

Building Polynomial Functions

Polynomials of Degree 3

NAME _____

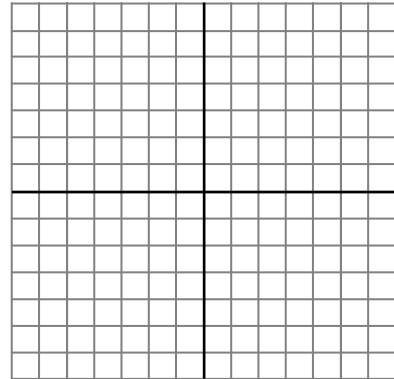
1. Graph each of the following three linear functions on the axis provided.

$$y_1 = \frac{1}{2}x - 2$$

$$y_2 = x + 3$$

$$y_3 = -x + 1$$

2. Multiply the three functions together.



3. What type of function is the result?
4. Using what you know about multiplying signed numbers and the graphs of the lines, sketch your prediction for the graph of the product of the three linear functions.
5. Describe in your own words how you chose your graph.

6. Work-backwards: Find three lines that could be the components for the cubic represented by the graph to the right.
7. Describe in your own words how you chose your lines.

