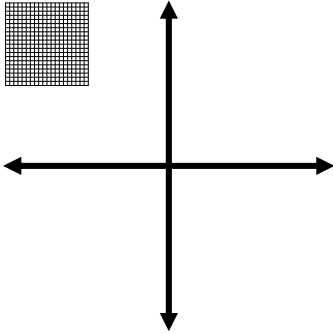


## Algebra 2: Chapter 2.1 – 2.2 Review Homework

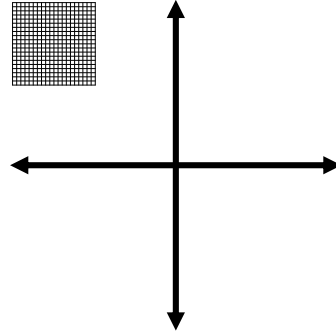
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Describe the transformation(s) of  $f(x) = x^2$  represented by  $g$ . Then graph **BOTH** functions.

1.  $g(x) = (x + 3)^2 - 4$



2.  $g(x) = \frac{1}{2}(x - 2)^2 + 1$



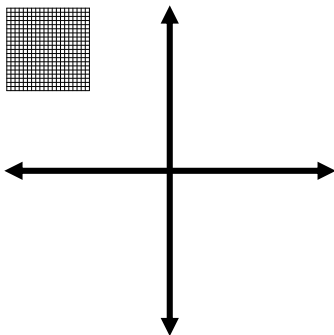
**Write a rule for  $g$  and identify the vertex.**

3. Let  $g$  be a translation 4 units down, followed by a reflection in the x-axis and a vertical shrink by a factor of  $\frac{1}{2}$  of the graph of  $f(x) = x^2$ .

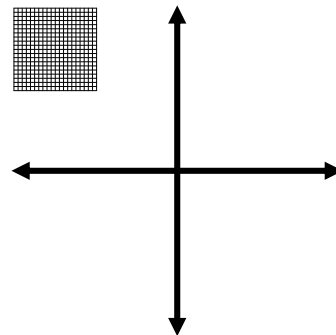
4. Let  $g$  be a translation 5 units up and 2 units right of the graph of  $f(x) = (x + 8)^2 - 6$

**Graph the function. Label the vertex and axis of symmetry.**

5.  $f(x) = 2(x - 2)^2 - 1$



6.  $f(x) = 3x^2 + 6x + 1$

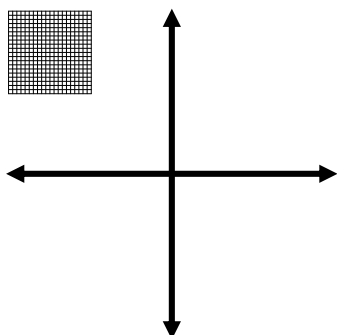


Find the minimum or maximum value of the function. Describe the domain and range and where the function is increasing and decreasing.

7.  $f(x) = -x^2 + 4x - 1$

Find the x-intercepts, vertex, and axis of symmetry of the function. Then graph it.

8.  $g(x) = 2(x - 5)(x - 1)$



9.  $g(x) = (x + 1)(x - 3)$

