

**1 - 4**

# **Angle Measure**

ray: part of a line

one endpoint; extends infinitely  
in one direction



$\overrightarrow{AG}$



$\overrightarrow{EF}$  and  $\overrightarrow{EG}$

are the same

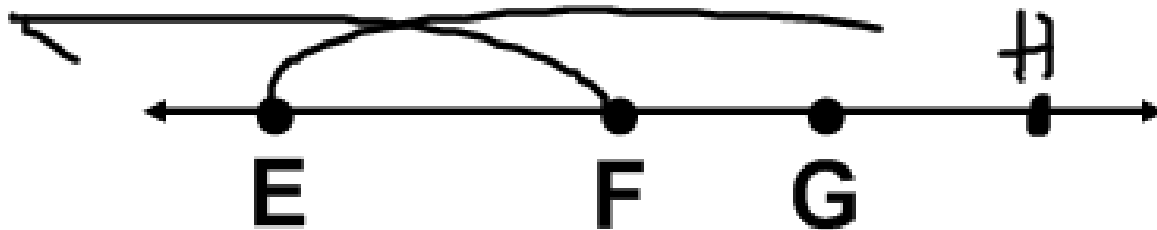


$\overrightarrow{EF}$  and  $\overrightarrow{FE}$

are different



opposite rays: two collinear rays  
that share an endpoint



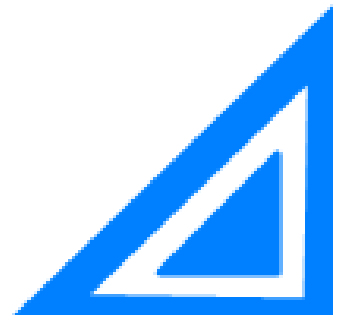
$\overrightarrow{FE}$  and  $\overrightarrow{FG}$



angle: formed by two noncollinear rays  
that have a common endpoint

sides: the rays

vertex: the common endpoint

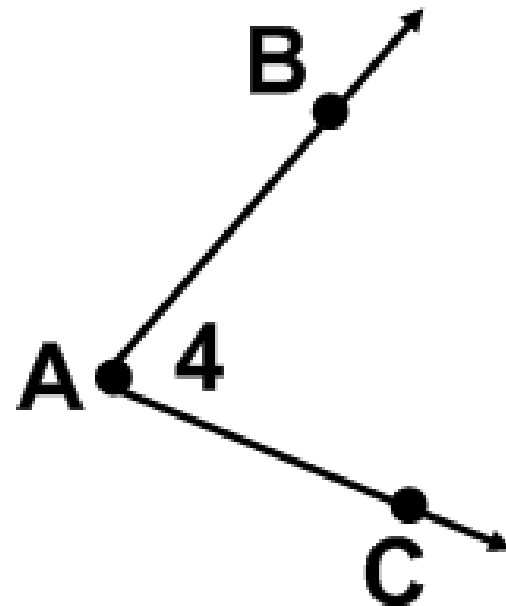


Name the...

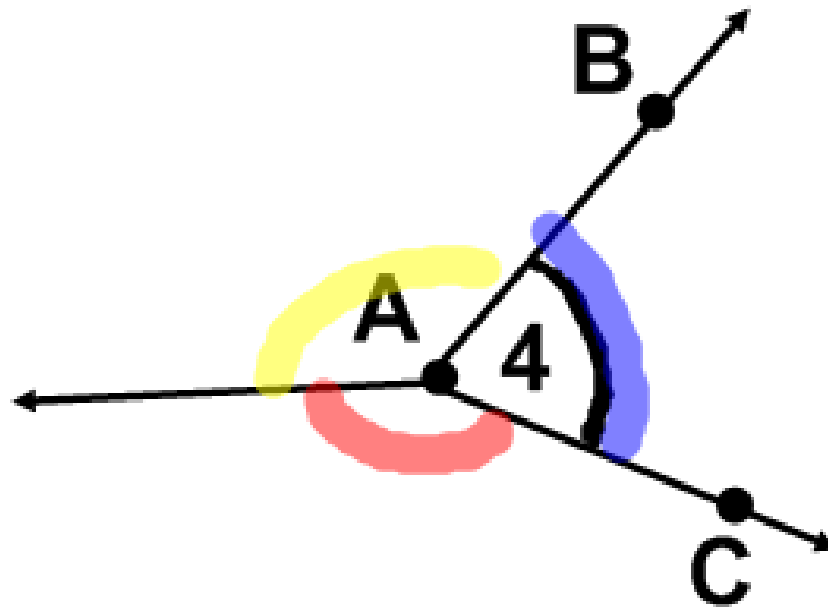
angle:  $\angle BAC$ ,  $\angle CAB$ ,  
 $\angle A$ ,  $\angle 4$

sides:  $\vec{AB}$  and  $\vec{AC}$

vertex:  $A$



If we had...



