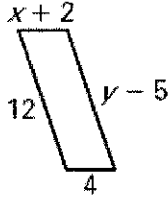


Name: Key Date: _____

Quadrilaterals and Parallelograms Homework

Find the missing variable in each parallelogram.

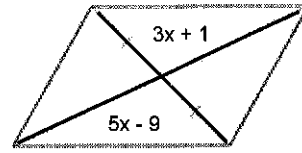
1.



$$x+2=4 \quad y-5=2$$

$$\boxed{x=2} \quad \boxed{y=7}$$

2.



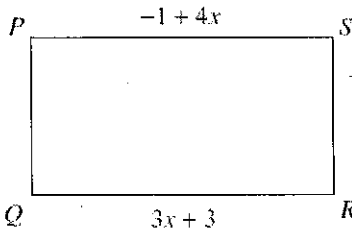
$$5x-9=3x+1$$

$$2x-9=1$$

$$2x=10$$

$$\boxed{x=5}$$

3.



$$-1+4x=3x+3$$

$$-1+x=3$$

$$\boxed{x=4}$$

4.

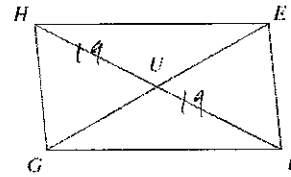
$$UH=19$$

$$FH=5x-7$$

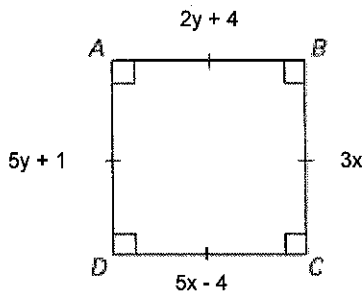
$$5x-7=38$$

$$5x=45$$

$$\boxed{x=9}$$



5.



$$5x-4=3x$$

$$-4=-2x$$

$$\boxed{x=2}$$

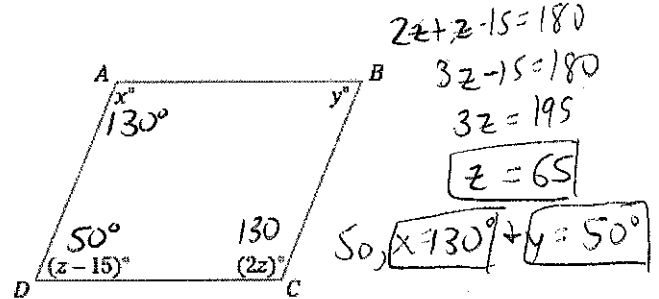
$$5y+1=2y+4$$

$$3y+1=4$$

$$3y=3$$

$$\boxed{y=1}$$

6.



$$2z+z-15=180$$

$$3z-15=180$$

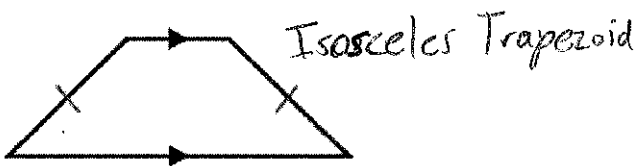
$$3z=195$$

$$\boxed{z=65}$$

$$\text{So, } \boxed{x=30} + \boxed{y=50}$$

Decide if the figure is a parallelogram. If yes, can you identify the type of parallelogram? If it is not, explain why not.

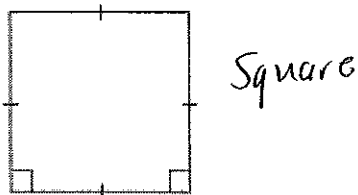
7.



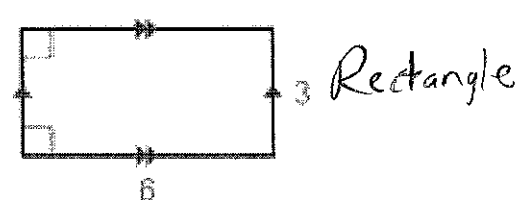
8.



9.



10.



11. Suppose points A (1, 2), B (3, 6), and C (6, 4) are three vertices of a parallelogram.

a. Give the coordinates of a point that could be the fourth vertex. Sketch the parallelogram in a coordinate plane.

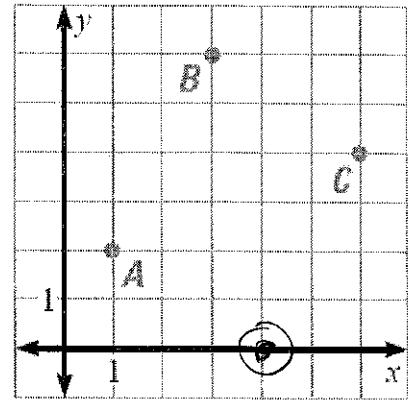
(4, 0)

b. Explain how to check to make sure the figure you drew in part a is a parallelogram.

opposite sides are parallel.

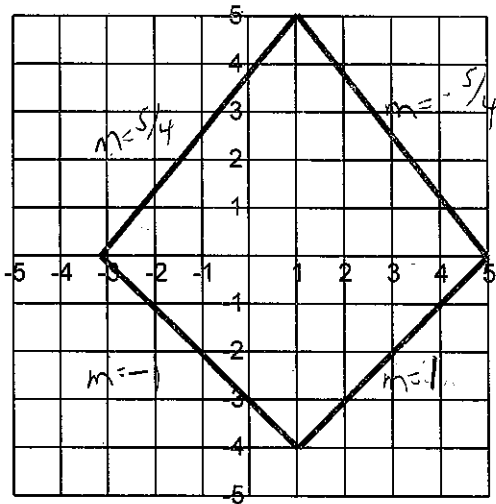
c. How many different parallelograms can be formed using A, B, and C as vertices? Sketch each parallelogram and label the coordinates of the fourth vertex.

3



12. Use the slope formula to determine if the following quadrilateral is a parallelogram. If it is not, then identify the quadrilateral.

a.



kite

b.

