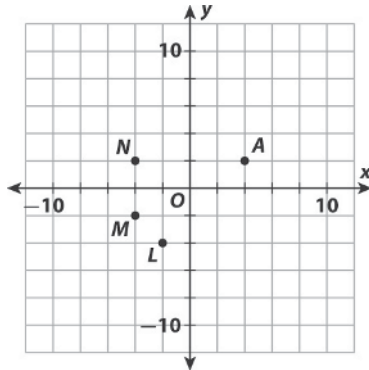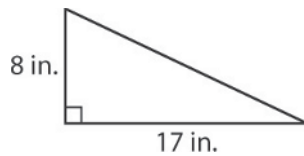**MODULE 14**

Distance and Area in the Coordinate Plane

Module Quiz: D

1. Which point is the same distance from the *y*-axis as Point *N*?

   A   point *L*   C   point *A*

   B   point *M*

2. Which point is a reflection of (2, 5) across the *x*-axis?

   A   (2, –5)   C   (–2, –5)

   B   (–2, 5)

3. What is the area of the triangle below?

   Use $A = \dfrac{1}{2}bh$.

   A   35 in^2 C   136 in^2

   B   68 in^2

4. On a coordinate plane, what is the distance between the point at (5, 3) and the point at (5, 9)? (Hint: Look at the *y*-coordinates.)

   A   14 units   C   6 units

   B   11 units

5. Which ordered pair completes the table below?

Point	Reflected across *y*-axis	Reflected across *x*-axis
(1, 5)		(1, –5)

   A   (1, –5)   C   (–1, 5)

   B   (–1, –5)

6. On a coordinate plane, what is the distance between the point at (1, 9) and the point at (4, 9)? (Hint: Look at the *x*-coordinates.)

   A   3 units   C   0 units

   B   2 units

7. A polygon on a coordinate plane has 4 vertices. What is the shape of the polygon?

   A   hexagon   C   octagon

   B   quadrilateral

8. What is the perimeter of the figure on the coordinate plane below?
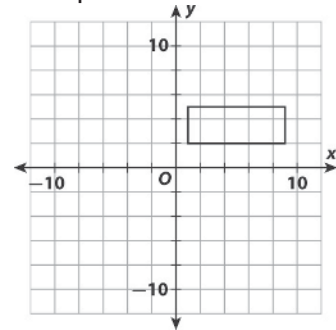
   A   11 units   C   22 units

   B   24 units

9. What is the area of the figure on the coordinate plane below?
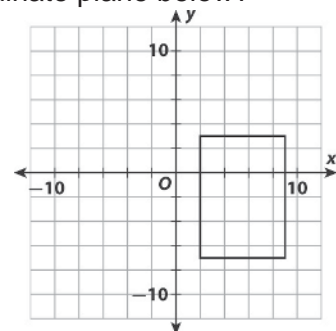
   A   30 square units

   B   70 square units

   C   140 square units

10. Which point is a reflection of (–3, –3) across the *y*-axis? (Hint: Look in Quadrant IV.)

   A   (–3, 3)   C   (3, –3)

   B   (3, 3)

Distance and Area in the Coordinate Plane

11. A point at (3, 5) is reflected across the *y*-axis. What is the distance of this new point from the *y*-axis? Explain how you know.

   _____

   _____

12. Can a point at (0, 4) be reflected across the *y*-axis? Explain, and give the coordinates of the new point, if possible.

   _____

   _____

13. Can a point at (0, 4) be reflected across the *x*-axis? Explain, and give the coordinates of the new point, if possible.

   _____

14. Alan found the distance between point *A*(3, 4) and point *B*(8, 4). His work is shown below.

   3 to the *y*-axis = 3 units

   8 to the *y*-axis = 8 units

   $|8| + |3| = 11$ units from *A* to *B*

   What error did Alan make? What is the actual distance from point *A* to point *B*?

   _____

   _____

   _____

15. Kate plotted a point *K* in Quadrant I. After she reflected the point across an axis, the reflected point was in Quadrant II. Give a possible ordered pair for point *K* and its reflection. Describe how the point was reflected.

   _____

16. A map is drawn on a coordinate plane. Each unit represents 10 miles. Terri drives from her home at point *G* to her friend's home at point *H*, following the route shown below. Terri drives steadily at 50 miles per hour. How long is the distance between the two points? How long will it take Terri to get from point *G* to point *H*? Show your work.

   _____

   _____
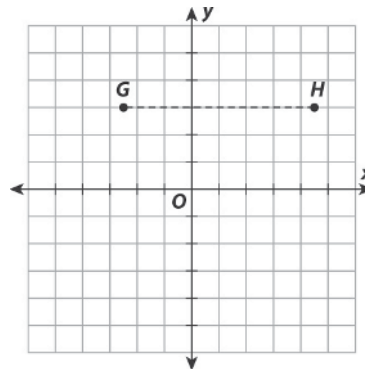
17. Use the coordinate grid below to draw a square that has an area of 16 square units. Prove that your figure has the correct area using distance and area calculations.

   _____

   _____

   _____