



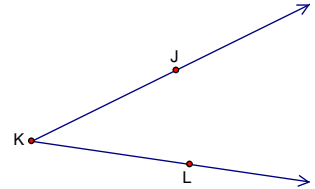
- I can name, measure, and classify angles.
- I can use the Angle Addition Postulate to find measure of angles.
- I can use angle postulates to identify congruent angles.

An **angle** is a figure formed by two different rays that have the same initial point. The two rays are the **sides** of the angle. The initial point is called the **vertex** of the angle.

→ In the diagram to the right, the sides are _____ and _____.

→ The vertex is _____.

→ The name of the angle is _____.



Example 1: Naming Angles

Name the three angles in the diagram below.

_____ or _____
 _____ or _____
 _____ or _____

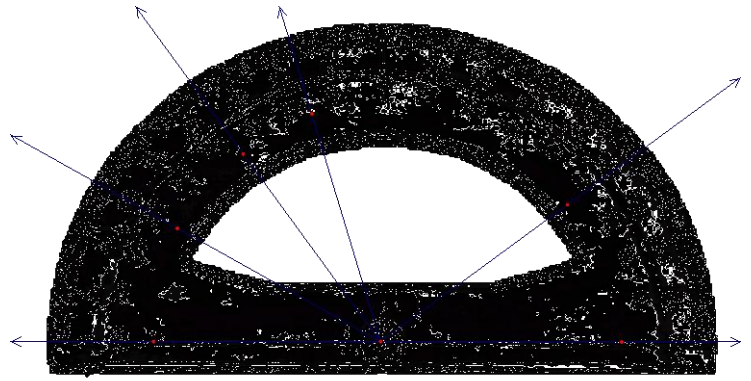


Example 2: Classifying and Measuring Angles

Angles can be classified as **acute**, **right**, **obtuse**, or **straight**.

Acute Angle	Right Angle	Obtuse Angle	Straight Angle
_____ $\angle A$ _____	$m\angle B =$ _____	_____ $\angle C$ _____	$m\angle D =$ _____

To measure an angle, we use a protractor to approximate its value using units called degrees.



Let's find the measure of some of the angles in the diagram above.

$$m\angle AGB = \underline{\hspace{2cm}} \quad m\angle DGE = \underline{\hspace{2cm}} \quad m\angle CGD = \underline{\hspace{2cm}} \quad m\angle AGE = \underline{\hspace{2cm}}$$

Example 3: Angle Addition Postulate

Angle Addition Postulate:
 If P is in the interior of $\angle RST$, then
 $m\angle \underline{\hspace{1cm}} + m\angle \underline{\hspace{1cm}} = m\angle \underline{\hspace{1cm}}$.

a. If $m\angle RSP = 20^\circ$, and $m\angle PST = 32^\circ$, find $m\angle RST$.

b. If $m\angle RST = 86^\circ$, and $m\angle PST = 32^\circ$, find $m\angle RSP$.

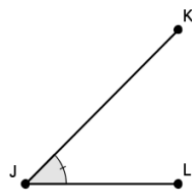
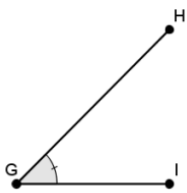
c. If $m\angle RST = 72^\circ$, $m\angle PST = (2x + 4)^\circ$, and $m\angle RSP = (3x - 2)^\circ$, find the value of x and the measures of the angles.

Example 4: Adjacent Angles

Adjacent angles are angles that have a common _____ and share a common _____ but no common interior points.

Example 5: Congruent Angles

Congruent angles are angles that have the same measure.



Angle measures are equal.

Angles are congruent.

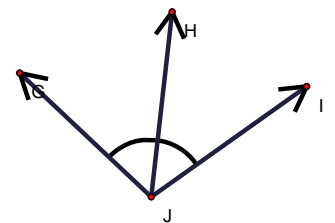
“is equal to”

“is congruent to”

- a. If $\angle CAB \cong \angle FDE$, $m\angle CAB = (2x + 3)^\circ$, and $m\angle FDE = (3x - 17)^\circ$, solve for x and find the measure of each angle.

Example 6: Double Angle Measure

- a. In the diagram, \overrightarrow{JH} bisects $\angle IJG$, and suppose $m\angle GJH = 47^\circ$. Find $m\angle IJG$.



- b. In the diagram, \overrightarrow{JH} bisects $\angle IJG$, and suppose $m\angle GJI = 92^\circ$. Find $m\angle HJI$.