

**Wednesday**

1. Solve, then answer the questions below.

a.  $-x + 9 - 4x = -5(x + 2)$

b. How many solutions does this equation have?

2. Solve, then answer the questions below.

a.  $\frac{1}{2}(8x - 20) = \frac{1}{4}(12x + 32)$

b. How many solutions does this equation have?

**Thursday**

1. Solve, then answer the questions below.

a.  $-6(x - \frac{1}{2}) = 3x + 3 - 9x$

$$\begin{array}{r} -6x + 3 \\ +6x \end{array} \neq \begin{array}{r} -6x + 3 \\ +6x \end{array}$$

$$3 \neq 3$$

$$\infty$$

b. How many solutions does this equation have?

2. Solve, then answer the questions below.

a. four more than a number is fourteen less than three times the number

b. How many solutions does this equation have?

**Friday**

1. Solve, then answer the questions below.

a.  $4x - 8 = 6x + 3$

2. Solve, then answer the questions below.

a.  $\frac{1}{3}(-6x - 9) = -3x - 15 - 2x$

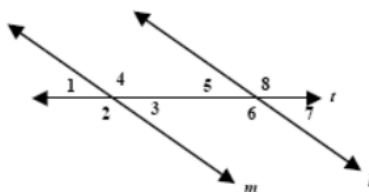
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Class: \_\_\_\_\_

M8-U2: HW #2 – Parallel Line Geometry

Date: \_\_\_\_\_

- #1. a. In the following diagram  $m \parallel l$  cut by transversal  $t$ , find all eight angles if  $m\angle 4 = 110^\circ$ .



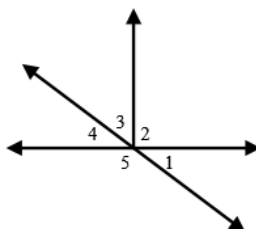
$$m\angle 1 = \underline{\hspace{2cm}} \qquad m\angle 2 = \underline{\hspace{2cm}} \qquad m\angle 3 = \underline{\hspace{2cm}}$$

$$m\angle 5 = \underline{\hspace{2cm}} \qquad m\angle 6 = \underline{\hspace{2cm}} \qquad m\angle 7 = \underline{\hspace{2cm}}$$

$$m\angle 8 = \underline{\hspace{2cm}}$$

- b. Identify a pair of corresponding angles:
- c. Identify a pair of alternate interior angles:
- d. Identify a pair of alternate exterior angles:

#2. The  $m\angle 2 = 90^\circ$ . Find the measure of the remaining angles if  $m\angle 4 = 30^\circ$ .

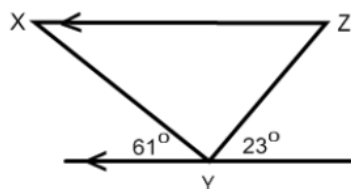


$m\angle 1 =$  \_\_\_\_\_       $m\angle 2 =$  \_\_\_\_\_

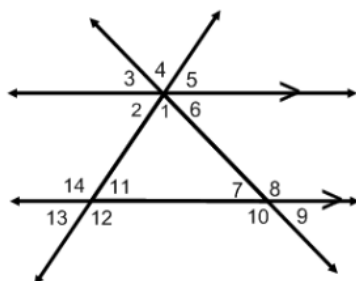
$m\angle 3 =$  \_\_\_\_\_       $m\angle 5 =$  \_\_\_\_\_

Tell how you know their measure without the use of a protractor.

#3. Find the degree measure of  $\angle YXZ$ .



#4. If the  $m\angle 3 = 53^\circ$  and  $m\angle 4 = 85^\circ$  find all the angles. Explain how you determined  $m\angle 7$ .



