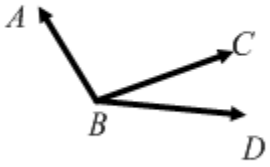
Lines, Triangles and Angles
Quiz Study Guide

Angles:

·You should be able to:

- **Classify angles as acute, obtuse, right, adjacent, vertical, supplementary or complimentary and use all names that apply**

Ex:



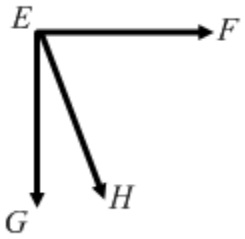
$\angle ABC$ = __obtuse_____

$\angle ABD$ = __obtuse_____

$\angle CBD$ = _____acute_____

$\angle ABC$ and $\angle CBD$ = __adjacent_____

Ex:



$\angle FEG$ = ____Right_____

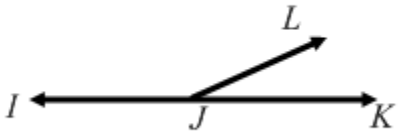
$\angle FEH$ = ____acute_____

$\angle HEG$ = ____acute_____

$\angle FEH$ and $\angle HEG$ = __adjacent_____

____complimentary_____

Ex:



$\angle IJL$ = _obtuse_____

$\angle IJK$ = ___straight_____

$\angle LJK$ = ___acute_____

$\angle LJI$ and $\angle KJL$ = __adjacent_____ and ___supplementary_____

- Identify the vertices of the previous three examples.
  1) ___B_____
  2) ____E_____
  3) ____J_____

·You should be able to use angle relationships to find missing angle measures.

Ex: The measure of angle 1 is 30°. Angles 1 and 2 are complimentary. Find the measure of angle 2.

60° (Because 90-30 is 60)

Ex: The measure of angle 1 is 125°. Angles 1 and 2 are supplementary. Find the measure of angle 2.

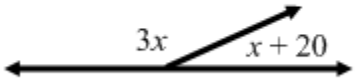
55° (because 180-125 is 55°)

Ex: Angles 1 and 2 are vertical. The measure of angle 1 is 45°. Find the measure of angle 2.

45° (Because vertical angles are the same size)

Use the given information to find the value of *x*.

Ex:



Since they form a straight line they are supplementary they add up to 180°.

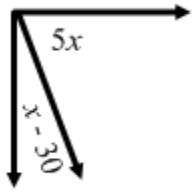
$3x + x + 20 = 180$

$4x + 20 = 180$

$4x = 160$

$x = 40$

Ex:



Since they form a right angle they are complimentary and add up to 90°.

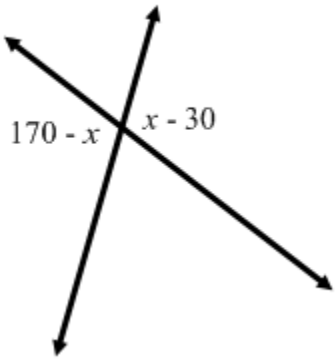
$5x + x - 30 = 90$

$6x - 30 = 90$

$6x = 120$

$x = 20$

Ex:



$170 - x = x - 30$

$+x \quad +x$

$170 = 2x - 30$

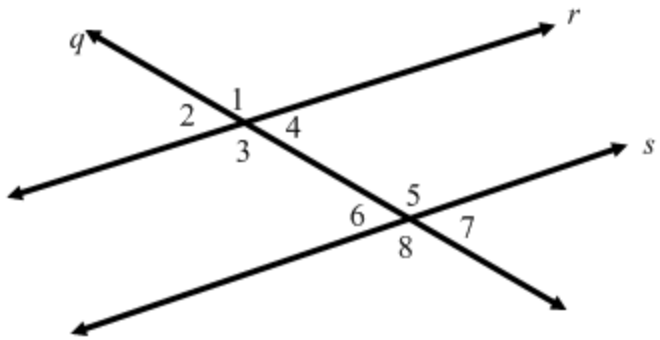
$+30 \quad +30$

$200 = 2x$

$100 = x$

Angles formed by a Transversal:

·You should be able to identify angle pairs formed by a transversal intersecting parallel lines and use their relationships to find missing angle measures.



Ex: Which two lines are parallel? ____*r* and *s*_____ **Ex:** Which line is the transversal? ___*q*_____

Ex: Give one pair of corresponding angles: _1 & 5, or 4 & 7, 2 and 6 or 3 and 8_____

Ex: Give one pair of vertical angles: _1 and 3, 2 and 4, 5 and 8 or 6 and 7_____

Ex: Give one pair of alternate interior angles: __3 and 5 or 4 and 6_____

Ex: Give one pair of supplementary angles: __1 and 4, 1 and 2, 2 and 3, 3 and 4, 5 and 6, 5 and 7, 6 and 8, or 8 and 7 ___

Ex: Give one pair of alternate exterior angles: ___2 and 7 or 1 and 8_____

Find the missing angle measures. Give the reason you know.

Ex: Find $m\angle 1$ if $m\angle 2$ is 50º.

Measure: ___130°_____

Reason: ____Supplementary_____

Ex: Find $m\angle 8$ if $m\angle 1$ is 140°.

Measure: _140°_____

Reason: __Alternate Exterior_____

Ex: Find $m\angle 6$ if the $m\angle 4$ is 30°.

Measure: __30°_____

Reason: ___Alternate Interior_____

Ex: Find $m\angle 2$ if $m\angle 6$ is 60°.

Measure: __60°_____

Reason: ____Corresponding_____

Ex: Find $m\angle 3$ if the $m\angle 1$ is 92°.

Measure: ____92°_____

Reason: _____Vertical Angles_____

Triangles:

· You should be able to classify a triangle by its sides and angles.

· You should be able to find missing measures in triangles.

Ex: A triangle with no equal sides is called: ____scalene_____

Ex: A triangle with all equal sides is called: ____equilateral_____

Ex: A triangle with 2 equal sides is called: _____isosceles_____

Ex: A triangle with 1 __obtuse_____ angle is called: ____an obtuse triangle_____

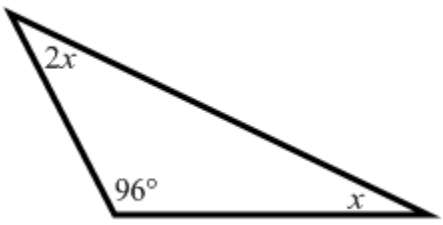
Ex: A triangle with 1 ___right_____ angle is called: _____a right triangle_____

Ex: A triangle with 3 ___acute_____ angles is called: ____an acute triangle_____

Ex: The number of sides equal in a triangle is also the number of ___angles_____ that are equal. For example, if a triangle is isosceles, then it would be have _2_____ equal angles.

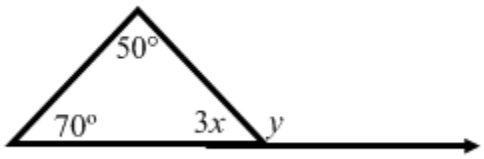
Find the missing angle measure:

Ex:



$2x + 96 + x = 180$
$3x + 96 = 180$
$3x = 84$
$x = 28$

Ex:



Find *x* first:
$50 + 70 + 3x = 180$
$120 + 3x = 180$
$3x = 60$
$x = 20$

Then find *y* (which is supplementary to the 3*x* angle which now equals 60.
So *y* = 120 since that is 180 – 60