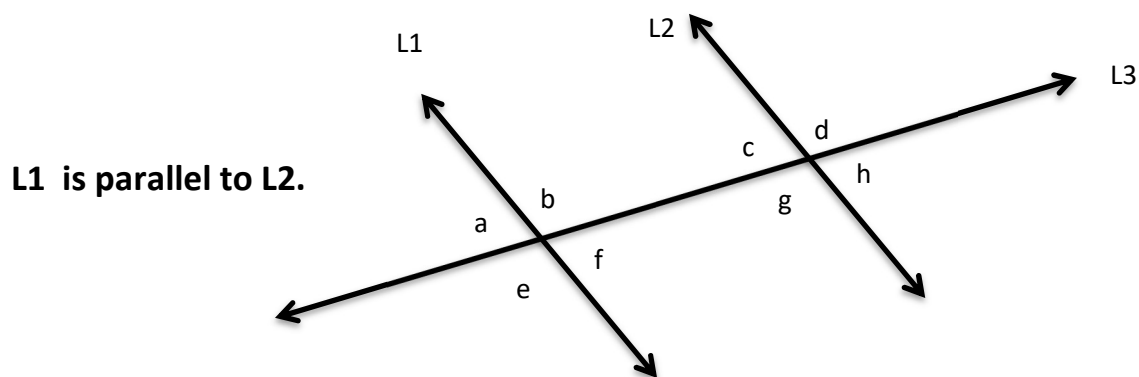


# Angle Relationships

NAME \_\_\_\_\_

Accelerated 7<sup>th</sup> Grade Math



1. Name all pairs of vertical angles.
2. Name all pairs of alternate interior angles.
3. Name all pairs of same side interior angles.
4. Name all pairs of corresponding angles.
5. Name all pairs of alternate exterior angles.
6. Name all pairs of same side exterior angles.
7. Name three pairs of supplementary angles.
8. Suppose the  $m\angle f = 36^\circ$ . Find the measure of each of the following angles.
  - a.  $m\angle d =$
  - b.  $m\angle e =$
  - c.  $m\angle g =$
  - d.  $m\angle b =$
  - e.  $m\angle c =$

Draw a line A parallel to line B. Line C is a transversal crossing lines A and B.

9. Label the following angles on your diagram drawn above.

- a.  $\angle 1$  and  $\angle 2$  are alternate interior angles.
- b.  $\angle 1$  and  $\angle 3$  are corresponding angles.
- c.  $\angle 1$  and  $\angle 4$  are vertical angles.
- d.  $\angle 2$  and  $\angle 5$  are same side interior angles.
- e.  $\angle 6$  and  $\angle 7$  are vertical angles.
- f.  $\angle 1$  and  $\angle 8$  are supplementary
- g.  $\angle 6$  and  $\angle 8$  are corresponding angles.

10. For questions a-f, name whether the pair of angles are alternate interior angles, corresponding angles, vertical angles, same side interior angles, same side interior angles, same side exterior angles, or alternate exterior angles.

- a.  $\angle 3$  and  $\angle 8$  are \_\_\_\_\_ angles.
- b.  $\angle 5$  and  $\angle 8$  are \_\_\_\_\_ angles.
- c.  $\angle 4$  and  $\angle 2$  are \_\_\_\_\_ angles.
- d.  $\angle 2$  and  $\angle 3$  are \_\_\_\_\_ angles.
- e.  $\angle 2$  and  $\angle 6$  are \_\_\_\_\_ angles.
- f.  $\angle 6$  and  $\angle 1$  are \_\_\_\_\_ angles.
- g.  $\angle 5$  and  $\angle 6$  are \_\_\_\_\_ angles.
- h.  $\angle 4$  and  $\angle 2$  are \_\_\_\_\_ angles.
- i.  $\angle 4$  and  $\angle 3$  are \_\_\_\_\_ angles.

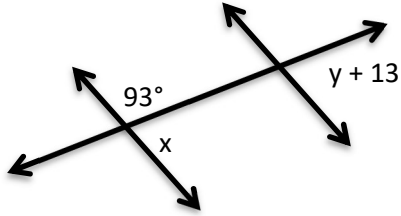
# Angle Relationships & Algebra

Name \_\_\_\_\_

Accelerated 7<sup>th</sup> Grade Math

1. Each of the following diagrams show parallel lines, cut by a transversal. Find the value of each variable. Show work.

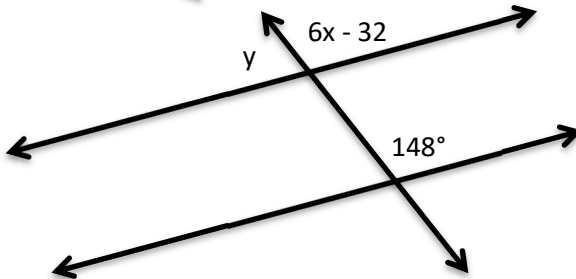
a.



