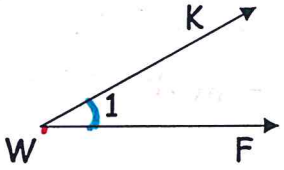
1-6 Measuring Angles

Obj. 1 – Find Angle Measures

Angle – Formed by 2 rays with the same endpoint.

– The rays are the sides of the angle and the common endpoint is the vertex.



$\overrightarrow{WK}$

$\overrightarrow{WF}$

W is the vertex

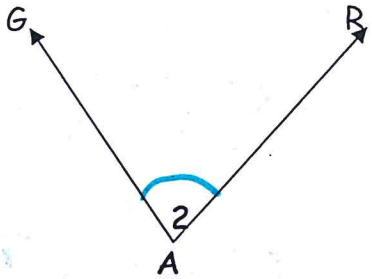
Example 1 – Naming Angles – name the angle above in three different ways

$\angle 1$, $\angle KWF$, $\angle FWK$

$\angle$ means "angle"

*Vertex letter always in the middle.

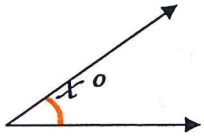
✓**Quick Check** – Name $\angle GAR$ in two other ways.



$\angle 2$

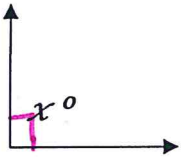
$\angle RAG$

Angles are classified by their measures.



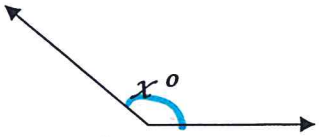
Acute angle

$0° < x < 90°$



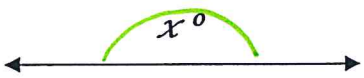
Right angle

$x = 90°$



Obtuse angle

$90° < x < 180°$



Straight/Flat angle

$x = 180°$

Example 2 – Measuring and Classifying Angles

Use a protractor to find the measure of each angle on the handout.

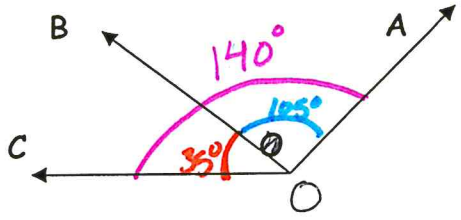
Congruent Angles: Angles with the same measure.

If $m\angle 1 = m\angle 2$, then $\angle 1 \cong \angle 2$.

("the measure of angle") ↑ ↖ congruent

Postulate 1-8 – Angle Addition Postulate

If point B is in the interior of $\angle AOC$, then $m\angle AOB + m\angle BOC = m\angle AOC$.



$m\angle BOC = 35°$

$m\angle AOB = 105°$

$m\angle AOC$?

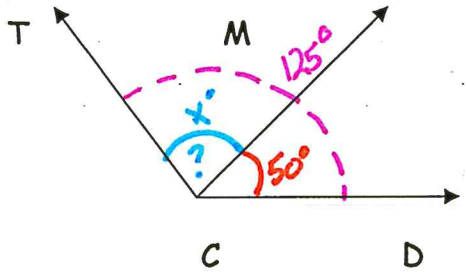
$105 + 35 = 140°$

$m\angle AOC = 140°$

Example 3 – Using the Angle Addition Postulate

What is $m \angle TCM$ if $m \angle MCD$ is 50 and $m \angle TCD$ is 125?

x



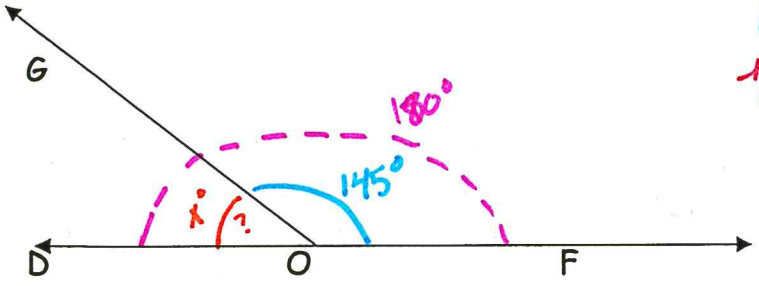
$x + 50 = 125$

$-50 \quad -50$

$x = 75$

$m\angle TCM = 75°$

✓**Quick Check** – If $m \angle FOG$ is 145, find $m \angle DOG$.



$145 + x = 180$

$-145 \quad -145$

$x = 35°$

$m\angle DOG = 35°$