

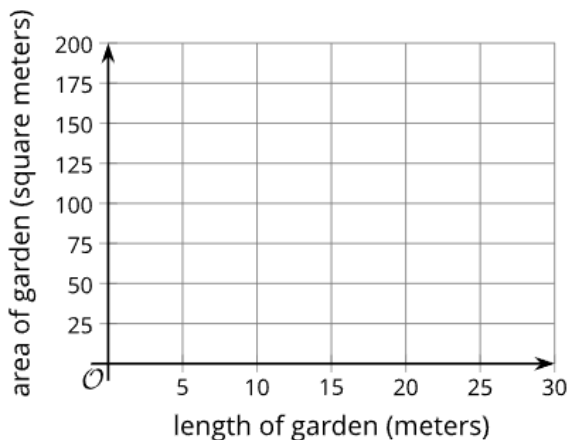
Name: _____

Modeling with Quadratics Activity 2

Activity 2: Using Quadratics to Model Area (Noah's Garden)

Noah has 50 meters of fencing to completely enclose a rectangular garden in the backyard.

1. Draw some possible diagrams of Noah's garden. Label the length and width of each rectangle.
2. Find the length and width of the rectangle that would produce the largest possible area. Explain or show why you think that length and width gives the largest possible area.



3. Plot some values for the length and area of Noah's garden, with a perimeter of 50 meters, on the coordinate plane.

4. What do you notice about the plotted points?

5. The points (3, 66) and (22, 66) each represent the length and area of the garden. Plot these 2 points on the coordinate plane, if you haven't already done so. What do these points mean in this situation?
6. Could the point (1, 25) represent the length and area of the garden? Explain how you know?
7. What length gives the largest area? What shape is the pin that has this length?