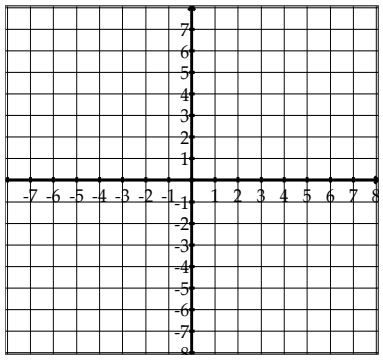
HW 2-7 **Name** _____

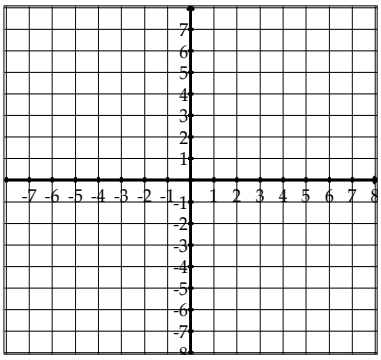
Algebra II **Period** _____

Directions: List the transformations, identify the vertex and graph each of the following:

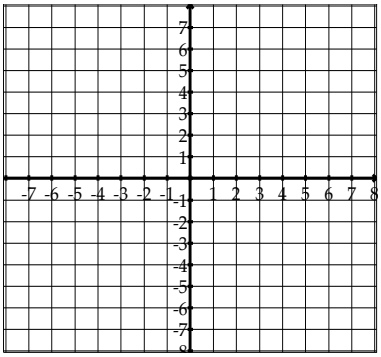
1. $f(x) = |x| + 4$



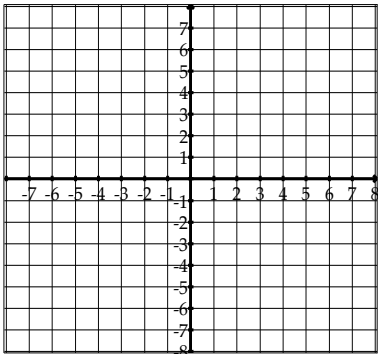
2. $f(x) = |x + 4|$



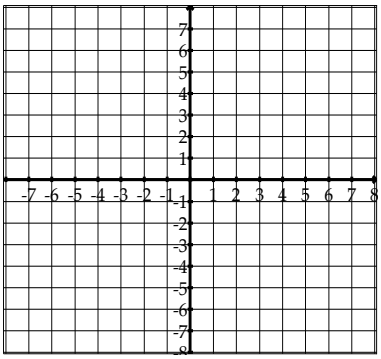
3. $f(x) = 3|x| - 4$



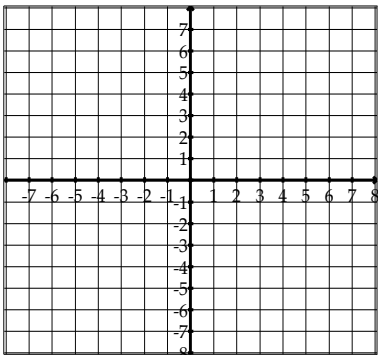
4. $f(x) = \frac{1}{2}|x + 2| + 2$



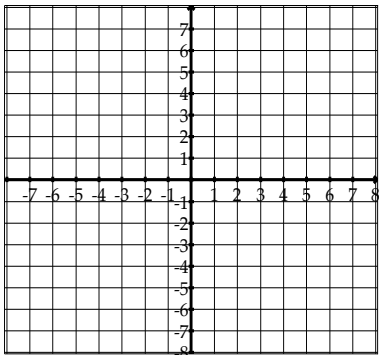
5. $f(x) = -x^2 + 5$



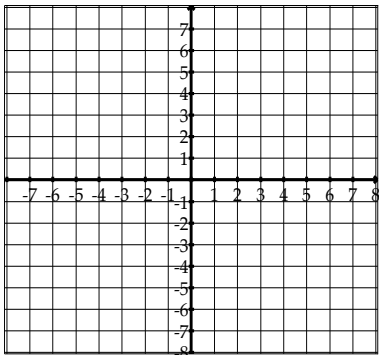
6. $f(x) = -(x + 2)^2$



7. $f(x) = (x-1)^2 - 3$



8. $f(x) = 2(x-3)^2$



9. Let g(x) be a horizontal shift left 5 units, followed by a vertical stretch (scale factor 2) and a reflection across the x-axis of f(x) = x^2 . Write the rule for g(x).

9. _____

10. Let g(x) be a vertical compression (scale factor ¼) followed by a vertical shift up 2 units of f(x) = $|x|$. Write the rule for g(x).

10. _____

11. Write the equation of the absolute value graph that has been shifted up 5, left 7 and compressed vertically (scale factor 1/3).

11. _____

12. Let g(x) be a horizontal translation 4 units left and a vertical translation 3 units up of the function $f(x) = 2x^2 + 1$. Write the rule for g(x).

12. _____