Geometry H   Name: _____
Section 1.4 Notes: Measure and Classify Angles   Date: _____ Period: _____

- 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 _____.
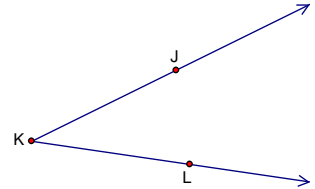
Example 1: Naming Angles

Name the three angles in the diagram below.
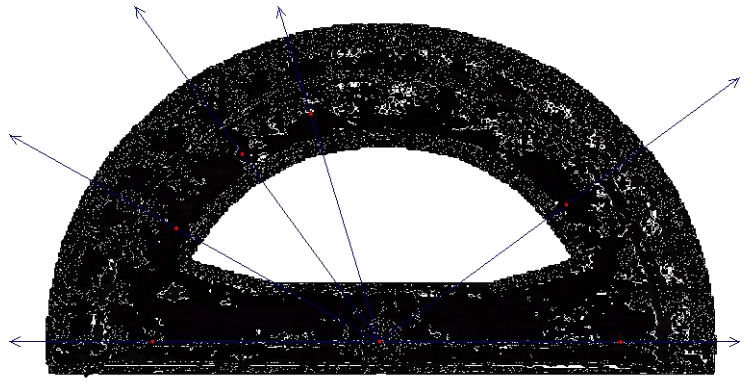
_____ or _____

_____ 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**
_____<m∠A <_____	m∠B=_____	_____<m∠C <_____	m∠D=_____

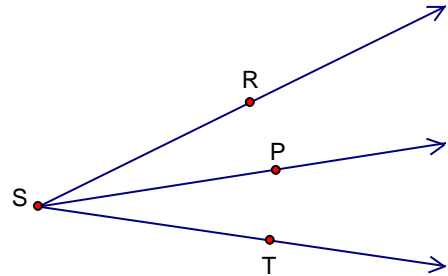To measure an angle, we use a protractor to approximate its value using units called degrees.

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

$m\angle AGB =$ _____ $m\angle DGE =$ _____ $m\angle CGD =$ _____ $m\angle AGE =$ _____

Example 3: Angle Addition Postulate

Angle Addition Postulate:

If P is in the interior of $\angle RST$, then
$m\angle$ _____ $+ m\angle$ _____ $= m\angle$ _____ .

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

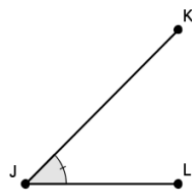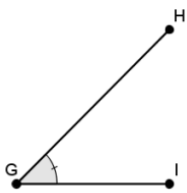   b. If $m\angle RST = 86°$, and $m\angle PST = 32°$, find $m\angle RSP$.

    c. If $m\angle RST = 72°$, $m\angle PST = (2x+4)°$, and $m\angle RSP = (3x-2)°$, 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.
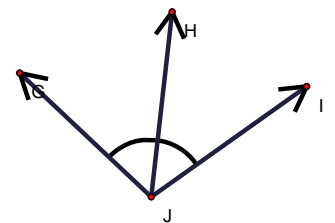
Angle measures are equal.   Angles are congruent.

"is equal to"   "is congruent to"

a. If $\angle CAB \cong \angle FDE$, $m\angle CAB = (2x+3)^{o}$, and $m\angle FDE = (3x-17)^{o}$, 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 $m\angle GJH = 47^{o}$. Find $m\angle IJG$.

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