

4-20-17

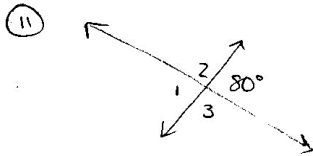
Aim: SWBAT identify the relationships of angles formed by two parallel lines and a transversal.

Do Now: First WS after Parallel Lines notes

HW: Finish WS

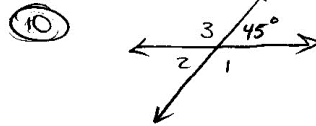
Quiz Monday

Pg. 406 # 1-11, 21-27

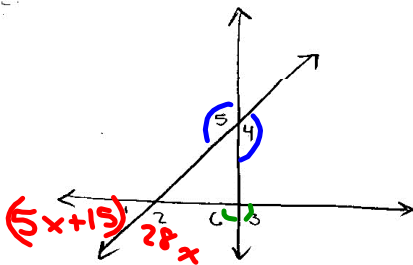


- $\angle 1 = 80^\circ$ because vertical \angle 's are always \cong
- $\angle 2 = 100^\circ$ because it's supp. to the given angle.
- $\angle 3 = 100^\circ$ because it's supp. to the given angle.

Pg. 407



- $\angle 1 = 135^\circ$ because it is supp. to the given angle.
- $\angle 2 = 45^\circ$ because vertical angles are always \cong
- $\angle 3 = 135^\circ$ because it is supp. to the given angle.



24) $m\angle 1 = (5x+15)^\circ$ and $m\angle 2 = 28x^\circ$

$5x+15+28x = 180^\circ$ ← This is the equation because they are supp. angles.

combine like terms.

$$\begin{array}{r} 33x + 15 = 180 \\ -15 \quad -15 \\ \hline 33x = 165 \\ \hline 33 \quad 33 \\ \hline x = 5^\circ \end{array}$$

$$\begin{aligned} 5x + 15 &= 40^\circ \\ 28x &= 140^\circ \end{aligned}$$

25) $m\angle 6 = (100-10y)^\circ$ and $m\angle 3 = 45y^\circ$

$$100 - 10y + 45y = 180$$

$$35y + 100 = 180 \quad \leftarrow \text{combine like terms}$$

$$-100 \quad -100$$

$$\frac{35y}{35} = \frac{80}{35}$$

$$y = \frac{80}{35} = \frac{16}{7} \quad \leftarrow \text{keep as a fraction}$$

$$\begin{array}{ll} 100 - 10y & 45y \\ 100 - 10\left(\frac{16}{7}\right) & 45\left(\frac{16}{7}\right) \\ 77\frac{1}{7}^\circ & 102\frac{6}{7}^\circ \end{array}$$

* 26) $m\angle 4 = (7n+39)^\circ$ and $m\angle 5 = (11n-13)^\circ$

$$7n + 39 = 11n - 13 \quad \leftarrow \text{vertical } \angle \text{'s are always } \cong$$

$$39 = 4n - 13$$

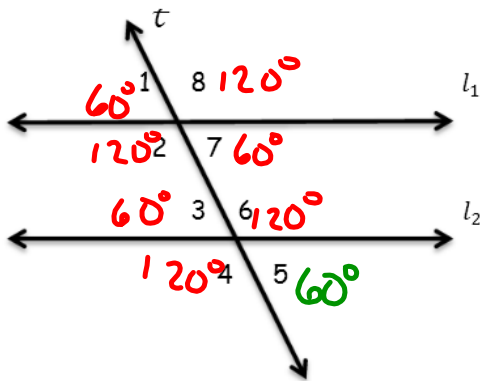
$$+13 \quad +13$$

$$\frac{52}{4} = \frac{4n}{4}$$

$$13 = n$$

$$7n + 39 = 130^\circ$$

$$11n - 13 = 130^\circ$$



Given $l_1 \parallel l_2$

t is a transversal

$m\angle 5 = 60^\circ$

Use the information given and shown in the diagram to answer the following questions.

