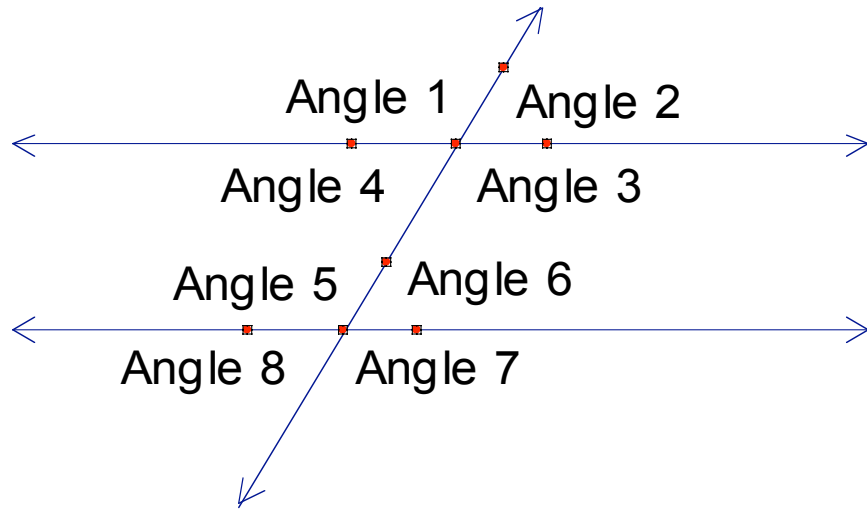


Name: _____

Parallel Lines Cut by a Transversal



Exterior Angles: _____, _____, _____, _____

Interior Angles: _____, _____, _____, _____

Alternate Exterior Angles: _____ & _____, _____ & _____

Alternate Interior Angles: _____ & _____, _____ & _____

Corresponding Angles: _____ & _____, _____ & _____, _____ & _____, _____ & _____

Same Side Interior Angles: _____ & _____, _____ & _____

Fill in after completing GSP worksheet

Summary: Corresponding Angles are _____ Alternate Exterior Angles are _____ Alternate Interior Angles are _____ Same Side Interior Angles are _____

Name: _____

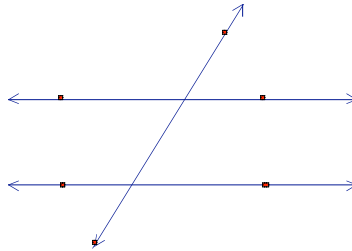
GSP-Parallel Lines cut by a Transversal

Directions: Follow instructions and answer questions.

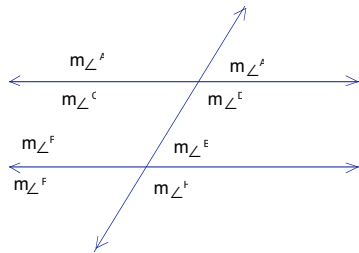
1) GSP: Construct two lines that are parallel.



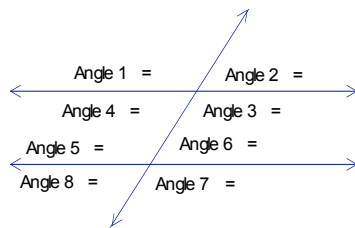
2) GSP: Construct a transversal.



3) GSP: Find the measure of all the angles. (First construct the 2 points of intersection of parallel lines and transversal) Move the angle measurements to the angle for which its measure is. Then hide all the points. (Your measurements will not be the same as this one)



4) GSP: Re-label all the angles as the diagram below is by right clicking on each angle, going to properties, under label tab retype the label then click on ok.



Describe everything you notice about your diagram of parallel lines cut by a transversal.

What do you notice about the angle measurements? _____

Which angles are congruent?

