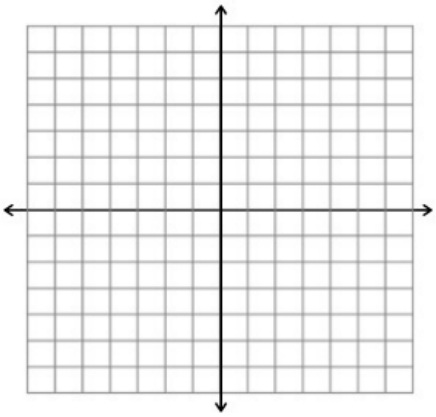
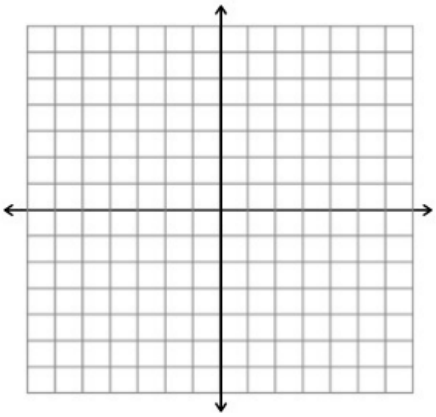
Ch 3 Review **Name_____**
Period_____

Graph the following functions. MOST IMPORTANTLY...Compare with the graph of the parent function $f(x) = x^2$. This means to describe the transformations from the parent function using appropriate vocabulary.

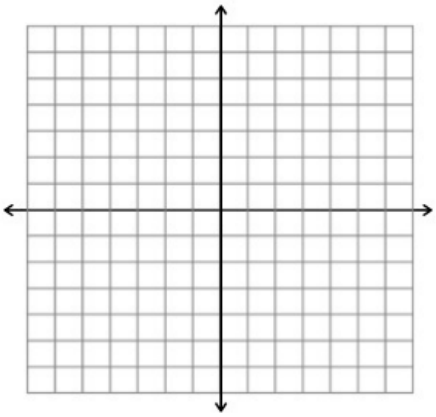
1. $h(x) = 2x^2$



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

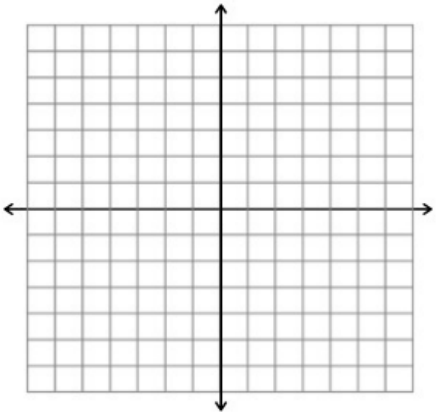


3. $k(x) = x^2 - 6$

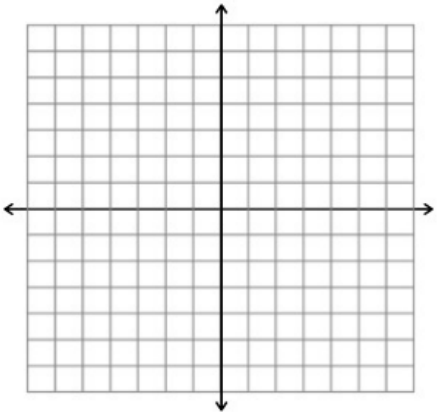


Graph the following functions then state the vertex and axis of symmetry.

4. $g(x) = 3x^2 - 6x$



5. $z(x) = 3x^2 + 6x + 3$



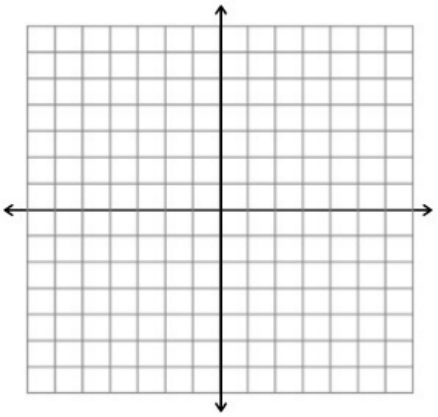
Tell whether the function has a minimum value or maximum value. How do you know? Then find the minimum or maximum value.

6. $y = x^2 - 4x + 3$

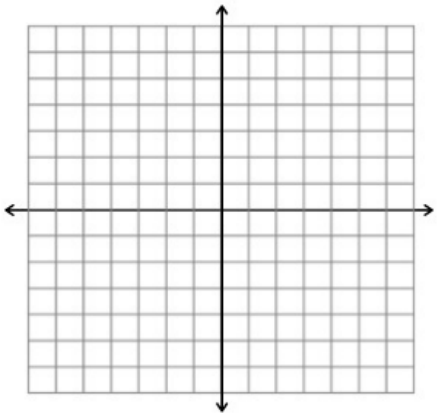
7. $y = -5x^2 - 10x - 2$

Graph the following functions then describe in detail in your own words how the graph of the function g(x) differs from the graph of h(x) . You must include a description of the new parabola's shape and the new location. Be sure to include exactly why/how you would know this without looking at a graph.

8. $g(x) = -2(x-3)^2 - 3$
$h(x) = x^2$



9. $z(x) = (x-5)^2 + 2$
$h(x) = x^2$



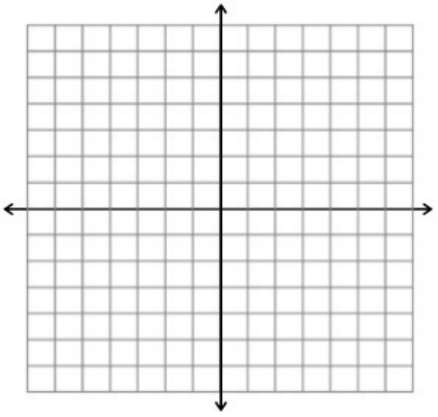
Write the equation for the parabola:

10. who's graph has the vertex (2, -4) and passes through (4, 0).

11. who's graph has the x-intercepts 3 & -2 and passes through (2, -8).

Graph the following functions. State the vertex

12. $p(x) = -2(x+3)(x-1)$



13. $h(x) = \frac{1}{2}(x-3)(x+1)$