Applying the Properties of Parallel Lines Cut By a Transversal

Use the following figure for each example problem below. Line AB and Line CD are parallel. *The figure is not drawn to scale.*



Example 1:

*m*1 = 105°, find the *m*5.

Example 2:

*m*4 = 4*x* and *m* **5 is 3*x* + 5. Find the value of *x* and the measure of **4 and **5.

Example 3:

Given *m*7= 70°. Find the measure of as many of the other angles as possible.

Example 4:

*m* **3 = 2*x* + 1 and *m*5 is 4*x* – 1. Find the value of *x*.

Applying the Properties of Parallel Lines Cut By a Transversal **(ANSWERS)**

Use the following figure for each example problem below. and  are parallel. The figure is not drawn to scale.



Example 1:

*m*1 = 105°, find the *m*5.

Since **1 and **5 are corresponding angles their measures are congruent. Therefore, *m*5 is 105°.

Example 2:

*m*4 = 4*x* and *m* **5 is 3*x* + 5. Find the value of *x* and the measure of **4 and **5.

Since **4 and **5 are alternate interior angles their measures are congruent.



Example 3:

Given the *m*7= 70°. Find the measure of as many of the other angles as possible.



Example 4:

*m* **3 = 2*x* + 1 and *m*5 is 4*x* – 1. Find the value of *x*.

Since **3 and **5 are same side interior angles their measures are supplementary.

