Fixed perimeter – changing area (http://ggbtu.be/m3299629)

1) Choose a fixed perimeter of 24 units. Consider all the rectangles that have a perimeter of 24 units. Predict the dimensions of the rectangle with the smallest area. Predict the dimensions of the rectangle with the largest area.

2) Use slider "a" to fix the perimeter of 24 units. Use slider "b" to create the different rectangles with the perimeter of 24 units. Record the length, width, area and perimeter of each rectangle. Compare your data to your prediction in #1.

Length	Width	Area	Perimeter
			24

3) Use the sliders to explore several different perimeters and areas. Come up with a conjecture about the maximum area of a rectangle for any fixed perimeter of a rectangle.

Fixed Area – changing perimeter http://www.geogebra.org/m/3299735

1) Set the area of the rectange to 36 using the slider. Make a prediction for the dimensions of the perimeter that have the longest perimeter and the shortest perimeter. (Dimensions should be whole numbers.)

2) Drag the point X to change the rectangle's dimensions. Record the length, width, perimeter and area for the rectangles. Compare your data with your predictions. Which rectangle has the longest perimeter? Which had the shortest perimeter?

Length	Width	Area	Perimeter
		36	

3) Use the slider to explore rectangles of different area. Make a conjecture for any given area of a rectangle, what will be the dimensions of the rectangle with the longest perimeter? What about the shortest perimeter?

1. You have rented a display area of 42 square yards at the flea market. What are the rectangular dimensions that will allow the most people possible to look at the items you have for sale on the tables? Assuming that each person takes up to 1 yard of width, what is the maximum number of people that can look at your items (without being two or more people deep or squishing together?

2. You are planting a garden that has an area of 48 square feet. What dimensions should you choose so you have the least amount of fence to trim around? (You do not like to trim around fences!)