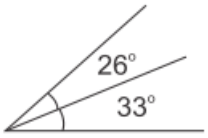


$180^\circ < \text{Measure} < 360^\circ$

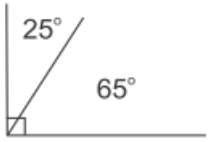
Complete Angle

Measure = 360°

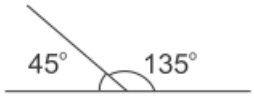
Pair of Angles



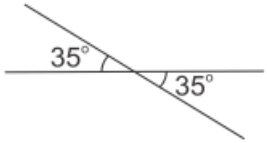
Adjacent Angles
- a common vertex and arm
- other arms lie on opposite sides of the common arm



Complementary Angles
- sum of measures of two angles is 90°
- each angle is called a complement of the other



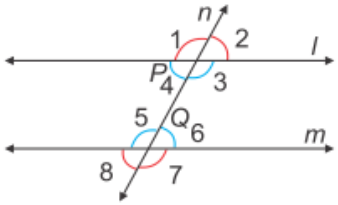
Supplementary Angles
- sum of measures of two angles is 180°
- each angle is called a supplement of the other



Vertically Opposite Angles
- angles formed by two intersecting lines having no common arm

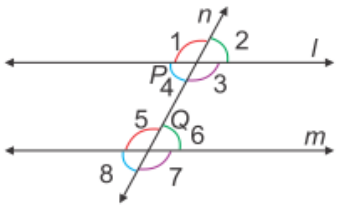
Angles Made by Transversal

Transversal: A line intersecting two or more given lines in a plane at different points.



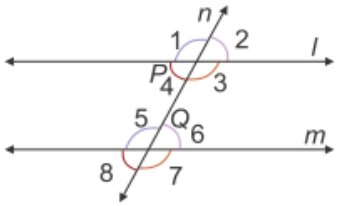
Exterior Angles: Outside of the lines *l* and *m*.
∠1, ∠2, ∠7, ∠8

Interior Angles: Inside of the lines *l* and *m*.
∠3, ∠4, ∠5, ∠6



Corresponding Angles: Pairs of angles that are at the same position at each intersection on the same side of the transversal.

∠1 and ∠5, ∠2 and ∠6, ∠3 and ∠7, ∠4 and ∠8



Alternate Exterior Angles: Pairs of angles on opposite sides of the transversal but outside the two lines *l* and *m*. ∠1 and ∠7, ∠2 and ∠8

Alternate Interior Angles: Pairs of angles on opposite sides of the transversal but inside the two lines *l* and *m*. ∠4 and ∠6, ∠3 and ∠5