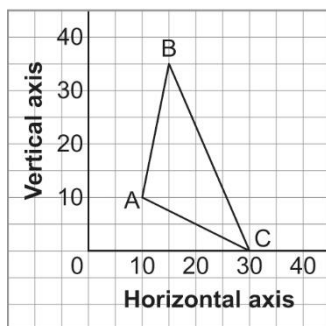


Extra Practice 1

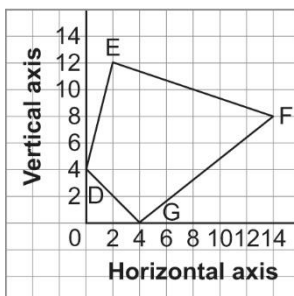
Lesson 1: Drawing Shapes on a Coordinate Grid

1. Write the coordinates of the vertices of each shape.

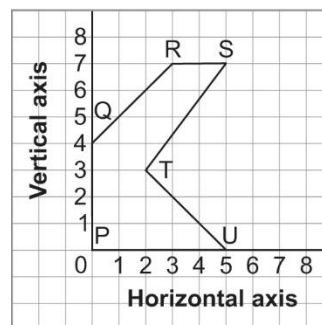
a)



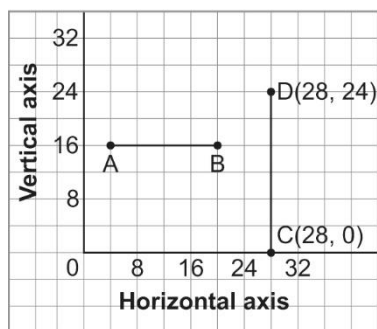
b)



c)



2. Find the length of each line segment on this coordinate grid. Describe the strategy you used.



3. Draw and label a coordinate grid.

a) Plot each point on the grid.

What scale will you use? Explain your choice.

A(5, 5) B(10, 15) C(10, 25) D(20, 20) E(20, 10)

b) Join the points in order. Then join E to A.

Describe the shape you have drawn.

4. Draw and label a coordinate grid.

a) Plot each point on the grid.

What scale will you use? Explain your choice.

P(4, 0) Q(2, 8) R(6, 12) S(8, 6) T(12, 8) U(8, 2)

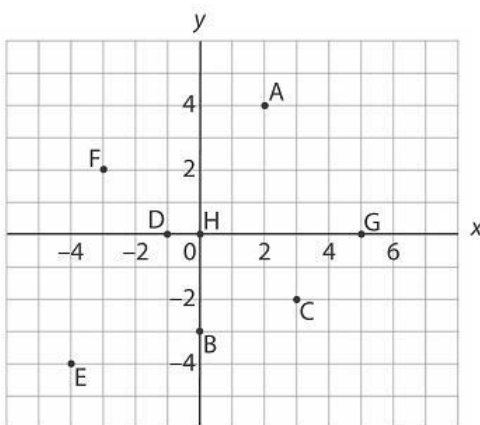
b) Join the points in order. Then join U to P.

Describe the shape you have drawn.

Coordinates and Transformations

1. Write the coordinates of each point from A to H.

- A _____
- B _____
- C _____
- D _____
- E _____
- F _____
- G _____
- H _____

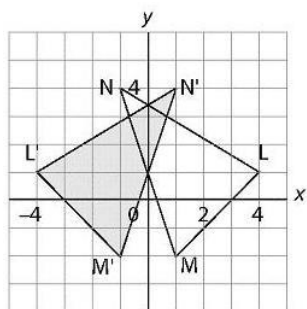


2. Trapezoid ABCD has vertices $A(-1, -1)$, $B(1, -1)$, $C(1, 3)$, and $D(-1, 1)$. After a translation, the image of ABCD is $A'(4, -3)$, $B'(6, -3)$, $C'(6, 1)$, $D'(4, -1)$.

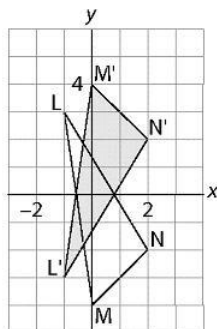
- a) Draw ABCD and $A'B'C'D'$ on a grid.
- b) Describe the translation.

3. Identify each transformation.

a)

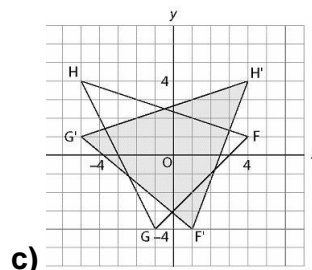
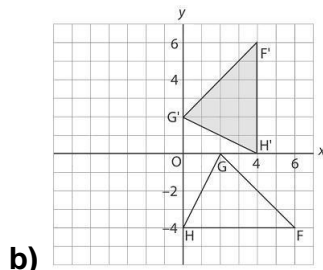
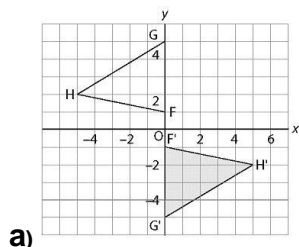


b)



- a) Which clockwise rotation is the same as a 90° counterclockwise rotation?
- b) Which clockwise rotation is the same as a 270° counterclockwise rotation?
- c) Which clockwise rotation is the same as a 60° counterclockwise rotation?
- d) Why do we do not need to include “clockwise” and “counterclockwise” when describing a 180° rotation?

