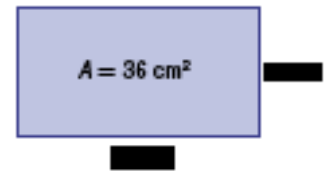




## ACTIVITY

2

**STEP 1** Draw five rectangles that each have an area of 36 square centimeters on centimeter grid paper. The length should be greater than or equal to its width.



**STEP 2** Copy and complete the table shown for each rectangle.

| Length (cm) | Width (cm) | Area (cm <sup>2</sup> ) |
|-------------|------------|-------------------------|
|             |            | 36                      |
|             |            | 36                      |
|             |            | 36                      |
|             |            | 36                      |
|             |            | 36                      |

**STEP 3** Clear list L1 and L2 by pressing `2nd` `STAT` `3` `2nd` `[STAT]` `1` `.` `2nd` `[STAT]` `2` `ENTER`. Then press `LIST` and enter the length of each rectangle in L1 and the width of each rectangle in L2.

**STEP 4** Follow Steps 4 and 5 of Activity 1 to graph the data.

## ANALYZE THE RESULTS

- What does an ordered pair on your graph represent?
- Sketch and describe the shape of the graph.
- MAKE A CONJECTURE** Write an equation for your graph. Use the calculator to graph and check your equation. What does this equation mean?
- As the length of the rectangle increases, what happens to its width? Does this happen at a constant rate? How can you tell this from the table? from the graph?
- MAKE A PREDICTION** Draw five cubes with different edge lengths. Predict the shape of the graph of the relationship between the edge length and volume of the cube.
- Create a table to record the edge length and volume of each cube. Then graph the data to show the relationship between the edge length and volume of the cube. Sketch and describe the shape of the graph.
- MAKE A CONJECTURE** Write an equation for your graph. Use the calculator to graph and check your equation. What does this equation mean?
- As the length of the cube's edge increases, what happens to the volume?