Friday 9/26/14 B-Day

Warm Up

Solve for x

$$2x + 3 + x - 4 + 3x - 5 = 180$$

Classifying Angles

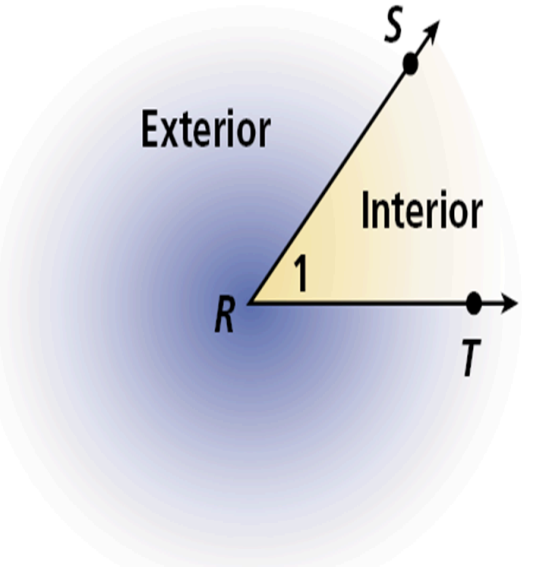
An _____ is a figure formed by two rays, or sides, with a common endpoint called the _____ (plural: *vertices*). You can name an angle several ways: by its vertex, by a point on each ray and the vertex, or by a number.

Classifying Angles

The set of all points between the sides of the angle is the _____. The _____ is the set of all points outside the angle.

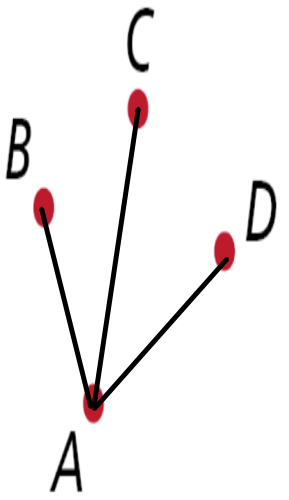
Classifying Angles

Angle Name

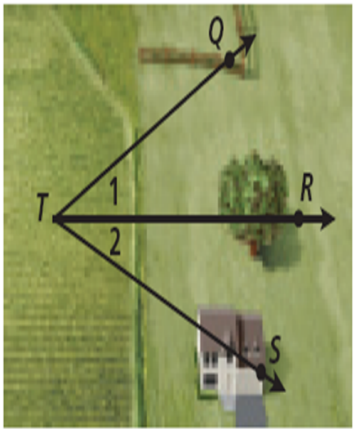


Classifying Angles

A surveyor recorded the angles formed by a transit (point *A*) and three distant points*. B, C*, and *D*. Name three of the angles.



Write the different ways you can name the angles in the diagram.



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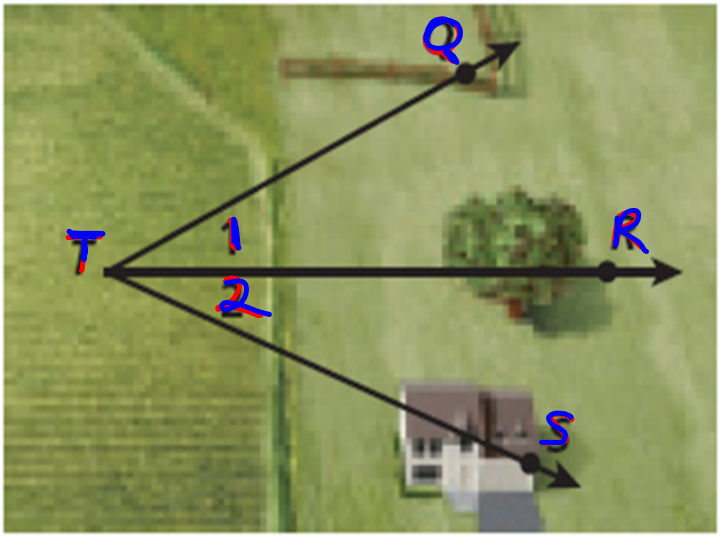
Classifying Angles



Classifying Angles

The _____of an angle is usually given
in degrees. Since there are 360° in a circle, one _____ is $\frac{1}{360}$ of a circle. When you use a protractor to measure angles, you are applying the following postulate.

Classifying Angles

You can use the Protractor Postulate to help you classify angles by their measure. The measure of an angle is the absolute value of the difference of the real numbers that the rays correspond with on a protractor.

If $\overrightarrow{OC}$ corresponds with c and $\overrightarrow{OD}$ corresponds with d, $m\angle DOC = |\_\_\_\_\_|$ or $|\_\_\_\_\_|$.