2

**Spiral:**

#5. Solve and check the following equation:  $\frac{2}{5}(5k + 35) - 8 = 12$

#6. Solve the following equation:  $3(x + 4) = 12 + 3x$

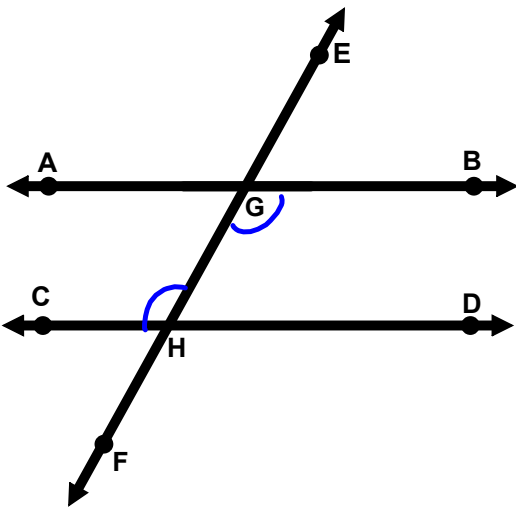
- #7. Five less than four times a number is nine more than twice the number.  
What is the number?

Let  $x$  be # of weeks

- #8. Deborah has two paintings in her portfolio and paints three more each week. Kai has twelve paintings in her portfolio and paints two more each week. After how many weeks will Deborah and Kai have the same number of paintings?

$$\begin{array}{r}
 2 + 3x \neq 12 + 2x \\
 \quad - 2x \qquad \quad - 2x \\
 \hline
 2 + 1x = 12 \\
 -2 \qquad \quad -2 \\
 \hline
 x = 10
 \end{array}$$

Classify these pairs of angles



$\angle EGB$	&	$\angle GHD$	C	?
$\angle CHF$	&	$\angle EGB$	AI	?
$\angle EGA$	&	$\angle EGB$	A	?
$\angle BGH$	&	$\angle GHC$	AI	?
$\angle GHC$	&	$\angle DHF$		?
$\angle EGA$	&	$\angle AGH$		?

AI Alternate interior

C Corresponding

AE Alternate exterior

A Adjacent

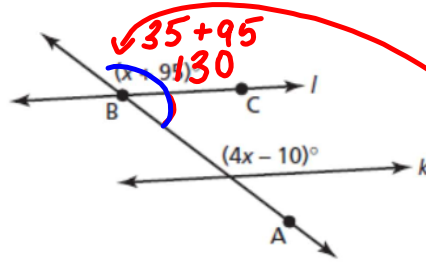
V Vertical

CLONE

**Example 1: Missing angles involving algebra**

*Corresponding*

**36** In the diagram below, lines  $l$  and  $k$  are parallel.



[not drawn to scale]

$$\begin{array}{r} 180 \\ - 130 \\ \hline 50 \end{array}$$

**Part A**

What is the value of  $x$ ?

Show your work.

$$\begin{array}{r} x + 95 = 4x - 10 \\ -x \quad -x \\ \hline 95 = 3x - 10 \\ +10 \quad +10 \\ \hline 105 = 3x \\ \frac{105}{3} = \frac{3x}{3} \\ x = 35 \end{array}$$

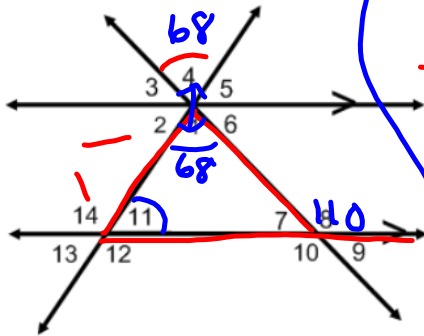
Answer \_\_\_\_\_

**Part B**

What is the measure, in degrees, of  $\angle ABC$ ?

