

Name: Key

Hour: \_\_\_\_\_

# Parallels Cut by a Transversal HW Day 1

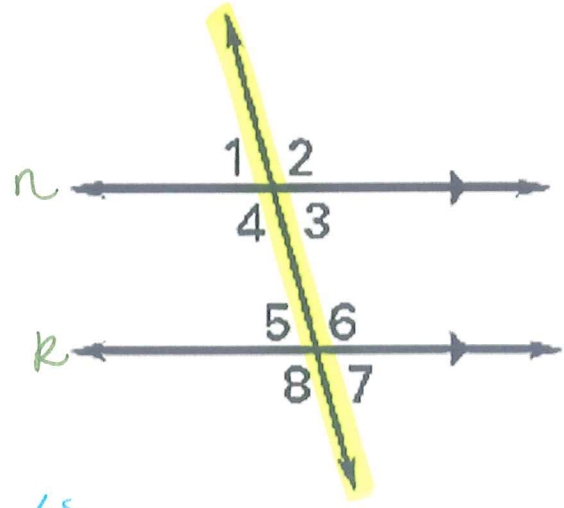
Directions: Use the figure to complete the following:

1. Highlight the transversal
2. Name the parallel lines n and k

Directions: Use the figure to name the relationship between the two angles.

You must use only the following relationships:

- Corresponding angles are congruent
- Alternate interior angles are congruent
- Alternate exterior angles are congruent
- Consecutive interior angles are supplementary
- Linear pairs are supplementary
- Vertical angles are congruent



*you must have these for points. INC*

3. Angles 5 and 3

*alt. int  $\angle$ s are  $\cong$*

4. Angles 1 and 7

*alt. ext  $\angle$ s are  $\cong$*

5. Angles 8 and 4

*Corresponding  $\angle$ s are  $\cong$*

6. Angles 6 and 3

*consecutive int.  $\angle$ s are suppl.*

Directions: Use the figure to name the relationship between the two angles assuming the two lines are parallel and find the measure of the angles.

7. If  $m\angle 2 = 113^\circ$ , what is  $m\angle 6$ ?

$m\angle 6 = 113^\circ$

Because: *corresponding angles are  $\cong$*

8. If  $m\angle 4 = 100^\circ$ , what is  $m\angle 6$ ?

$m\angle 6 = 100^\circ$

Because: *alt. int  $\angle$ s are  $\cong$*

9. If  $m\angle 1 = 84^\circ$ , what is  $m\angle 3$ ?

$m\angle 3 = 84^\circ$

Because: *vertical  $\angle$ s are  $\cong$ .*

10. If  $m\angle 7 = 75^\circ$ , what is  $m\angle 1$ ?

$m\angle 1 = 75^\circ$

Because: *alt. Ext  $\angle$ s are  $\cong$*

11. If  $m\angle 3 = 81^\circ$ , what is  $m\angle 6$ ?

$m\angle 6 = 99^\circ$

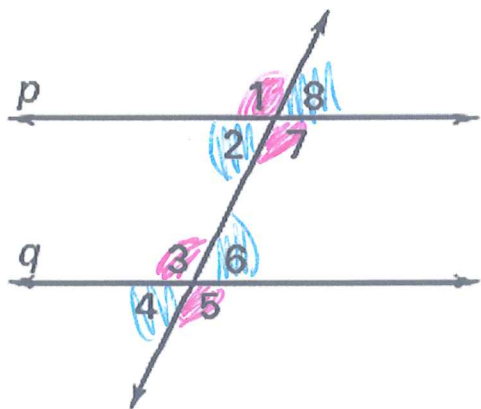
Because: *cons. int.  $\angle$ s are suppl.*

12. If  $m\angle 6 = 111^\circ$ , what is  $m\angle 3$ ?

$m\angle 3 = 69^\circ$

Because: *con. int  $\angle$ s are suppl.*

13. If  $p \parallel q$  and  $m\angle 1 = 75^\circ$ , find the measures of all the angles formed by the parallel lines cut by the transversal.