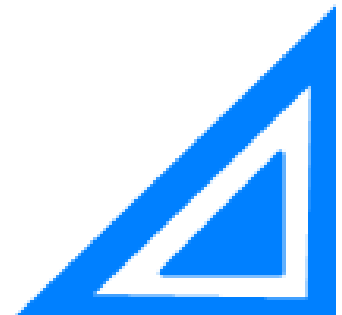
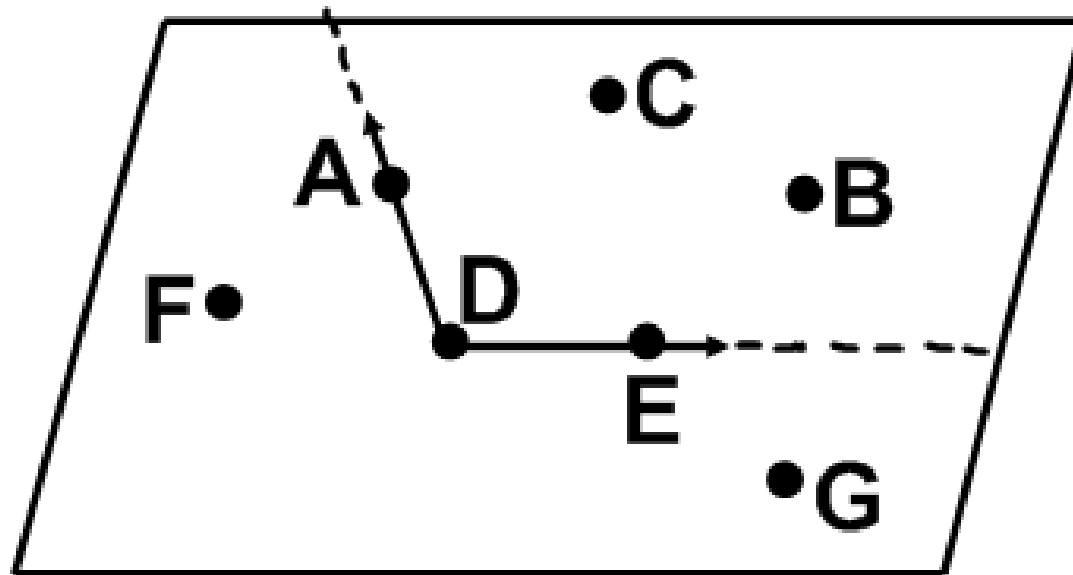
don't call it  $\angle A$ .

Which one is  $\angle A$ ? Can't tell!



An angle divides a plane into  
three distinct parts:

Points A, D, and E lie on the angle .  
Points B and C lie in the interior of the angle .  
Points F and G lie in the exterior of the angle .



Name all angles that have W as a vertex.

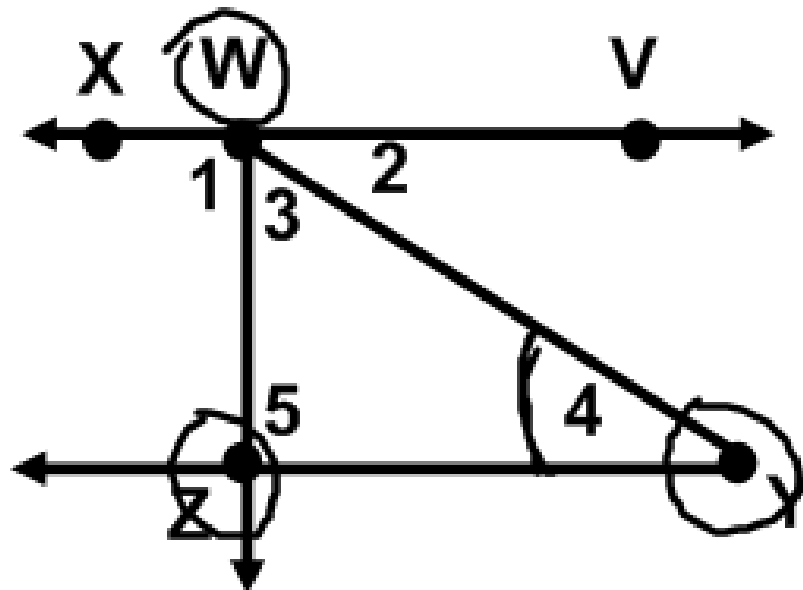
$\angle 2, \angle 3, \angle 1, \angle XWY, \angle VWZ$

Name the sides of  $\angle 1$ .

