

Name: _____ **Lesson 1-1 Notes: Distance on a Coordinate Plane**

Vocabulary:

Coordinate plane: A two-dimensional _____ with x and y _____

Distance: The _____ of the path _____ two _____

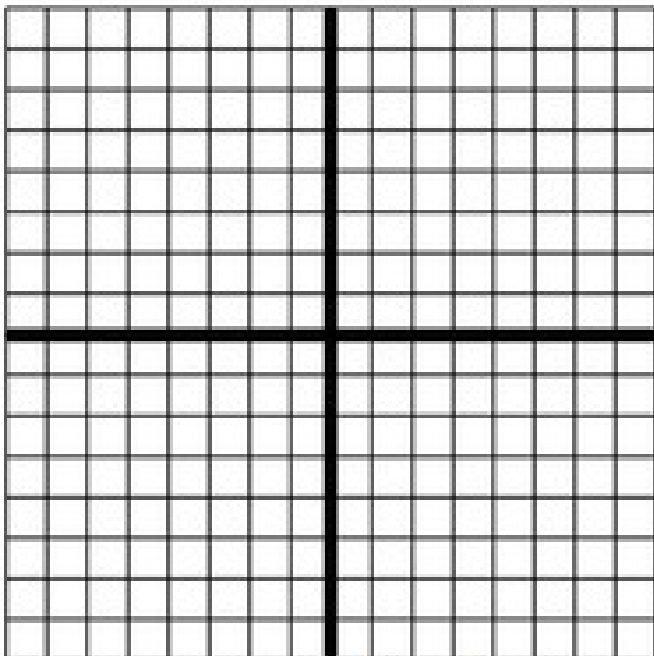
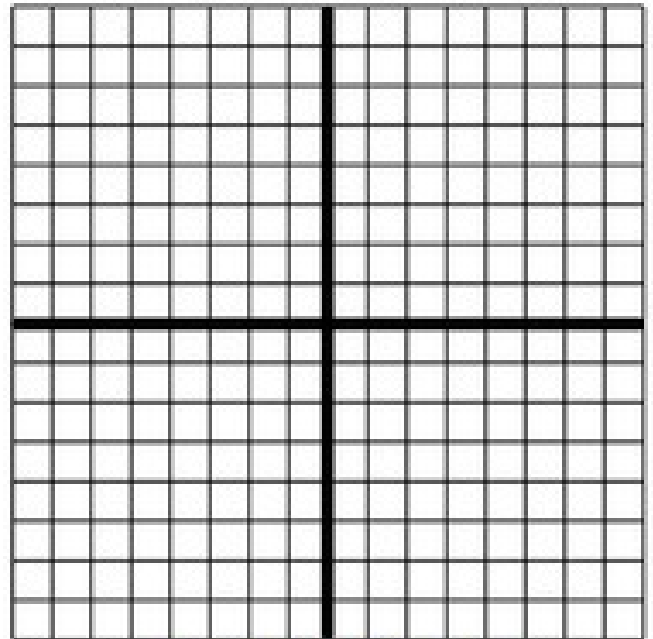
Vertices: The _____ of shape (singular is called a _____)

Perimeter: The _____ around the _____ of a shape

Area: The _____ inside a two-dimensional _____

(1) Find the distance between each pair of points:

- a. (2,1) and (2,6)
- b. (-4,0) and (3,0)
- c. (1,-3) and (1,4)
- d. (0,5) and (0,-4)



(2) Three vertices of a square are at A (1,5), B (6,5) and C (6,0).

- a. At what coordinate would the fourth vertex be at?

- b. Find the length of side AB. _____
- c. Find the perimeter of the square. _____
- d. Find the area of the square. _____

(3) Fort Mill Middle School is building a rectangular courtyard. Dr. McQuay uses a coordinate grid to map out the city, where each unit represents 10 meters.

+The garden is placed at (2,3).

+A flagpole is placed at (2,9).

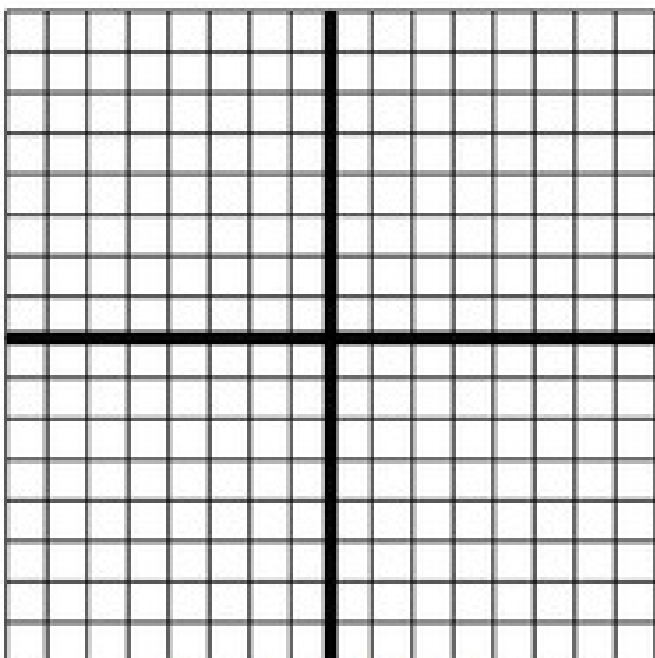
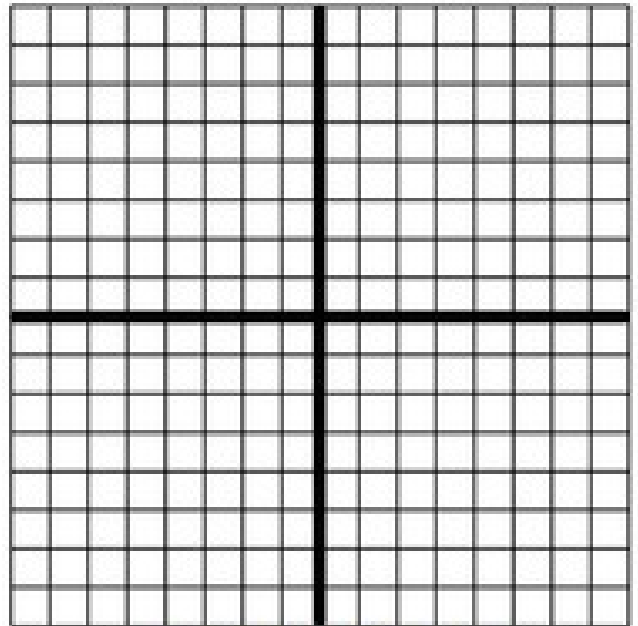
+A seating area is at (8,9).

+A fountain is placed at (8,3).

- What is the distance, in **meters**, between the garden and the flagpole?
- What is the distance, in **meters**, between the flagpole and the seating area?
- What is the total perimeter of the courtyard in **meters**?
- What is the area of the courtyard in square **meters**?

(4) Three vertices of a rectangle are at P (2,1), Q (8,1) and R (8,4).

- Find the fourth vertex. _____
- Find the length of the rectangle. _____
- Find the width of the rectangle. _____
- Find the perimeter of the rectangle. _____
- Find the area of the rectangle. _____



(5) A hiker is tracking their path on a grid. Each unit represents 10 feet.

+The trailhead is at (-6,0).

+The first rest stop is at (1,0).

+The summit is at (1,3).

- How many feet is the rest stop from the trailhead?
- How far in feet is the summit from the rest stop?
- If the hiker walks from the trailhead to the rest stop, then to the summit, and finally returns to the rest stop, how many total feet did they walk?