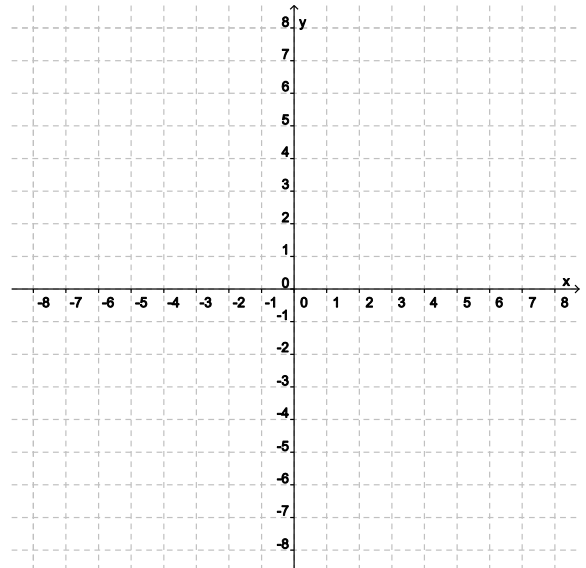


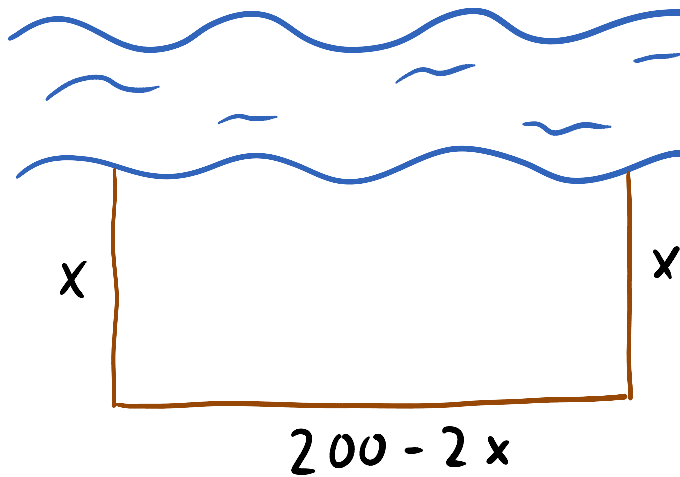
1. Find the coordinates of the vertex for $f(x) = -3(x - 2)^2 + 12$. Also, what is the axis of symmetry?

2. Find the coordinates of the vertex for $f(x) = 3x^2 - 12x + 1$. Also, what is the axis of symmetry?

3. Graph $f(x) = x^2 - 4x + 6$. Find and plot the vertex and intercepts. Identify the range. Where does the maximum or minimum occur, and what is the minimum or maximum value?



4. You have 200 feet of fencing to enclose a rectangular plot that borders on a river. If you do not fence the side along the river, find the length and width of the plot that will maximize the area. What is the largest area that can be enclosed?



5. Find two numbers add to 20, and have the largest product possible. Also, what is the maximum product?

Q: If you have 10 black socks and 10 green socks in a drawer (all mixed up), how many socks do you need to take out to be sure that you have a pair of the same color?