Answer \_\_\_\_\_ degrees

**Example 2:** If the  $m\angle 1 = (3x - 7)^\circ$ ,  $m\angle 11 = (x + 17)^\circ$  and  $m\angle 8 = 110^\circ$  find  $m\angle 4$ .



$$3(25) - 7$$

$$75 - 7 = 68$$

$$3(x - 7) + x(17) = 110$$

$$4x + 10 = 110$$

$$\quad -10$$

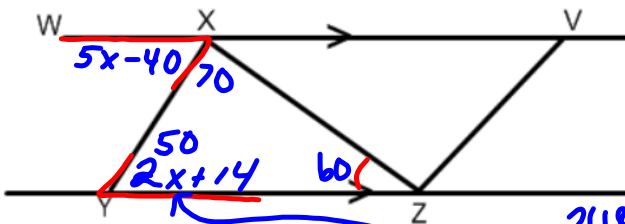
$$4x = 100$$

$$\quad \div 4$$

$$x = 25$$

**Example 3:**

If the  $m\angle WXY = (5x - 40)^\circ$ ,  $m\angle YXZ = 70^\circ$  and  $m\angle XYZ = (2x + 14)^\circ$  find  $m\angle XZY$ .



$$5x - 40 = 2x + 14$$

$$-2x \quad -2x$$

$$3x - 40 = 14$$

$$+40 \quad +40$$

$$3x = 54$$

$$\quad \div 3$$

$$x = 18$$

$$2(18) + 14$$

$$= 50$$

$$180$$

$$70$$

$$- 50$$

$$\hline 60^\circ$$

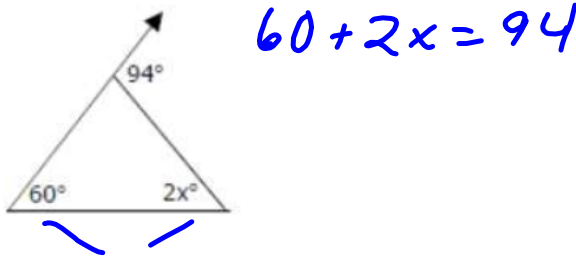
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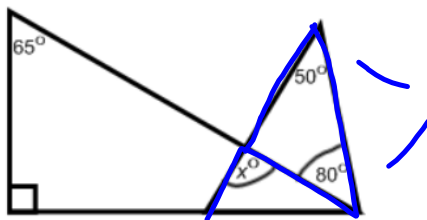
M8-U2: HW #3 – Applications with Algebra

Date: \_\_\_\_\_

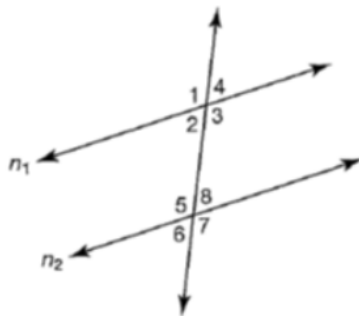
1. Find the value of  $x$ . Show work and explain.



2. Find the value of  $x$ . Show work and explain.

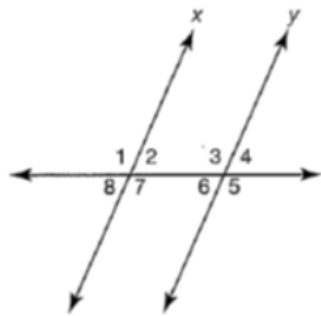


3. In the following diagram  $n_1 \parallel n_2$  is cut by a transversal. The  $m\angle 8$  is  $65^\circ$ . Find the  $m\angle 2$  and explain.

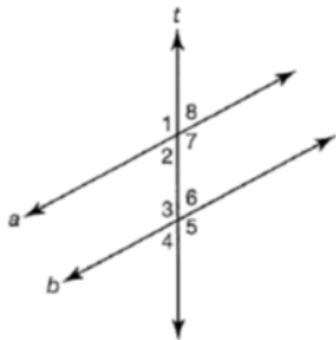




4. In the following diagram  $x \parallel y$  is cut by a transversal. The  $m\angle 1$  is  $102^\circ$ . Find the  $m\angle 3$  and explain.



5. In the following diagram  $a \parallel b$  is cut by a transversal. The  $m\angle 1$  is  $118^\circ$ . Find the  $m\angle 4$  and explain.



6. Find  $y$  and the missing angle measures. Show work and explain.