_____ = _____ = _____ = _____ _____ = _____ = _____ = _____

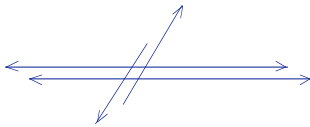
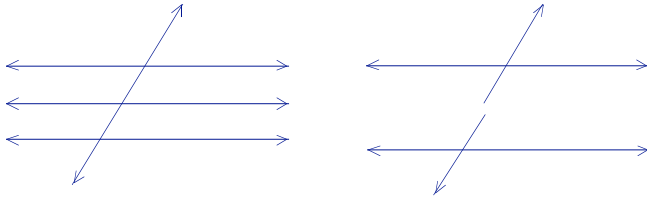
Are the alternate interior angles congruent? _____
 Are the alternate exterior angles congruent? _____
 Are the corresponding angles congruent? _____
 Are the same side interior angles supplementary? _____

5) GSP: Move a point on the transversal to move the transversal, this will change the angle measurements.

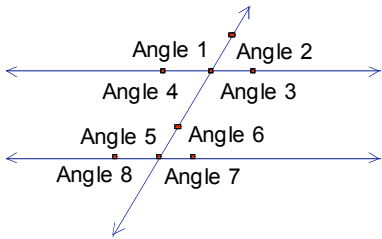
Are your answers from 4) the same after you moved the transversal? _____

6) Look at the diagrams of parallel lines cut by a transversal below.

If we cut a line along the dotted line through the transversal, this will leave two sets of intersecting lines in which we already know **vertical angles are congruent**.



If we slide the intersecting lines together so the lines match up, the two sets of intersecting lines match up exactly. Now using the diagram below and knowing that the intersecting lines are equal and vertical angles are equal, name all the congruent angles.

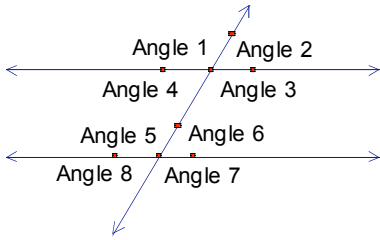


_____ = _____ = _____ = _____

_____ = _____ = _____ = _____

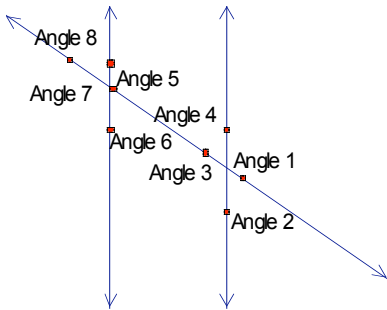
Are the alternate interior angles congruent? _____
 Are the alternate exterior angles congruent? _____
 Are the corresponding angles congruent? _____
 Are the same side interior angles supplementary? _____

Name: _____



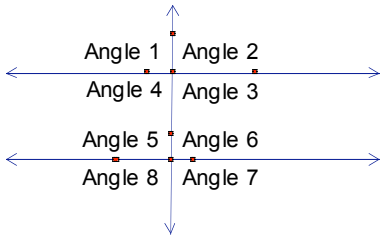
If Angle 2 = 65° , what are the angle measurements of

- <1 = _____
- <3 = _____
- <4 = _____
- <5 = _____
- <6 = _____
- <7 = _____
- <8 = _____



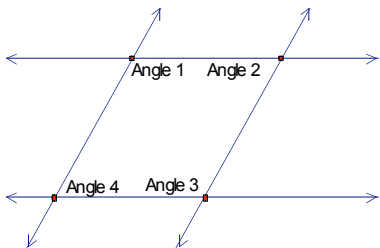
If Angle 5 = 135° , what are the angle measurements of

- <1 = _____
- <2 = _____
- <3 = _____
- <4 = _____
- <6 = _____
- <7 = _____
- <8 = _____



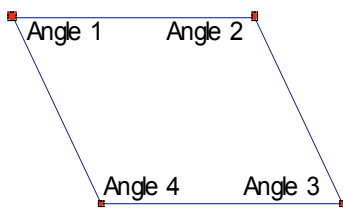
If Angle 7 = 90° , what are the angle measurements of

