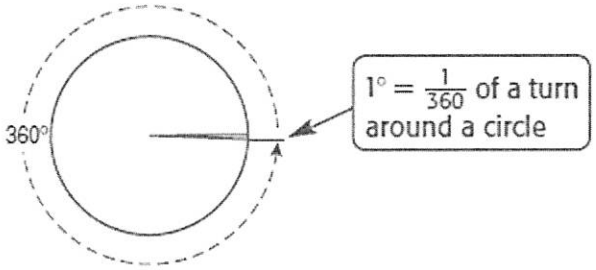
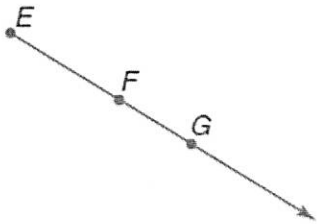
Angle Measure classwork

KEY

- ***Degree***: $\frac{1}{360}$ of a turn around a circle



- ***Ray***: part of a line
  - It has one endpoint and extends indefinitely in one direction.
  - Rays are named stating the endpoint first then any other point on the ray.



Please name 2 different rays: $\overrightarrow{EF}$ & $\overrightarrow{FG}$

- ***Opposite rays***: two rays extending from a common point on a line

- ***Angle***: a figure consisting of two noncollinear rays with a common vertex
  - *Vertex* – the common point of the rays of an angle
  - *Sides* – the rays forming an angle

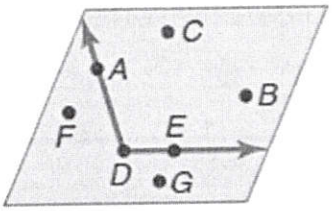
Angles:

An angle separates a plane into three distinct parts

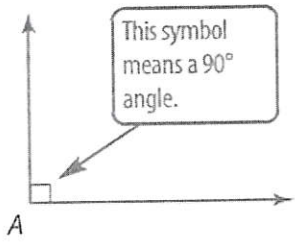
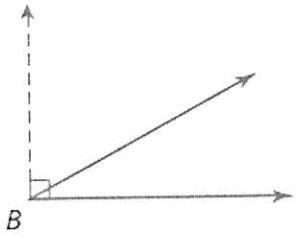
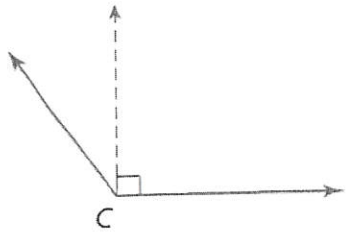
- *Interior*
- *Exterior*
- The angle itself

Naming angles

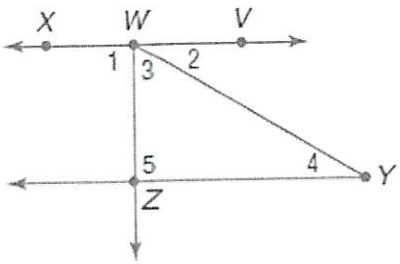
- Use a single letter or number
- Triplet of letters (center letter is the vertex) if there is any possible ambiguity regarding angle to which you refer.



KeyConcept Classify Angles

right angle	acute angle	obtuse angle
		
$m\angle A = 90$	$m\angle B < 90$	$180 > m\angle C > 90$

Ex #2: Use the figure to answer the following.



a) Name all the angles that have W as a vertex. 1, 2, 3

b) Name the sides of $\angle 1$. $\overrightarrow{WX}$, $\overrightarrow{WZ}$

c) Write another name for $\angle WYZ$. $\angle 4$

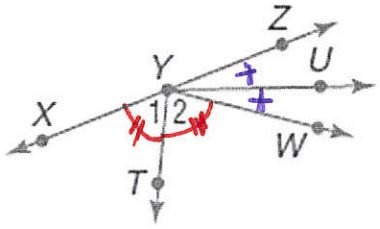
d) Name a pair of opposite rays.

$\overrightarrow{WX}$ & $\overrightarrow{WV}$

- ***Congruent angles***: angles that have the same measure.
  - Arcs on the figure indicate which angles are congruent.
  - If $m\angle ABC = m\angle DEF$, then it is said that $\angle ABC \cong \angle DEF$

- ***Angle bisector***: a ray that divides an angle into 2 congruent ∠'s is called an angle bisector.

Ex #3: In the figure, $\overrightarrow{YX}$ and $\overrightarrow{YZ}$ are opposite rays.
$\overrightarrow{YU}$ bisects $\angle ZYW$
$\overrightarrow{YT}$ bisects $\angle XYW$.



a) If $m\angle 1 = 5x + 10$ and $m\angle 2 = 8x - 23$, find $m\angle 2$.

$5x+10 = 8x-23$
$-5x+23 \quad -5x+23$
$33 = 3x$
$x = 11$

$m\angle 2 = 8x-23$
$= 8(11)-23$
$= 88-23$
$= \boxed{65}$

b) If $m\angle WYZ = 82$ and $m\angle ZYU = 4r + 25$, find r.

$2(4r+25) = 82$ -or- $4r+25 = 41$
$-25 \quad -25$
$4r = 16$
$\boxed{r = 4}$

c) If $\angle ZYW$ is a right angle and $m\angle ZYU = 13a - 7$, find a.

not drawn to scale, but that will happen

$13a-7 = 45$
$+7 \quad +7$
$13a = 52$
$\boxed{a = 4}$