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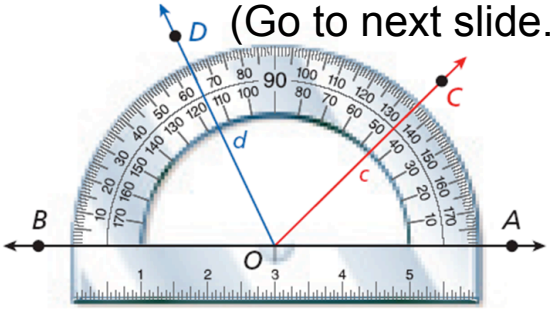
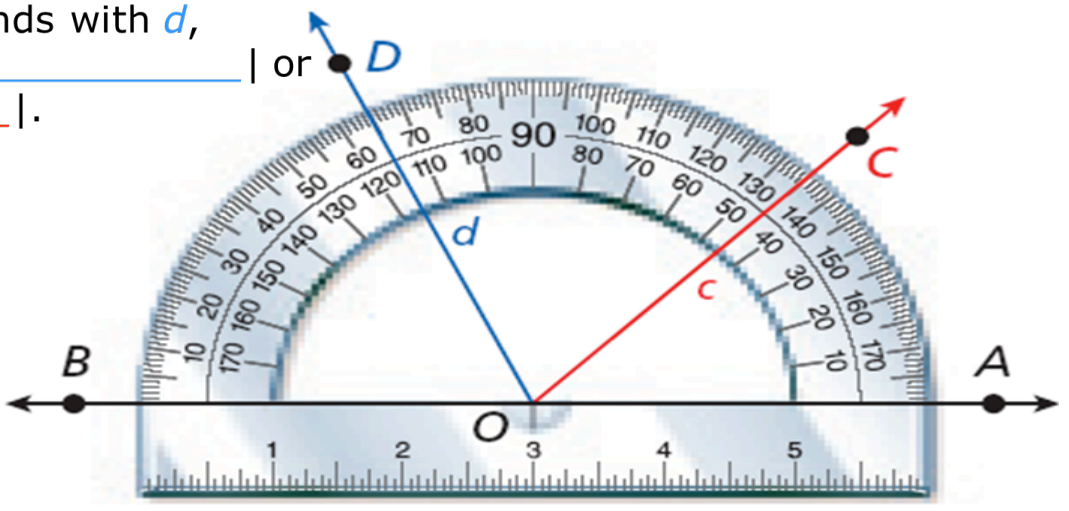


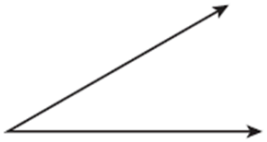
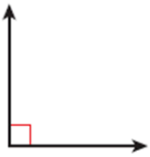
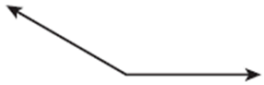
Classifying Angles

If $\overrightarrow{OC}$ corresponds with c and $\overrightarrow{OD}$ corresponds with d, $m\angle DOC$ = |_____| or |_____|.



Classifying Angles

Types of Angles

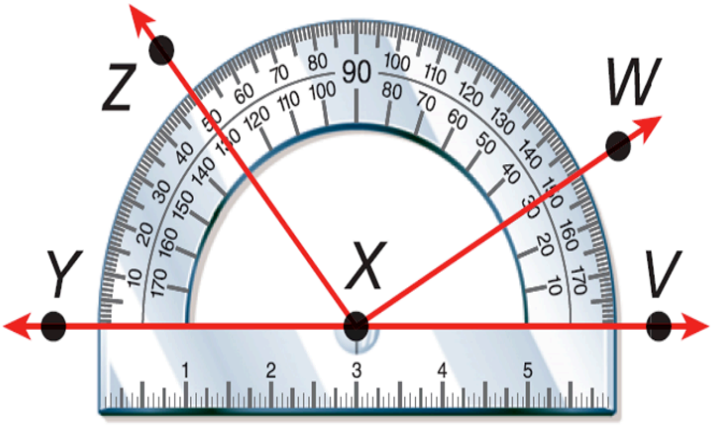
Acute Angle	Right Angle	Obtuse Angle	Straight Angle
			
Measures greater than 0° and less than 90°	Measures 90°	Measures greater than 90° and less than 180°	Formed by two opposite rays and meaures 180°

Classifying Angles

Find the measure of each angle. Then classify each as acute, right, or obtuse.

A. $\angle WXV$

B. $\angle ZXW$



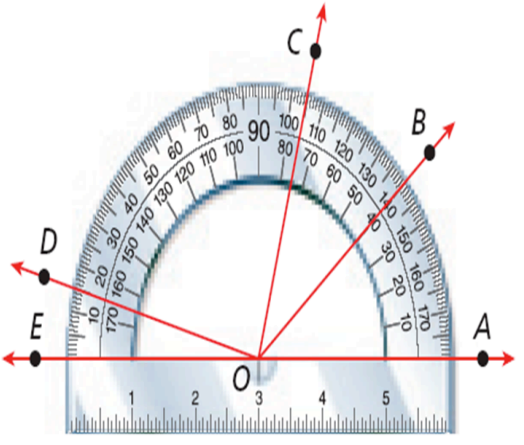
Classifying Angles

Use the diagram to find the measure of each angle. Then classify each as acute, right, or obtuse.

