Family Support Materials

Shapes on the Coordinate Plane

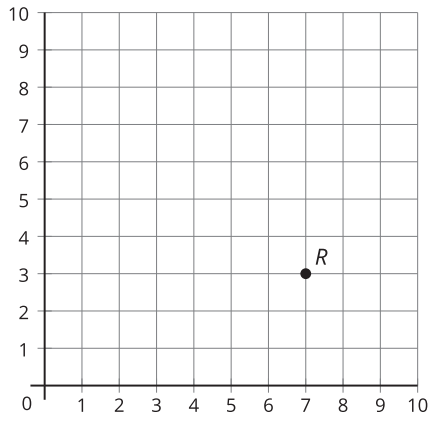
In this unit, students are introduced to the structure of the coordinate grid, and the convention and notation of coordinates to name points. They classify triangles and quadrilaterals in a hierarchy based on properties of side length and angle measure. In their work with numerical patterns, students generate two different numerical patterns, and identify relationships between the corresponding terms in the patterns.

Section A: The Coordinate Plane

In this section, students explore the coordinate grid.

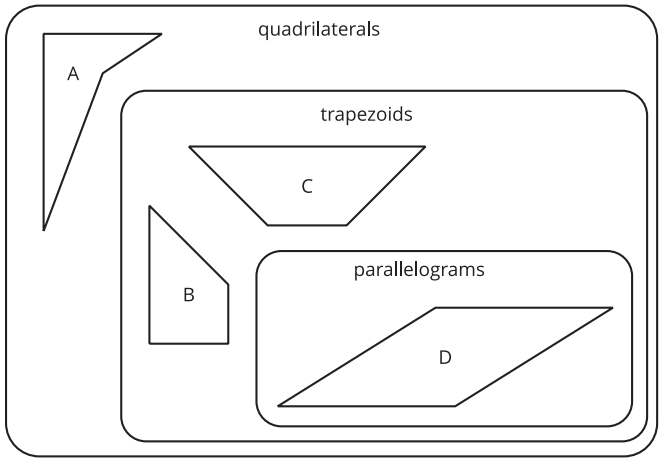
- They recognize that a point is located where two lines intersect.
- They describe points on the grid based on the numbers on the horizontal and vertical axes.

For example, the point shown is located at $(7, 3)$.



Section B: The Hierarchy of Shapes

In this section, students learn more about shapes. They sort different types of triangles and quadrilaterals based on what the shapes have in common. They classify the shapes into categories and subcategories. For example,



Section C: Numerical Patterns

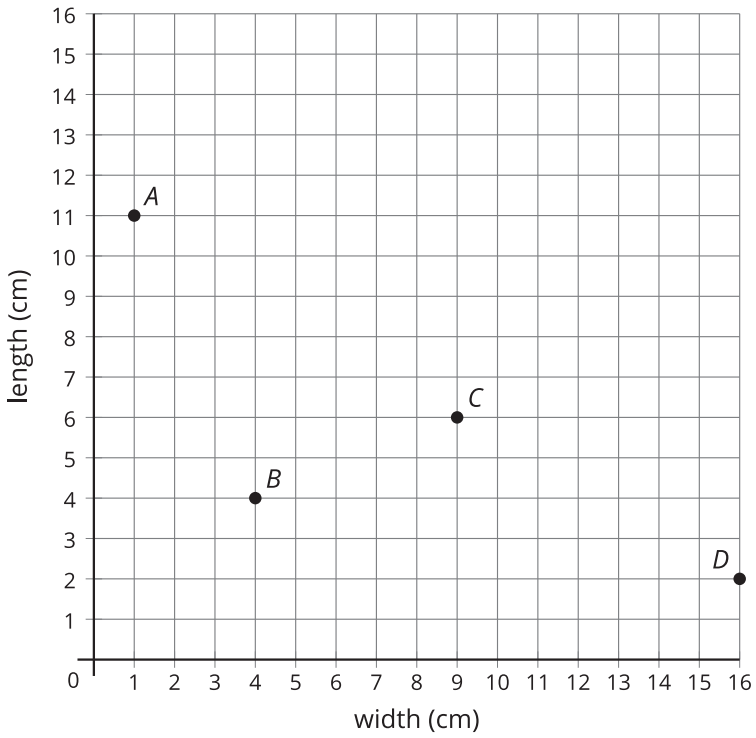
In this section, students generate patterns and explore relationships between patterns. For example:

Rule 1: Start with 0. Add 4.
Generate a pattern for rule 1.

Rule 2: Start with 0. Add 6.
Generate a pattern for rule 2.

Compare your patterns. What relationships do you notice?

After students become familiar with generating patterns from rules and explaining relationships between patterns, they plot pairs of numbers from two patterns on a coordinate grid. They also represent and solve problems by graphing points on the coordinate grid.



Try it at home!

Near the end of the unit, ask your student to solve the following problem:

This coordinate grid represents information about rectangles A–D. Based on the coordinate grid, what do we know about each of these rectangles?

Questions that may be helpful as they work:

- What strategy are you going to use to help you solve the problem?
- How can you show the rectangles represented by these points on the grid?
- Add another point to the grid that represents a different rectangle and describe the rectangle to me.