

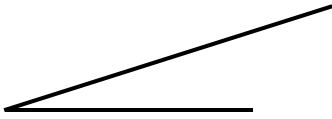
### 7.3H If, Then, and More Parallel Lines

Name: \_\_\_\_\_ Per: \_\_\_\_\_

SHOW YOUR WORK FOR FULL CREDIT. NO WORK IN PEN.

**Construct** exact mirror images of the angles below onto the line segments given.

1.



2.

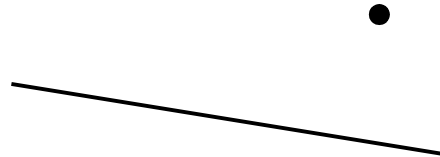


**Construct** a line parallel to the line below and then another passing through the point. Show markings.

3.



4.



5. Find all missing angle measures for the figure right. Explain how you know.

a.  $m\angle A = \underline{\hspace{2cm}}^\circ$

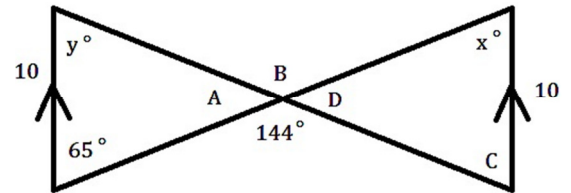
b.  $m\angle B = \underline{\hspace{2cm}}^\circ$

c.  $m\angle C = \underline{\hspace{2cm}}^\circ$

d.  $m\angle D = \underline{\hspace{2cm}}^\circ$

e.  $x = \underline{\hspace{2cm}}^\circ$

f.  $y = \underline{\hspace{2cm}}^\circ$

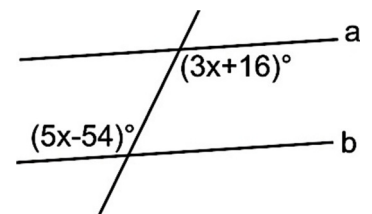


6. Using the image to the right and  $a \parallel b$ . Find the value of  $x$ .

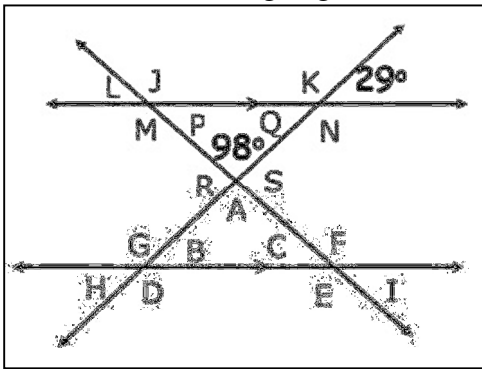
a.  $x = \underline{\hspace{2cm}}$

b. What is the relationship between the two angles?

\_\_\_\_\_



7. Find the missing angles from the image below.



- $\angle A = \underline{\hspace{2cm}}$      $\angle B = \underline{\hspace{2cm}}$      $\angle C = \underline{\hspace{2cm}}$      $\angle D = \underline{\hspace{2cm}}$      $\angle E = \underline{\hspace{2cm}}$   
 $\angle F = \underline{\hspace{2cm}}$      $\angle G = \underline{\hspace{2cm}}$      $\angle H = \underline{\hspace{2cm}}$      $\angle I = \underline{\hspace{2cm}}$      $\angle J = \underline{\hspace{2cm}}$   
 $\angle K = \underline{\hspace{2cm}}$      $\angle L = \underline{\hspace{2cm}}$      $\angle M = \underline{\hspace{2cm}}$      $\angle N = \underline{\hspace{2cm}}$      $\angle S = \underline{\hspace{2cm}}$   
 $\angle P = \underline{\hspace{2cm}}$      $\angle Q = \underline{\hspace{2cm}}$      $\angle R = \underline{\hspace{2cm}}$

8. Use the following image to answer the questions.  $AB \parallel CD$ .

a. If  $\angle CLK$  measures  $120^\circ$ , what is the measure of  $\angle AKJ$ ? \_\_\_\_\_.

How do you know? \_\_\_\_\_

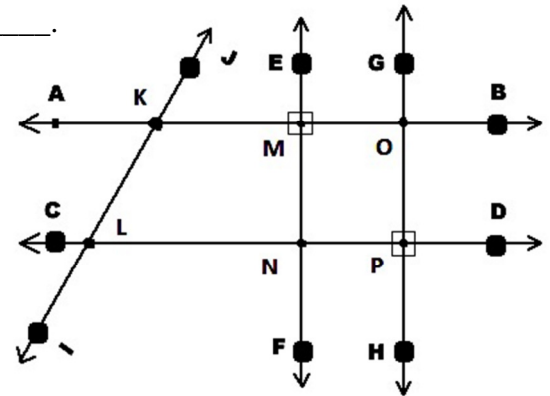
b. What would be the measure of  $\angle KLD$ ? \_\_\_\_\_

c. What is the relationship between lines  $\overline{EF}$  and  $\overline{GH}$ ?  
\_\_\_\_\_

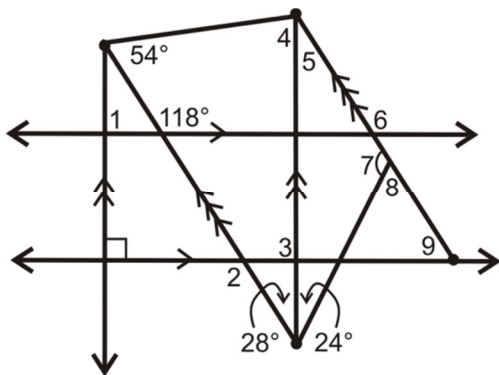
d. What is the relationship between lines  $\overline{EF}$  and  $\overline{AB}$ ?  
\_\_\_\_\_

e.  $\overline{MN} = 4$  cm, what is  $OP$ ? \_\_\_\_\_

f. If  $\overline{NP} = 3$  cm, what is  $\overline{MO}$ ? \_\_\_\_\_



9. Find **ALL** of the angle measures in the following figure.



10. Explain, using an If  $\rightarrow$  Then statement, how you know the measure of angle 3.

11. If  $\overline{AB}$  contains the points  $(4, 15)$  and  $(-6, 7)$  and  $\overline{CD}$  contains the points  $(-2, 7)$  and  $(2, 2)$ , are the lines parallel? \_\_\_\_\_

Explain: \_\_\_\_\_

12. Is the point  $(4, 15)$  collinear with the points on  $\overline{CD}$ ? \_\_\_\_\_

Explain: \_\_\_\_\_

Extra Credit: **Construct** an angle equal to  $\angle Q + \angle R$ .