$\overrightarrow{WX}$     $\overrightarrow{WZ}$

Write another name for  $\angle WYZ$ .

$\angle 4$     $\angle ZYW$





## Classify angles by measure.

right angle:  $m\angle A = 90$

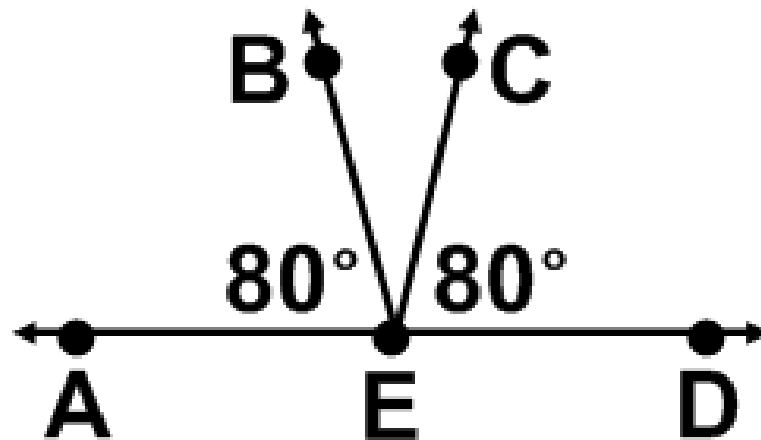
acute angle:  $m\angle A < 90$

obtuse angle:  $m\angle A > 90$



congruent angles: angles that have the same measure

$$\angle AEB \cong \angle DEC$$



Ex:  $\angle ABC \cong \angle DEF$ . If  $m \angle ABC = 6x + 2$  and  $m \angle DEF = 8x - 14$ , find the actual measurements of  $\angle ABC$  and  $\angle DEF$ .

$$\begin{array}{r} 6x + 2 = 8x - 14 \\ -6x \qquad -6x \\ \hline \end{array}$$

$$\begin{array}{r} 2 = 2x - 14 \\ +14 \qquad +14 \\ \hline \end{array}$$

$$\begin{array}{r} 16 = 2x \\ x = 8 \end{array}$$

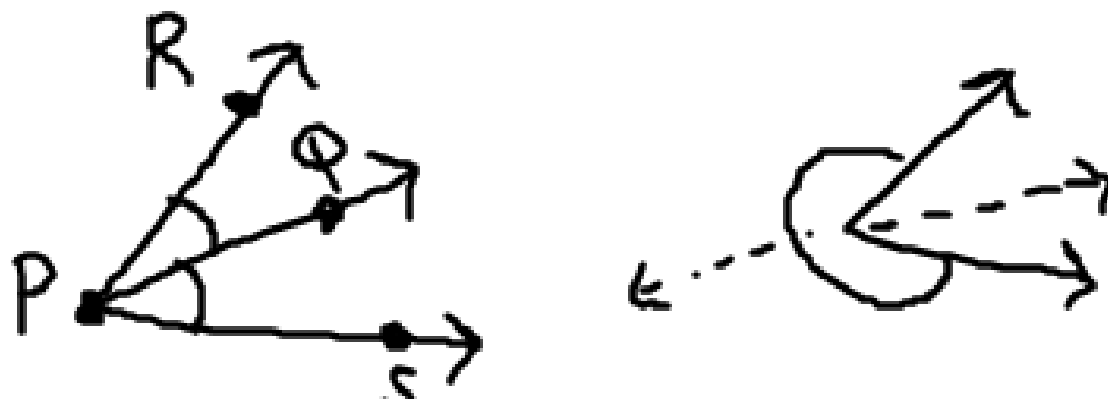
$$\begin{array}{r} 6x + 2 \\ 6 \cdot 8 + 2 \\ \hline \end{array}$$

$50^\circ$



angle bisector: ray that divides an angle into two smaller congruent angles

**\*\* If  $PQ$  is the angle bisector of  $\angle RPS$ , then point  $Q$  lies in the interior of  $\angle RPS$  and  $\angle RPQ \cong \angle QPS$ .**



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Homework:

1 - 4 WS

