Name:_____ Date:_____

Quadratic Review! Graphing Quadratics and Characteristics

Part A: Describe the transformations: Make sure to mention horizontal, vertical movement as well as if the graph stretches or shrinks and if it reflects over the x axis

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

Part B: Convert each of the following into standard form

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

Part C: Convert each of the following into vertex form:

9) $f(x) = x^2 - 6x + 17$	10) $f(x) = -x^2 - 2x + 1$

11) $f(x) = x^2 + 10x + 21$	12) $f(x) = x^2 - 18x + 81$

Part D: Write the vertex form equation given the following transformations

13) Stretched by a factor of 5, right 3 and down 6	14) Reflection over the x axis, left 3 and up 3
15) Reflection over the x axis, stretched by a factor of $\frac{5}{2}$ and left 4	16) Shrunk by a factor of $\frac{1}{2}$ and up 7

Part E: Graph the quadratic and determine the characteristics

$f(x) = -2x^2 - 8x - 6$

Vertex:_____

Zeros: _____

Interval of Increase:_____

Interval of Decrease:_____

Axis of Symmetry:_____

Y-Intercept:_____