a. $\angle BOA$

b. $\angle DOB$

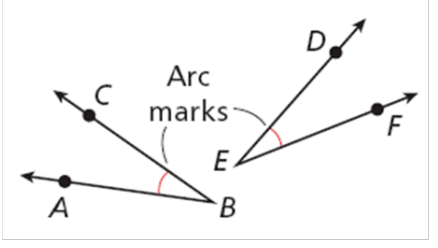
c. $\angle EOC$



Classifying Angles

_____ are angles that have the same measure. In the diagram, m∠*ABC* = m∠*DEF*, so you can write ∠*ABC* ≅ ∠*DEF*. This is read as "angle ABC is congruent to angle *DEF*." _____ are used to show that the two angles are congruent.

The Angle Addition Postulate is very similar to the Segment Addition Postulate that you learned in the previous lesson.

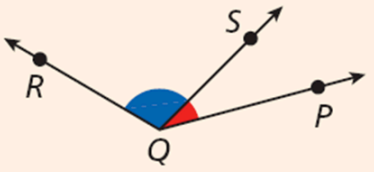


Classifying Angles

Postulate 1-3-2 **Angle Addition Postulate**

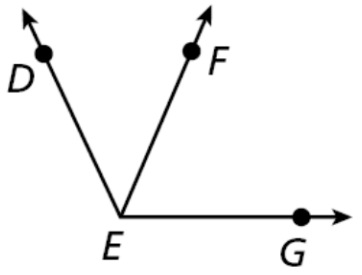
If S is in the interior of $\angle PQR$, then $m\angle PQS + m\angle SQR = m\angle PQR$.

($\angle$ Add. Post.)



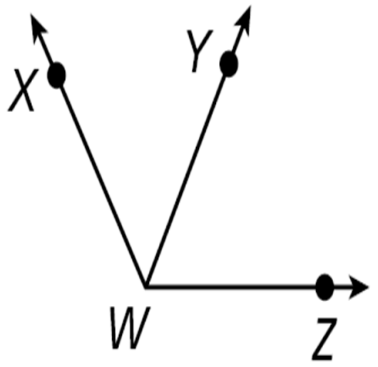
Classifying Angles

m∠*DEG* = 115°, and m∠*DEF* = 48°. Find m∠*FEG*



Classifying Angles

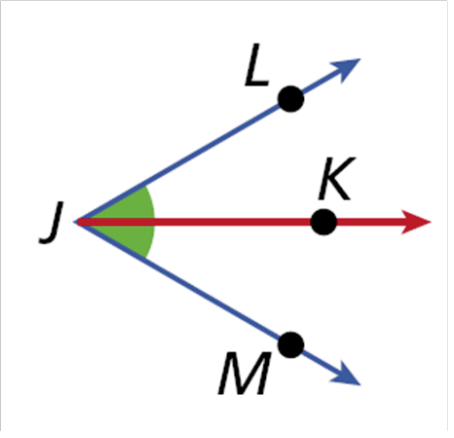
m∠*XWZ* = 121° and m∠*XWY* = 59°. Find m∠*YWZ*.



Classifying Angles

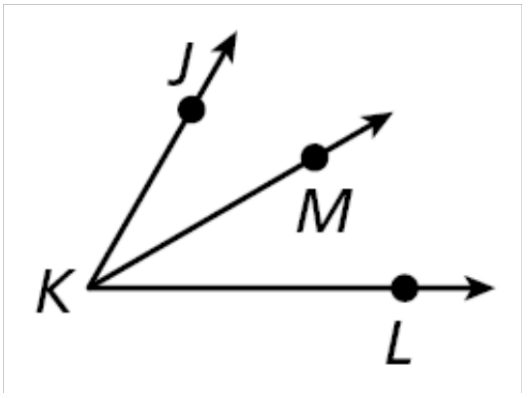
An _____is a ray that divides an angle into two congruent angles.

$\overrightarrow{JK}$ bisects $\angle LJM$; thus $\angle LJK \cong \angle KJM$.



Classifying Angles

$\overrightarrow{KM}$ bisects $\angle JKL$, $m\angle JKM = (4x + 6)°$, and $m\angle MKL = (7x - 12)°$. Find $m\angle JKM$.

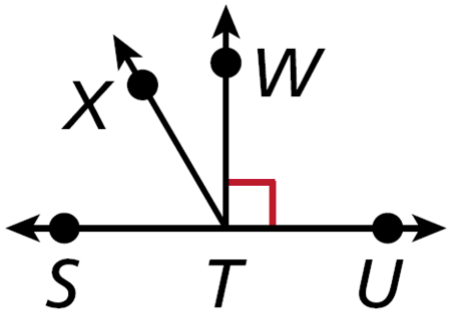


TOD

Classify each angle as acute, right, or obtuse.

1. $\angle XTS$

2. $\angle WTU$



3. K is in the interior of $\angle LMN$, $m\angle LMK = 52°$, and $m\angle KMN = 12°$. Find $m\angle LMN$.