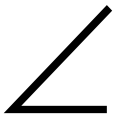
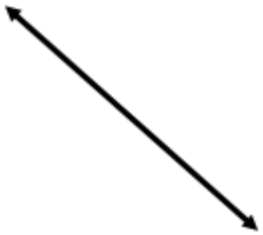


Lines and Angles



Goals: *Classify angles as acute, obtuse, or right
*Use angle relationships to find missing angle measures
*Identify angle pairs formed by a transversal
*Use knowledge of angle pairs given a transversal to find missing angle measures.

Acute angle:

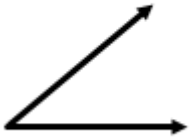
Obtuse angle:

Right angle:

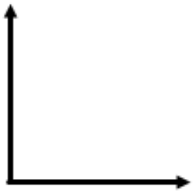
Straight angle:

Classify the following types of angles:

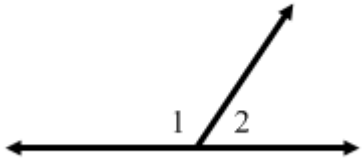
Ex:



Ex:



Ex:



Complementary Angles:

Are the two angles complementary?

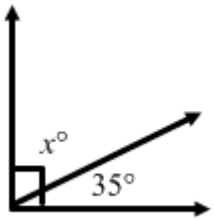
Ex: 30° and 60°

Ex: 25° and 55°

Ex: 45° and 45°

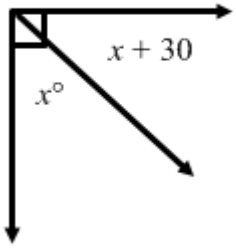
Find missing angles:

Ex:



Ex: $\angle A$ and $\angle B$ are complementary. Find $\angle A$ if $\angle B = 61°$.

Ex:



Ex: $\angle 1 = y°$ $\angle 2 = 2y°$
$\angle 1$ and $\angle 2$ are complementary. Find $\angle 1$ and $\angle 2$.

<u>Supplementary Angles</u>:

Are the two angles supplementary?

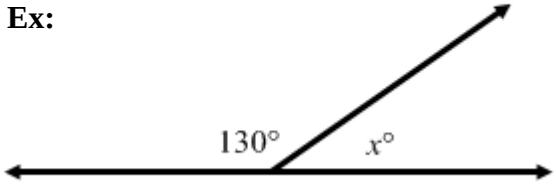
Ex: 120° and 60°

Ex: 110° and 50°

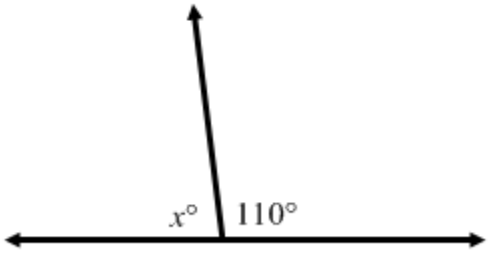
Ex: 72° and 108°

Find missing angles:

Ex:

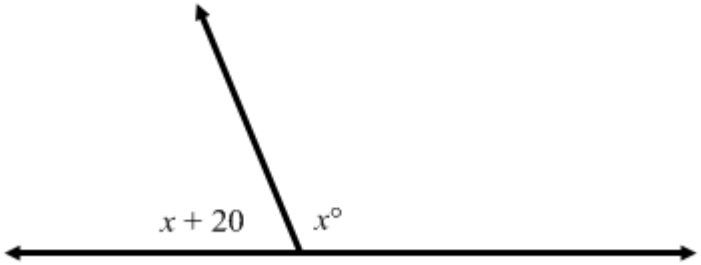


Ex:



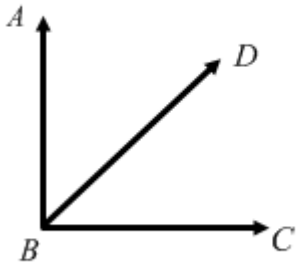
Ex: $\angle A$ and $\angle B$ are supplementary. $\angle A = 3x°$ and $\angle B = 6x°$. Find both angles.

Ex:



<u>Adjacent angles</u>:

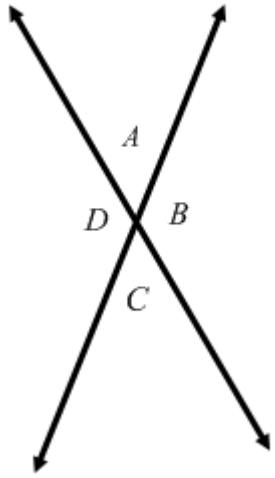
Ex: a) Name two adjacent angles. b) Name the common ray.