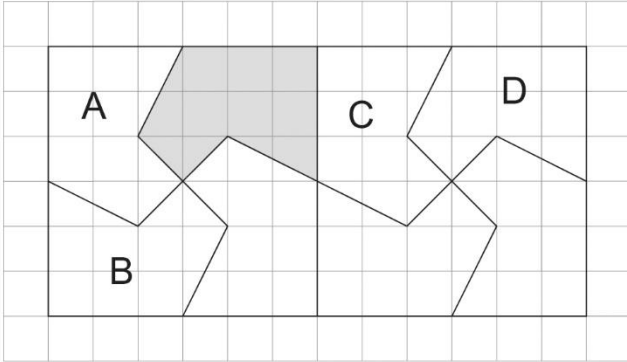
5. In each diagram, $\triangle F'G'H'$ is the image of $\triangle FGH$ after a rotation about the origin. Identify each rotation.



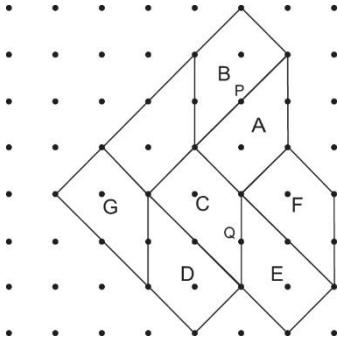
Extra Practice 4

Lesson 8.4: Identifying Transformations

1. Start with the shaded shape.
Use transformations to describe how to create Shapes A, B, C, and D.



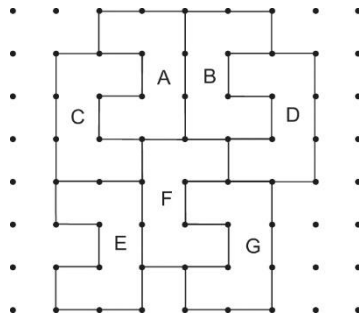
2. Use this design.
Match each transformation to a transformation image.



- Rotate Shape A 180° about point P.
- Translate Shape C 2 units left.
- Rotate Shape D 180° about point Q.
- Translate Shape G 4 units right.

3. Use the design to the right.
Identify each transformation.

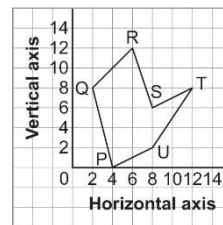
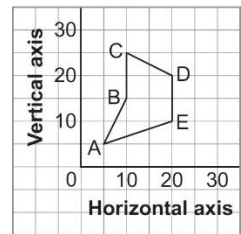
- Shape D is the image of Shape C.
- Shape E is the image of Shape G.
- Shape C is the image of Shape E.
- Shape F is the image of Shape C.
- Shape A is the image of Shape B.



Extra Practice 1 – Master 8.24 - Answers

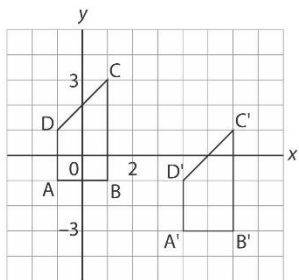
Lesson 1

- A(10, 10), B(15, 35), C(30, 0)
 - D(0, 4), E(2, 12), F(14, 8), G(4, 0)
 - P(0, 0), Q(0, 4), R(3, 7), S(5, 7), T(2, 3), U(5, 0)
- AB has length 16 units. I counted grid squares, then multiplied the number of squares by 4. CD has length 24 units. I used the coordinates of the points: $24 - 0 = 24$.
- I let one square represent 5 units because 5 is a factor of each coordinate.
 - The shape is an irregular pentagon.
- I let one square represent 2 units because 2 is a factor of each coordinate.
 - The shape is an irregular hexagon.



Answers: Coordinates and Transformations

- A(2, 4), B(0, -3), C(3, -2), D(-1, 0), E(-4, -4), F(-3, 2), G(5, 0), H(0, 0)
- a)



- b) Translation 5 units right and 2 units down
- Reflection in the y -axis
 - Reflection in the x -axis
- 270°
 - 90°
 - 300°
 - Rotations are equivalent.
- 180° about the origin
 - 90° about the origin
 - -90° about the origin

Extra Practice 4 – Master 8.29

Lesson 8.4

- Rotate the shaded shape 90° counterclockwise about the vertex shared by the shaded shape and Shape B to get Shape A.
 - Rotate the shaded shape 180° about the vertex shared by the shaded shape and Shape B to get Shape B.
 - Rotate the shaded shape 90° counterclockwise about the upper right vertex of the shaded shape to get Shape C.
 - Translate the shaded shape 6 units right to get Shape D.
- Shape B
 - Shape G
 - Shape F
 - Shape F
- Shape C is reflected in the vertical line that passes through the side shared by Shapes A and B.
 - Shape G is translated 3 units left.
 - Shape E is rotated 180° about the midpoint of the side shared by Shapes C and E.
 - Shape C is translated 2 units right and 2 units down.
 - Shape B is reflected in the side shared by Shapes A and B.