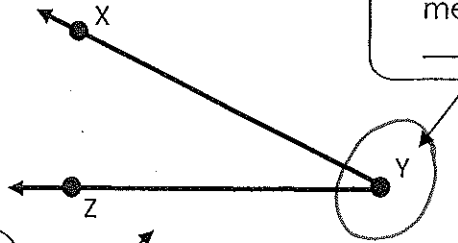


## Angle Relationships

An Angle has two sides that share a common endpoint and is measured in units called degrees.

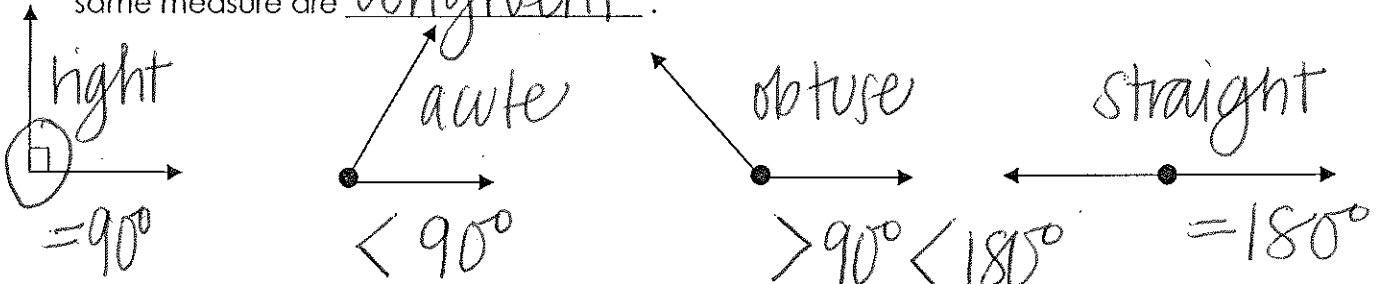
The point where the sides meet is called the vertex.



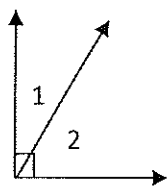
### Naming Angles:

This angle can be called  $\angle XYZ$ ,  $\angle ZYX$ , or  $\angle Y$ . You must list the vertex as the center or simply call the angle by its vertex.

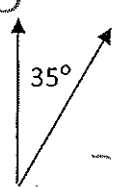
**Classifying Angles:** Angles are classified according to their measure. Two angles with the same measure are congruent.



Two angles are complementary if the sum of their angle measures is  $90^\circ$ .

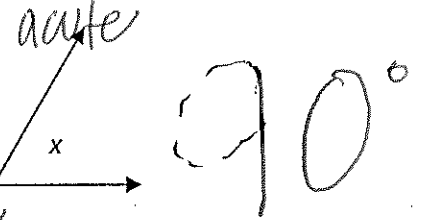


$$m\angle 1 + m\angle 2 = 90^\circ$$

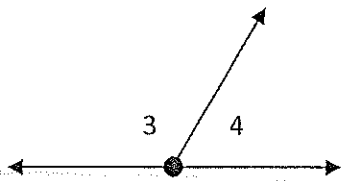


$$35^\circ + x = 90^\circ$$

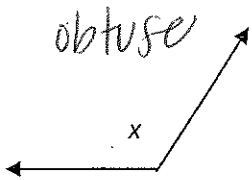
$$\begin{array}{r} -35 \\ -35 \\ \hline x = 55^\circ \checkmark \end{array}$$



Two angles are supplementary if the sum of their measures is  $180^\circ$ .

