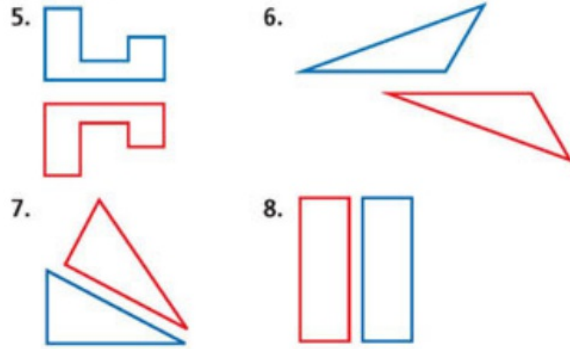


# HW 9 QuizRev p660 #5-28 Online

## EXERCISES

Tell whether each transformation appears to be a reflection.

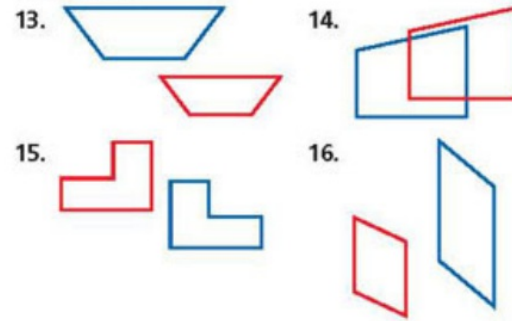


Reflect the figure with the given vertices across the given line.

9.  $E(-3, 2), F(0, 2), G(-2, 5)$ ;  $x$ -axis
10.  $J(2, -1), K(4, -2), L(4, -3), M(2, -3)$ ;  $y$ -axis
11.  $P(2, -2), Q(4, -2), R(3, -4)$ ;  $y = x$
12.  $A(2, 2), B(-2, 2), C(-1, 4)$ ;  $y = x$

## EXERCISES

Tell whether each transformation appears to be a translation.

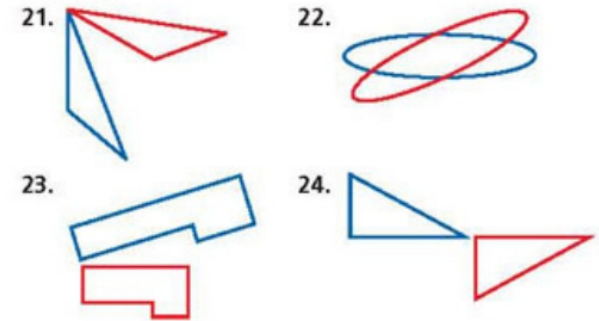


Translate the figure with the given vertices along the given vector.

17.  $R(1, -1), S(1, -3), T(4, -3), U(4, -1)$ ;  $\langle -5, 2 \rangle$
18.  $A(-4, -1), B(-3, 2), C(-1, -2)$ ;  $\langle 6, 0 \rangle$
19.  $M(1, 4), N(4, 4), P(3, 1)$ ;  $\langle -3, -3 \rangle$
20.  $D(3, 1), E(2, -2), F(3, -4), G(4, -2)$ ;  $\langle -6, 2 \rangle$

## EXERCISES

Tell whether each transformation appears to be a rotation.



Rotate the figure with the given vertices about the origin using the given angle of rotation.

25.  $A(1, 3), B(4, 1), C(4, 4)$ ;  $90^\circ$
26.  $A(1, 3), B(4, 1), C(4, 4)$ ;  $180^\circ$
27.  $M(2, 2), N(5, 2), P(3, -2), Q(0, -2)$ ;  $90^\circ$
28.  $G(-2, 1), H(-3, -2), J(-1, -4)$ ;  $180^\circ$

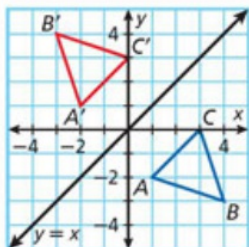
## 9-1 Reflections

### EXAMPLE

- Reflect the figure with the given vertices across the given line.

$$A(1, -2), B(4, -3), C(3, 0); y = x$$

To reflect across the line  $y = x$ , interchange the  $x$ - and  $y$ -coordinates of each point. The images of the vertices are  $A'(-2, 1)$ ,  $B'(-3, 4)$ , and  $C'(0, 3)$ .



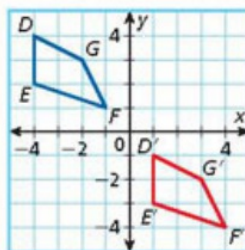
## 9-2 Translations

### EXAMPLE

- Translate the figure with the given vertices along the given vector.

$$D(-4, 4), E(-4, 2), F(-1, 1), G(-2, 3); \langle 5, -5 \rangle$$

To translate along  $\langle 5, -5 \rangle$ , add 5 to the  $x$ -coordinate of each point and add  $-5$  to the  $y$ -coordinate of each point. The vertices of the image are  $D'(1, -1)$ ,  $E'(1, -3)$ ,  $F'(4, -4)$ , and  $G'(3, -2)$ .



## 9-3 Rotations

### EXAMPLE

- Rotate the figure with the given vertices about the origin using the given angle of rotation.

$$A(-2, 0), B(-1, 3), C(-4, 3); 180^\circ$$

To rotate by  $180^\circ$ , find the opposite of the  $x$ - and  $y$ -coordinate of each point. The vertices of the image are  $A'(2, 0)$ ,  $B'(1, -3)$ , and  $C'(4, -3)$ .