$x =$  \_\_\_\_\_

$y =$  \_\_\_\_\_

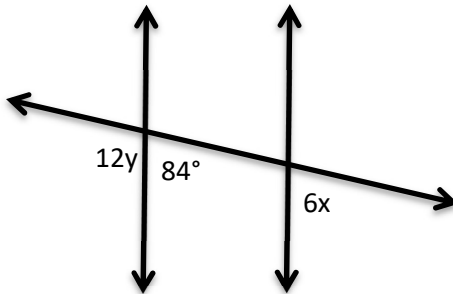
b.



$x =$  \_\_\_\_\_

$y =$  \_\_\_\_\_

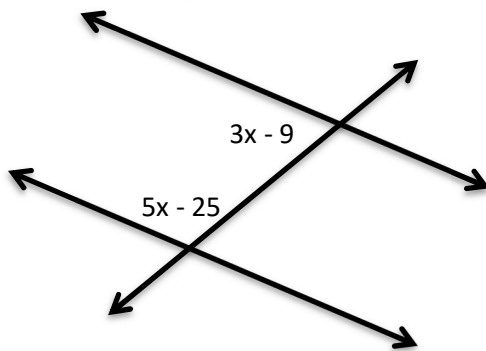
c.



$x =$  \_\_\_\_\_

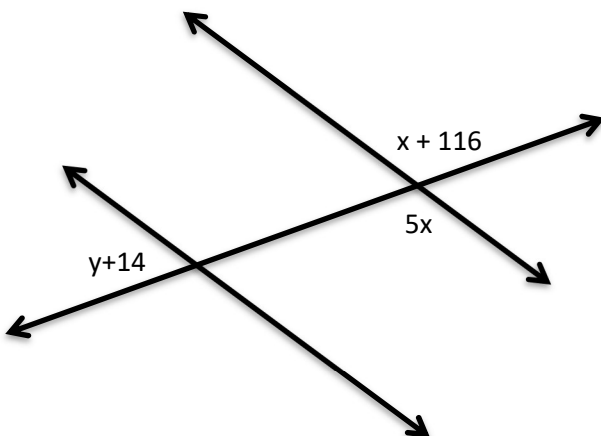
$y =$  \_\_\_\_\_

d.



$x =$  \_\_\_\_\_

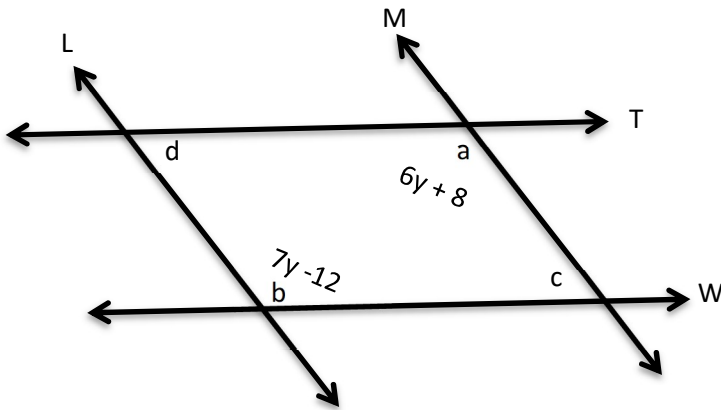
e.



$x =$  \_\_\_\_\_

$y =$  \_\_\_\_\_

2. L is parallel to M and T is parallel to W (forming a parallelogram), such as  $\angle a$  and  $\angle b$  are equal in measure. Find the measure of each angle by finding the value of  $y$ . show work.



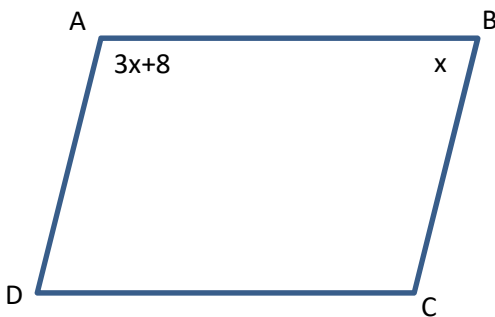
$$m\angle a = \underline{\hspace{2cm}}$$

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

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

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

3. Quadrilateral ABCD is a parallelogram. Use what you learned in #2 to find the measure of each of the angles in the parallelogram. Show work.



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

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

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

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

4. Look at the picture in #3. The following pairs of angles are “pairs of consecutive angles” in a parallelogram:  $\angle D$  and  $\angle C$ ,  $\angle C$  and  $\angle B$ ,  $\angle B$  and  $\angle A$ ,  $\angle A$  and  $\angle D$

Using what you know about angles and using #3 if needed, what is the relationship between consecutive angles in a parallelogram?