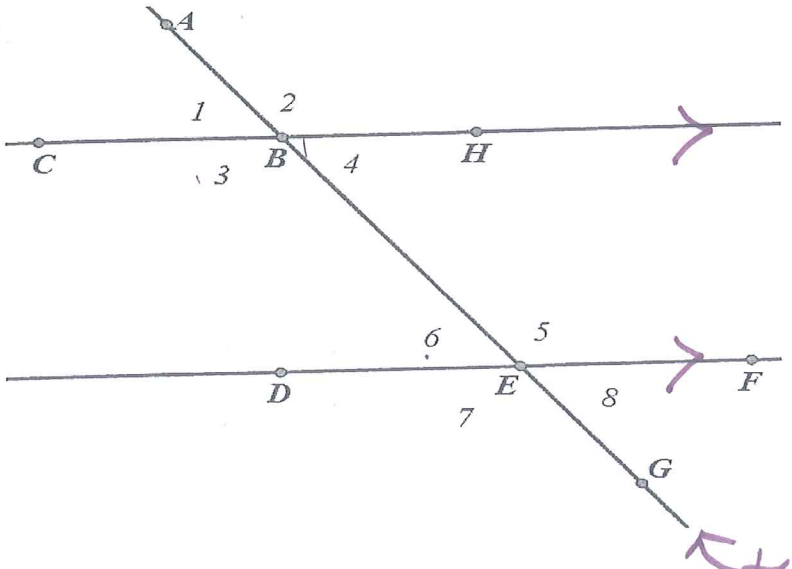
Name: _____ Hour: _____

Notes: Special Angles and Parallel Lines Day #2



1. Name all pairs of vertical angles.
   $\angle 1 \cong \angle 4$ $\angle 6 \cong \angle 8$
   $\angle 2 \cong \angle 3$ $\angle 5 \cong \angle 7$
2. Name all linear pairs.
   $\angle 1+\angle 2=180$ $\angle 6+\angle 5=180$
   $\angle 2+\angle 4=180$ $\angle 5+\angle 8=180$
   $\angle 4+\angle 3=180$ $\angle 8+\angle 7=180$
   $\angle 3+\angle 1=180$ $\angle 7+\angle 6=180$

transversal

Vocabulary: (Yes you MUST know it! ☺)

A line intersecting two or more lines in a plane is called a transversal.

This creates the 4 angle relationships listed below:

Corresponding Angles:

$\angle 1 \cong \angle 6$ $\angle 4 \cong \angle 8$
$\angle 2 \cong \angle 5$ $\angle 3 \cong \angle 7$

Ex.

Alternate Interior Angles:

$\angle 4 \cong \angle 6$
$\angle 3 \cong \angle 5$

Ex.

Alternate Exterior Angles:

$\angle 2 \cong \angle 7$
$\angle 1 \cong \angle 8$

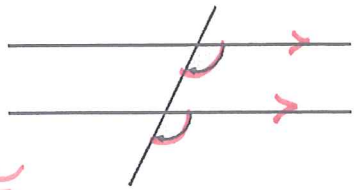
Ex.

Consecutive Interior Angles:

$\angle 4+\angle 5=180$
$\angle 3+\angle 6=180$

Ex.

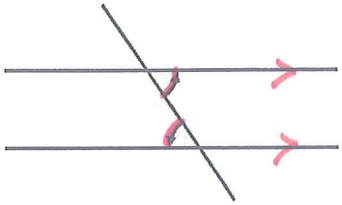
Corresponding Angles Conjecture:



If two parallel lines are cut by a transversal, then the

corresponding $\angle$'s $\cong$

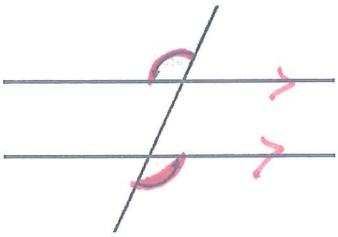
Alternate Interior Angles Conjecture:



If two parallel lines are cut by a transversal, then the

Alt. Int. $\angle$'s $\cong$

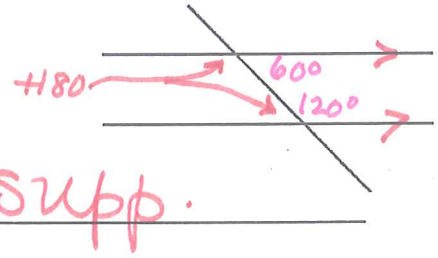
Alternate Exterior Angles Conjecture:



If two parallel lines are cut by a transversal, then the

Alt. Ext. $\angle$'s $\cong$

Consecutive Interior Angles:



If two parallel lines are cut by a transversal, then the

Consec. Int. $\angle$'s supp.