$$m\angle 1 = 75^\circ \quad m\angle 2 = 105^\circ$$

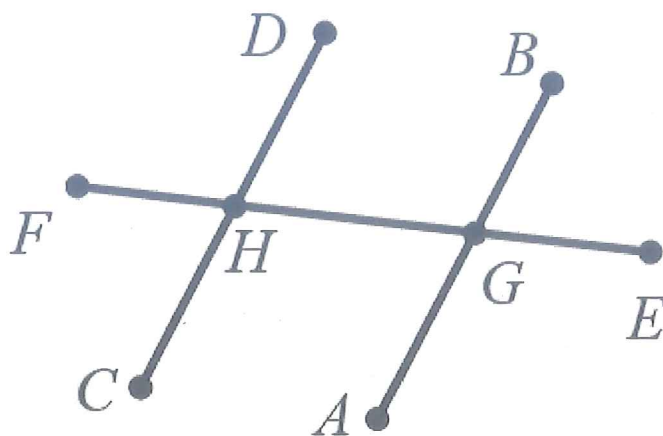
$$m\angle 3 = 75^\circ \quad m\angle 4 = 105^\circ$$

$$m\angle 5 = 75^\circ \quad m\angle 6 = 105^\circ$$

$$m\angle 7 = 75^\circ \quad m\angle 8 = 105^\circ$$

Directions:

If DC and BA are parallel, state if the angles are congruent or supplementary and why.



14.  $\angle DHG$  and  $\angle HGA$  are  $\cong$   
alt. int.  $\angle$ s are  $\cong$

15.  $\angle FHC$  and  $\angle DHG$  are  $\cong$   
vertical  $\angle$ s are  $\cong$

16.  $\angle BGE$  and  $\angle FHC$  are  $\cong$   
alt. Ext.  $\angle$ s are  $\cong$

17.  $\angle EGA$  and  $\angle GHC$  are  $\cong$   
corresponding  $\angle$ s are  $\cong$

18.  $\angle AGH$  and  $\angle EGA$  are supplementary  
because linear pairs are suppl.

In the figure,  $m\angle 2 = 70$ . Find the measure of each angle.

1.  $\angle 3 = 70^\circ$

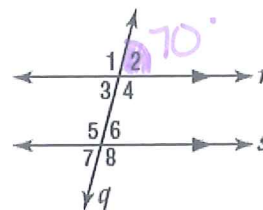
2.  $\angle 5 = 110^\circ$

3.  $\angle 8 = 110^\circ$

4.  $\angle 1 = 110^\circ$

5.  $\angle 4 = 110^\circ$

6.  $\angle 6 = 70^\circ$



In the figure,  $m\angle 7 = 100$ . Find the measure of each angle.

7.  $\angle 9 = 100^\circ$

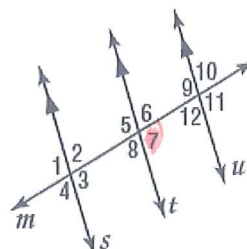
8.  $\angle 6 = 80^\circ$

9.  $\angle 8 = 80^\circ$

10.  $\angle 2 = 80^\circ$

11.  $\angle 5 = 100^\circ$

12.  $\angle 11 = 100^\circ$



In the figure,  $m\angle 3 = 75$  and  $m\angle 10 = 115$ . Find the measure of each angle.

13.  $\angle 2 = 105^\circ$

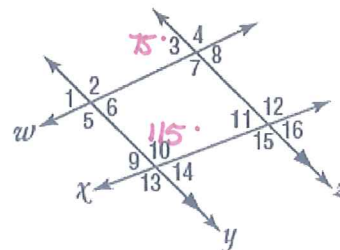
14.  $\angle 5 = 105^\circ$

15.  $\angle 7 = 105^\circ$

16.  $\angle 15 = 115^\circ$

17.  $\angle 14 = 65^\circ$

18.  $\angle 9 = 65^\circ$



These are numbered weird because they came out of your book. Now you don't have to take home your book... You're welcome!

In the figure,  $m\angle 3 = 43$ . Find the measure of each angle.

7.  $\angle 2 = 137^\circ$

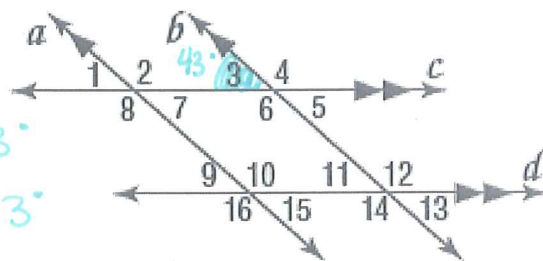
8.  $\angle 7 = 43^\circ$

9.  $\angle 10 = 137^\circ$

10.  $\angle 11 = 43^\circ$

11.  $\angle 13 = 43^\circ$

12.  $\angle 16 = 137^\circ$



In the figure,  $m\angle 1 = 50$  and  $m\angle 3 = 60$ . Find the measure of each angle.

13.  $\angle 4 = 50^\circ$

14.  $\angle 5 = 60^\circ$

15.  $\angle 2 = 110^\circ$

16.  $\angle 6 = 70^\circ$

17.  $\angle 7 = 110^\circ$

18.  $\angle 8 = 120^\circ$