$\angle 2$ and \angle 4 are corresponding angles

$\angle 3$ and \angle 7 are alternate interior angles

$\angle 5$ and \angle 1 are alternate exterior angles

$\angle 4$ and \angle 3 or 5 are supplementary angles

$\angle 7$ and \angle 1 are vertical angles

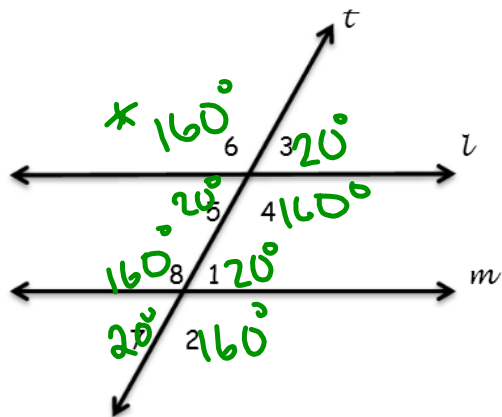
$\angle 6$ is adjacent to \angle 3 and \angle 5

Find the $m\angle 1$. 60°

Find the $m\angle 6$. 120°

Find the $m\angle 4$. 120°

Find the $m\angle 2$. 120°



Given $l \parallel m$

t is a transversal

$m\angle 6 = 160^\circ$

Use the information given and shown in the diagram to answer the following questions.

List the 2 pairs of alternate interior angles. $\angle 5$ and $\angle 1$; $\angle 8$ and $\angle 4$

List the 4 pairs of corresponding angles. $\angle 6$ and $\angle 8$; $\angle 5$ and $\angle 7$; $\angle 3$ and $\angle 1$; $\angle 4$ and $\angle 2$

List the 2 pairs of alternate exterior angles. $\angle 6$ and $\angle 2$; $\angle 3$ and $\angle 7$

List the 4 pairs of vertical angles. $\angle 6$ and $\angle 4$; $\angle 3$ and $\angle 5$; $\angle 7$ and $\angle 1$; $\angle 8$ and $\angle 2$

$\angle 1$ and $\angle 7$ are \cong . Why? vertical angles are always \cong

$\angle 6$ and $\angle 5$ are supp. angles and adjacent angles.

$\angle 4$ and $\angle 8$ are \cong . Why? when 2 \parallel lines are cut by a trans. alt. int. \angle 's are \cong

Find the $m\angle 3$. 20°

Find the $m\angle 2$. 160°

Find the $m\angle 5$. 20°

Are all alternate interior and exterior angles congruent? Why or why not?

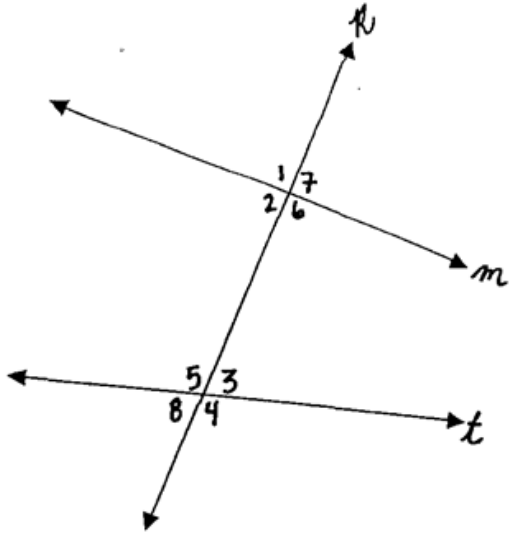
No only when 2 \parallel lines are cut by a transversal.

Name _____

Math 7A: Geometry

Lines cut by a transversal

Use the diagram to answer questions 1-7.