<u>Vertex</u>:

Ex: Name the vertex of the previous example.

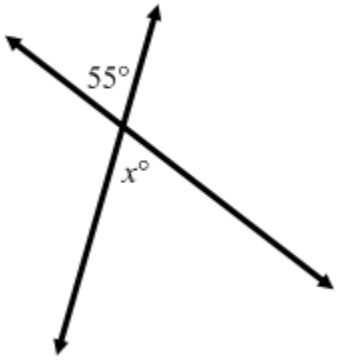
Vertical angles:



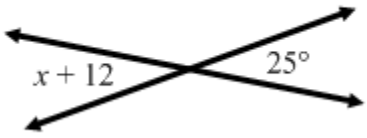
Ex: Name two sets of vertical angles

Find the value of *x*.

Ex:



Ex:

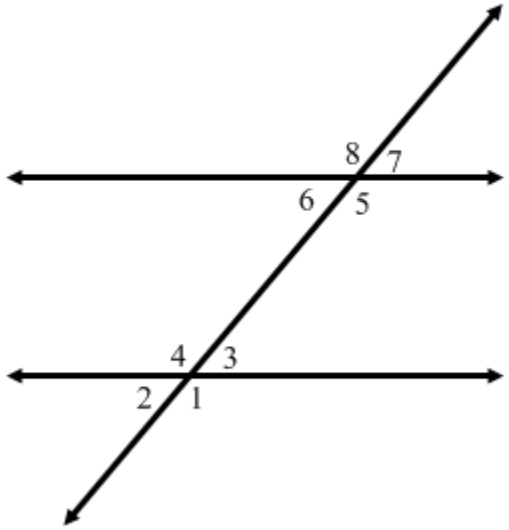


Parallel lines:

Transversal:

When parallel lines are intersected by a _____, _____ angles are formed.

There are _____ pairs. Each pair is _____, meaning they have the same measure.



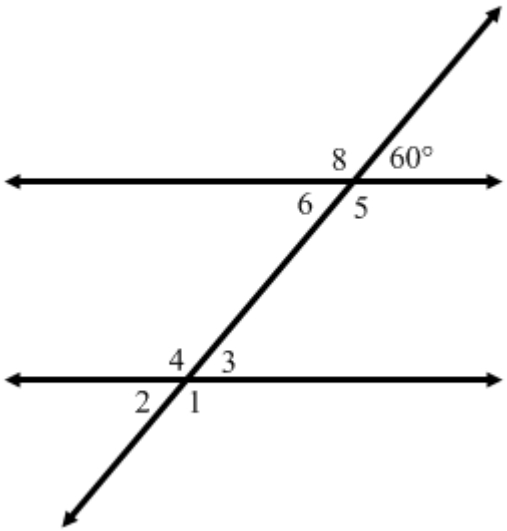
<u>Alternate Exterior Angles</u>:
Two angles *outside* the parallel lines, on *opposite* sides of the transversal that have the same measure.

<u>Corresponding Angles</u>:
Two angles in the same spot if you were to slide one parallel line on top of the other.

<u>Alternate Interior Angles</u>:
Two angles *inside* the parallel lines, on *opposite* sides of the transversal that have the same measure.

<u>Vertical Angles</u>:
Two angles located opposite each other on intersecting lines.

Find the missing angle measures:



$m\angle 1 =$

$m\angle 2 =$

$m\angle 3 =$

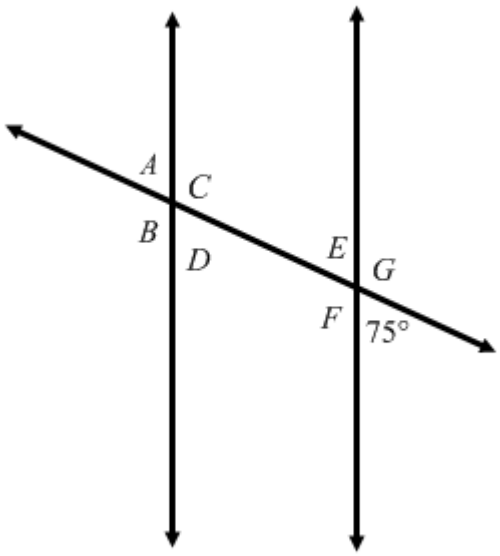
$m\angle 4 =$

$m\angle 5 =$

$m\angle 6 =$

$m\angle 8 =$

Find the missing angle measures:



$m\angle A =$

$m\angle B =$

$m\angle C =$

$m\angle D =$

$m\angle E =$

$m\angle F =$

$m\angle G =$