

Independent Practice

11.1

NAME _____

Module 11 Transformation of Shapes
Lesson 1 Translations and Reflections

1. The point located at $(0, -3)$ is translated two units left. What are the coordinates of the translated point?

$(-2, -3)$

2. The point located at $(-4, -3)$ is translated three units up. What are the coordinates of the translated point?

$(-4, 0)$

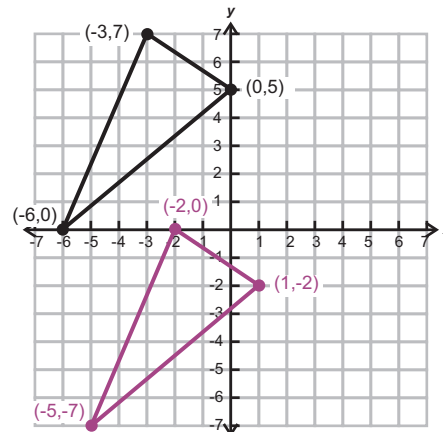
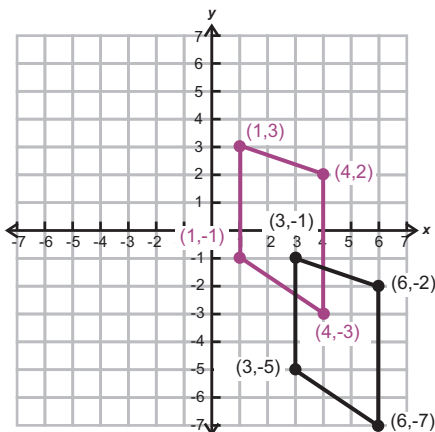
3. The point $(7, -5)$ is translated six units left and five units up. What are the coordinates of the translated point?

$(1, 0)$

Translate the figure using the given motion rule.

4. $(x, y) \rightarrow (x - 2, y + 4)$

5. $(x, y) \rightarrow (x + 1, y - 7)$



6. The point located at $(6, -1)$ is reflected across the x -axis. What are the coordinates of the translated point?

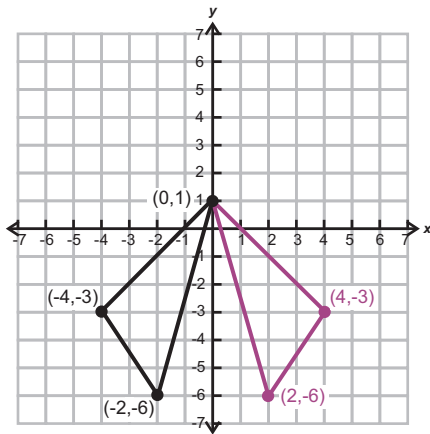
$(6, 1)$

7. The point located at $(-2, 8)$ is reflected across the x -axis and then is reflected across the y -axis. What are the coordinates of the translated point?

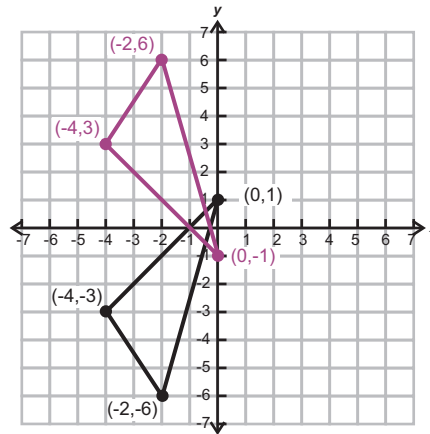
$(2, -8)$

Reflect the figure across the given axis.

8. y -axis



9. x -axis

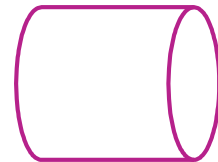
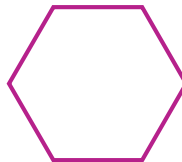
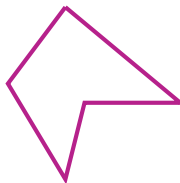


Journal

1. How are translations and reflections the same? How are they different?
2. Explain how you know which coordinates move in which direction when translating a point in the coordinate plane.
3. When reflecting a point across an axis, explain how you know which coordinate becomes the opposite and which coordinate stays the same.

Cumulative Review

1. Draw a concave pentagon.
2. Draw a regular hexagon.
3. Draw a cylinder.



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4. A circle has a diameter of 125 feet. What is the radius of the circle?

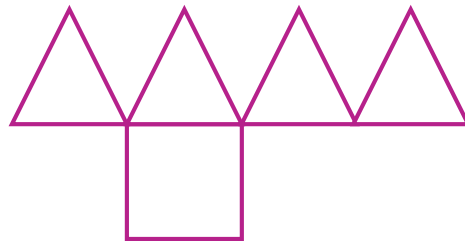
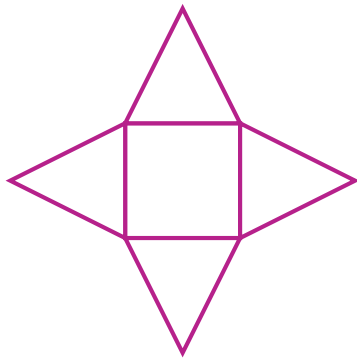
The radius is 62.5 ft.

5. In which quadrant is the x -coordinate of any point positive and the y -coordinate of any point negative?

Quadrant IV

6. a. How many faces does a triangular pyramid have? **4**
b. How many vertices does a triangular pyramid have? **4**
c. How many edges does a triangular pyramid have? **6**

7. Draw two different nets of a square pyramid.



Possible Journal Answers

1. **Translations and reflections are both transformations whose images are congruent to the original figure. They are different because translations retain their orientations, while reflections do not. In translations, motion rules involve adding and subtracting. In reflections, motion rules involve taking the opposite of one of the coordinates.**
2. **When translating left or right, the x -coordinate changes. Adding to the x -coordinate moves a point right; subtracting from the x -coordinate moves a point left. When translating up or down, the y -coordinate changes. Adding to the y -coordinate moves a point up. Subtracting from the y -coordinate moves a point down.**
3. **When reflecting across the x -axis, the x -coordinate stays the same, and the y -coordinate becomes its opposite. When reflecting across the y -axis, the y -coordinate stays the same, and the x -coordinate becomes its opposite. The coordinate which stays the same is the same as the axis that the figure is being flipped across.**