Parallel Lines Conjecture:

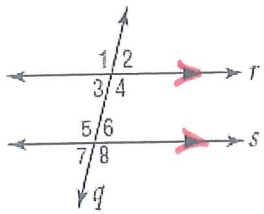
If two parallel lines are cut by a transversal, then the corresponding angles are $\cong$, alternate interior angles are $\cong$, the alternate exterior angles are $\cong$, and the consecutive interior angles are supp.. (These are **not true** if the lines **aren't** parallel.)

Angle Relationships – Day _____

Name: _____ Hour: _____

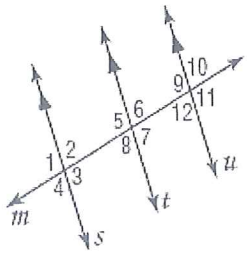
Special Angles and Parallel Lines HW

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



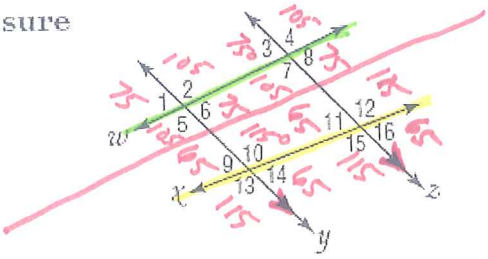
1. $\angle 3$
2. $\angle 5$
3. $\angle 8$
4. $\angle 1$
5. $\angle 4$
6. $\angle 6$

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



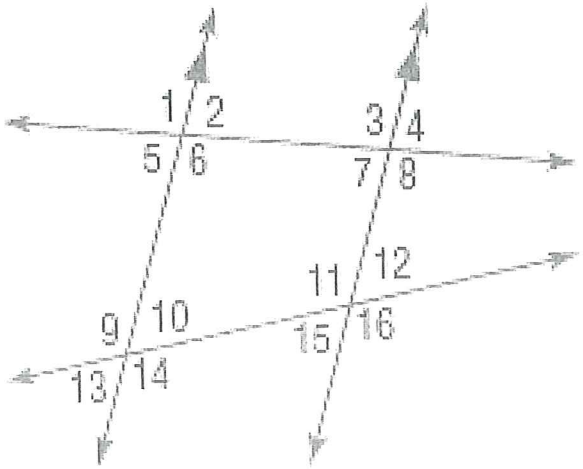
7. $\angle 9$
8. $\angle 6$
9. $\angle 8$
10. $\angle 2$
11. $\angle 5$
12. $\angle 11$

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



13. $\angle 2$
14. $\angle 5$
15. $\angle 7$
16. $\angle 15$
17. $\angle 14$
18. $\angle 9$

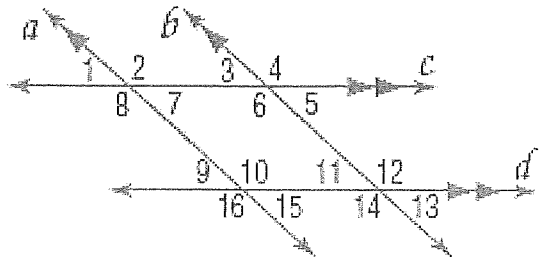
19. In the figure, $m\angle 3 = 110$ and $m\angle 12 = 55$. Find the measure of each angle.



Angle Relationships – Day _____

Name: _____ Hour: _____

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



7. $\angle 2$

8. $\angle 7$

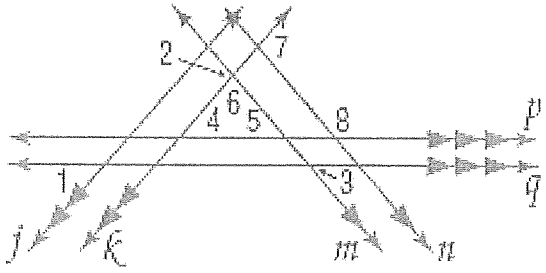
9. $\angle 10$

10. $\angle 11$

11. $\angle 13$

12. $\angle 16$

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



13. $\angle 4$

14. $\angle 5$

15. $\angle 2$

16. $\angle 6$

17. $\angle 7$

18. $\angle 8$