1. Name the transversal. _____
2. Name the pairs of vertical angles.

3. Name the pairs of supplementary angles.

4. Name the pairs of alternate interior angles.

5. Name the pairs of alternate exterior angles.

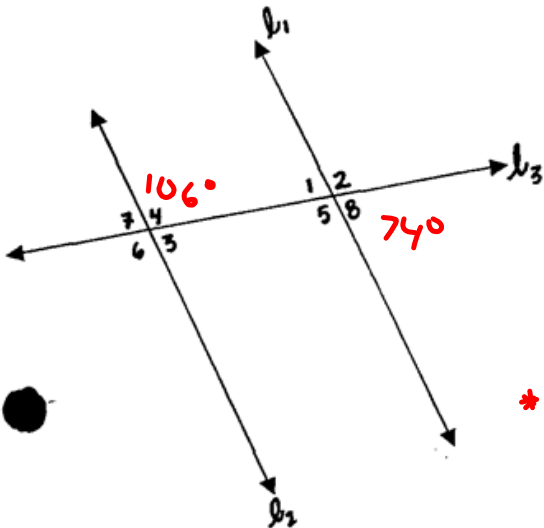
6. Name the pairs of corresponding angles.

7. If $m\angle 6 = 88^\circ$, find $m\angle 2$. _____

Use the diagram below to answer questions 8 -14.

Find the measure for each angle and give a reason for each one.

Given: $l_1 \parallel l_2$ and $m\angle 8 = 74^\circ$



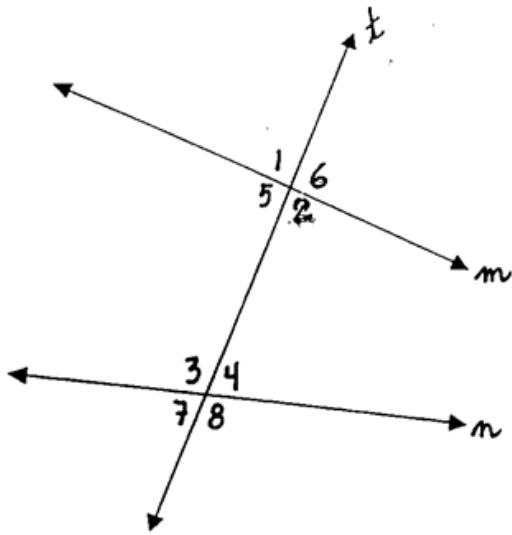
8. $m\angle 1$ _____
9. $m\angle 5$ _____
10. $m\angle 3$ _____
11. $m\angle 7$ _____
12. $m\angle 2$ _____
- * 13. $m\angle 4$ 106° _____
14. $m\angle 6$ _____

Name _____

Math 7A: Geometry

Lines cut by a transversal

Use the diagram to answer questions 1-7.



1. Name the transversal. _____

2. Name the pairs of vertical angles.

3. Name the pairs of supplementary angles.

4. Name the pairs of alternate interior angles.

5. Name the pairs of alternate exterior angles.

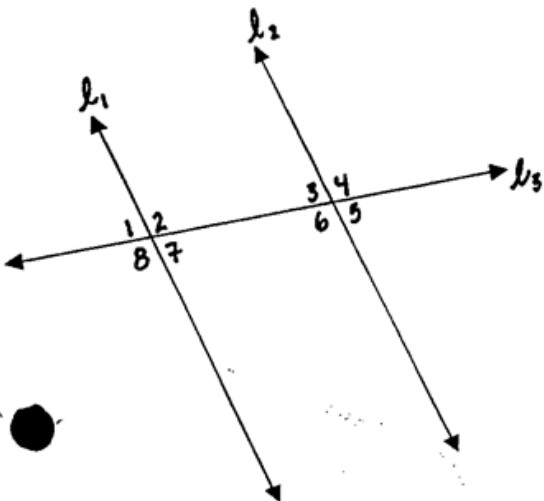
6. Name the pairs of corresponding angles.

7. If $m\angle 6 = 102^\circ$, find $m\angle 2$. _____

Use the diagram below to answer questions 8-14.

Find the measure for each angle and give a reason for each one.

Given: $l_1 \parallel l_2$ and $m\angle 8 = 99^\circ$



8. $m\angle 1$ _____

9. $m\angle 5$ _____

10. $m\angle 3$ _____

11. $m\angle 7$ _____

12. $m\angle 2$ _____

13. $m\angle 4$ _____

14. $m\angle 6$ _____