- <1 = _____
- <2 = _____
- <3 = _____
- <4 = _____
- <5 = _____
- <6 = _____
- <8 = _____



If Angle 1 = 115° , what are the angle measurements of

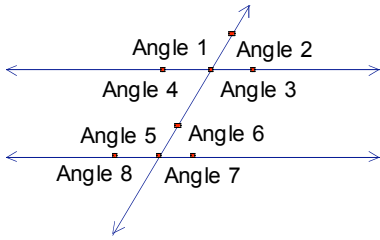
- <2 = _____
- <3 = _____
- <4 = _____



If Angle 3 = 64° , what are the angle measurements of

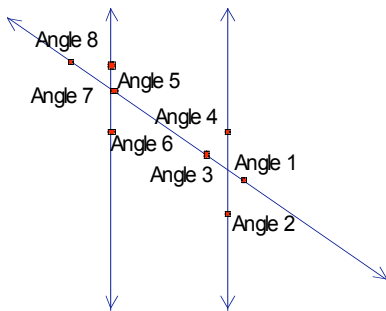
- <1 = _____
- <2 = _____
- <4 = _____

Name: Answer Key



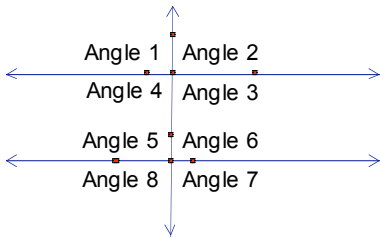
If Angle 2 = 65° , what are the angle measurements of

- $\angle 1 = \underline{115^\circ}$
- $\angle 3 = \underline{115^\circ}$
- $\angle 4 = \underline{65^\circ}$
- $\angle 5 = \underline{115^\circ}$
- $\angle 6 = \underline{65^\circ}$
- $\angle 7 = \underline{115^\circ}$
- $\angle 8 = \underline{65^\circ}$



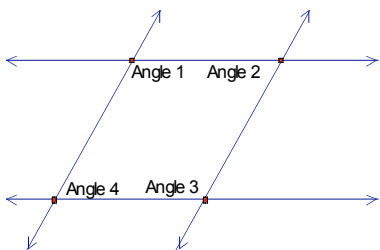
If Angle 5 = 135° , what are the angle measurements of

- $\angle 1 = \underline{135^\circ}$
- $\angle 2 = \underline{45^\circ}$
- $\angle 3 = \underline{135^\circ}$
- $\angle 4 = \underline{45^\circ}$
- $\angle 6 = \underline{45^\circ}$
- $\angle 7 = \underline{135^\circ}$
- $\angle 8 = \underline{45^\circ}$



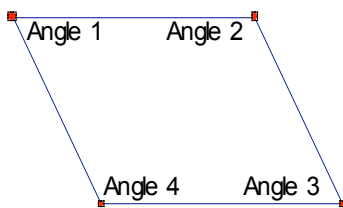
If Angle 7 = 90° , what are the angle measurements of

- $\angle 1 = \underline{90^\circ}$
- $\angle 2 = \underline{90^\circ}$
- $\angle 3 = \underline{90^\circ}$
- $\angle 4 = \underline{90^\circ}$
- $\angle 5 = \underline{90^\circ}$
- $\angle 6 = \underline{90^\circ}$
- $\angle 8 = \underline{90^\circ}$



If Angle 1 = 115° , what are the angle measurements of

- $\angle 2 = \underline{65^\circ}$
- $\angle 3 = \underline{115^\circ}$
- $\angle 4 = \underline{65^\circ}$



If Angle 3 = 64° , what are the angle measurements of

- $\angle 1 = \underline{64^\circ}$
- $\angle 2 = \underline{116^\circ}$
- $\angle 4 = \underline{116^\circ}$