

Name: _____ Date: _____

HW: Graphing Quadratics in Vertex Form

1) Determine the vertex of each of the following

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

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

c. $f(x) = \frac{2}{3}(x - 2)^2$

d. $f(x) = 3x^2 - 4$

2) Match the graph with the equation

$f(x) = (x - 3)^2 + 1$ _____

$f(x) = (x + 3)^2 + 1$ _____

$f(x) = (x - 3)^2 - 1$ _____

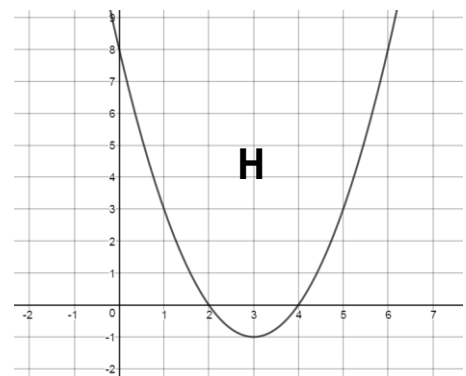
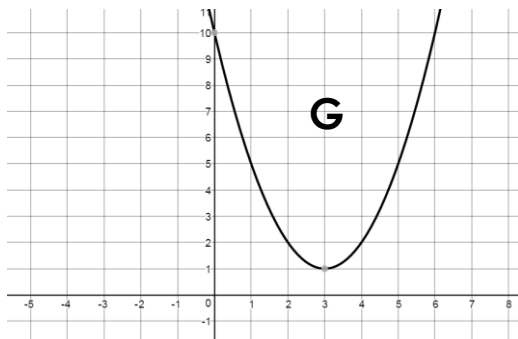
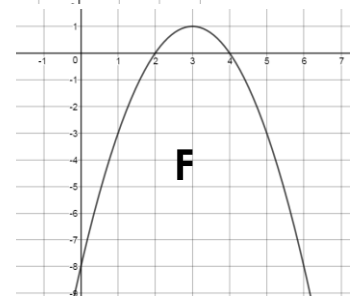
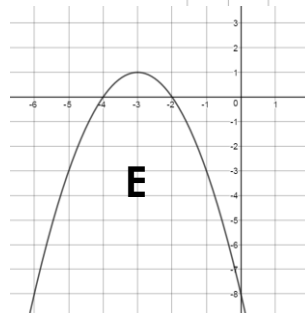
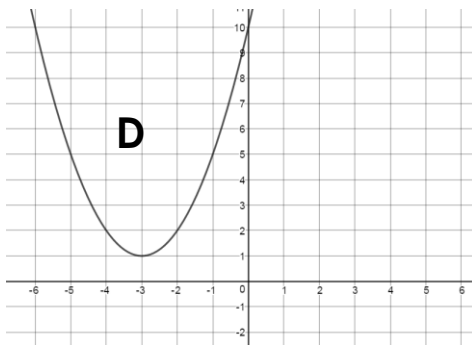
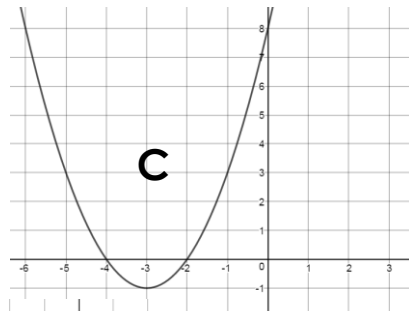
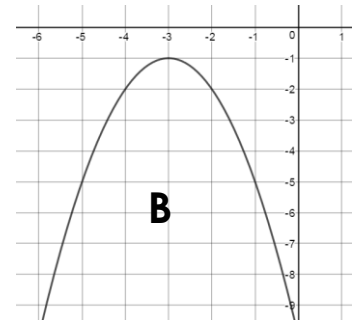
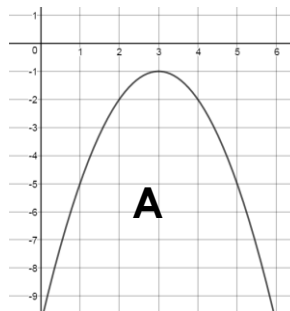
$f(x) = (x + 3)^2 - 1$ _____

$f(x) = -(x - 3)^2 + 1$ _____

$f(x) = -(x + 3)^2 + 1$ _____

$f(x) = -(x - 3)^2 - 1$ _____

$f(x) = -(x + 3)^2 - 1$ _____



FLIP TO BACK!!!

For each of the following describe the transformations

3) $f(x) = x^2 + 5$	4) $f(x) = -4x^2$
5) $f(x) = \frac{1}{5}x^2 - 2$	6) $f(x) = (x - 4)^2 + 1$
7) $f(x) = -(x + 1)^2$	8) $f(x) = -2(x + 3)^2 - 4$

Write an equation of the graph that has the following transformations

9) Is narrower than the parent function by a factor of 4	10) Is shifted up from the parent function by 4
11) Is shifted left from the parent function by 4	12) Is wider than the parent function by a factor of $\frac{1}{4}$