The Greatest Area Activity Name:

Draw in a systematic way all of the <u>different</u> rectangles using integer lengths with a fixed perimeter of ___ units.

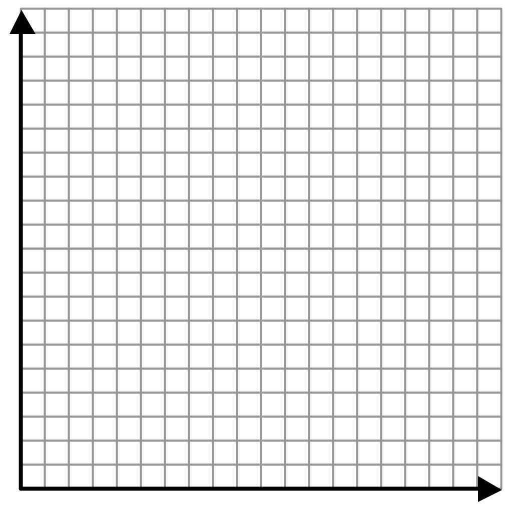
a)

b)

Perimeter	Length	Width (L_1)	Area (L_2)

Perimeter	Length	Width (L_1)	Area (L_2)

c) Enter the data from the width and area column into L1 and L2. Plot the data using STATPLOT. Adjust the window using ZOOM – 9:ZoomStat. Sketch the plot on the grid.



d) Use your graph from part c) to estimate the maximum area for a rectangle with your given perimeter.

e) Create an equation to model this problem where y is the area and x is the width. You must find a way to calculate the length using the width (x). When you have created your equation, graph the equation using the y= key.

Your Equation: ___________________ Does your equation match the data?

f) Using TableSet and Table (2nd graph), find the maximum area for a figure with your given perimeter. What is the maximum area?

g) In your groups, make a summary poster or transparency of your width/area plot and the equation you developed. Address how the significant parts of the graph relate to the rectangles generated.

h) Based on the class presentations, what generalizations or conclusions can you make about maximizing areas of fixed perimeter lengths.