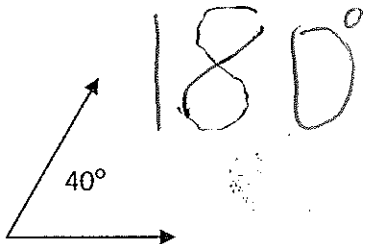


$$m\angle 3 + m\angle 4 = 180^\circ$$



$$x + 40^\circ = 180^\circ$$

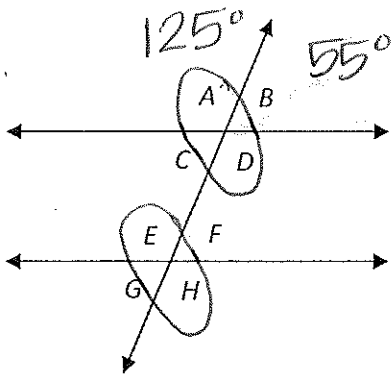
$$x = 140^\circ \checkmark$$



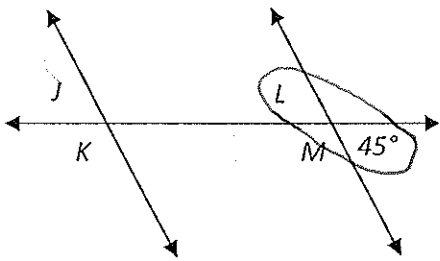
$180^\circ$

Vertical Angles: Angles that are formed by intersecting lines are congruent.

*\*opposite angles are congruent!*



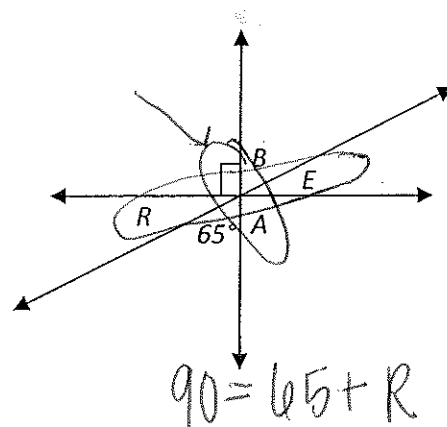
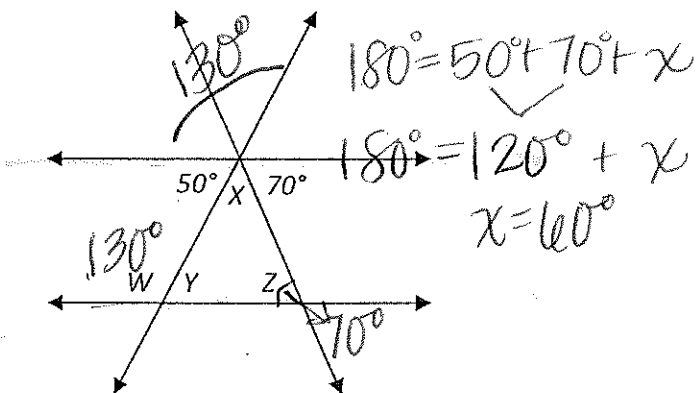
$m\angle A + m\angle B$ are <u>supplementary</u> .	
$m\angle B = 55^\circ$ , what is the $m\angle A$ ? <u><math>125^\circ</math></u> $180^\circ = 55^\circ + A$	
$m\angle C$ <u><math>55^\circ</math></u>	$m\angle D$ <u><math>125^\circ</math></u>
$m\angle E$ <u><math>125^\circ</math></u>	$m\angle F$ <u><math>55^\circ</math></u>
$m\angle G$ <u><math>55^\circ</math></u>	$m\angle H$ <u><math>125^\circ</math></u>



$m\angle J$ <u><math>45^\circ</math></u>	$m\angle K$ <u><math>135^\circ</math></u>
$m\angle L$ <u><math>45^\circ</math></u>	$m\angle M$ <u><math>135^\circ</math></u>

$$180^\circ = m + 45^\circ$$

CORRESPONDING ANGLES



$m\angle W$ <u><math>130^\circ</math></u>	$m\angle X$ <u><math>60^\circ</math></u>
$m\angle Y$ <u><math>50^\circ</math></u>	$m\angle Z$ <u><math>70^\circ</math></u>

$m\angle B$ <u><math>65^\circ</math></u>	$m\angle E$ <u><math>25^\circ</math></u>
$m\angle A$ <u><math>90^\circ</math></u>	$m\angle R$ <u><math>25^\circ</math></u>

$$60^\circ + 50^\circ + 70^\circ = 180^\circ \checkmark$$