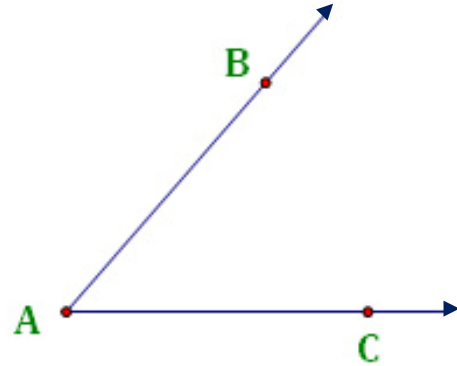# Geometry
Angles

Parts of an Angle

An **angle** consists of two rays with a common endpoint (or, initial point).

- Each ray is a **side** of the angle.
- The common endpoint is called the **vertex** of the angle.

Naming Angles

Angles can be named in one of two ways:

- **Point-vertex-point method.** In this method, the angle is named from a point on one ray, the vertex, and a point on the other ray. This is the most unambiguous method of naming an angle, and is useful in diagrams with multiple angles sharing the same vertex. In the above figure, the angle shown could be named $\angle BAC$ or $\angle CAB$.
- **Vertex method.** In cases where it is not ambiguous, an angle can be named based solely on its vertex. In the above figure, the angle could be named $\angle A$.

Measure of an Angle

There are two conventions for measuring the size of an angle:

- **In degrees**. The symbol for degrees is $^\circ$. There are 360° in a full circle. The angle above measures approximately **45°** (one-eighth of a circle).
- **In radians**. There are 2π radians in a complete circle. The angle above measures approximately $\frac{1}{4}\pi$ **radians**.

Some Terms Relating to Angles

Angle interior is the area between the rays.

Angle exterior is the area not between the rays.

Adjacent angles are angles that share a ray for a side. $\angle BAD$ and $\angle DAC$ in the figure at right are adjacent angles.

Congruent angles area angles with the same measure.

Angle bisector is a ray that divides the angle into two congruent angles. Ray $\overrightarrow{AD}$ bisects $\angle BAC$ in the figure at right.