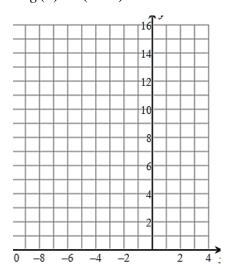
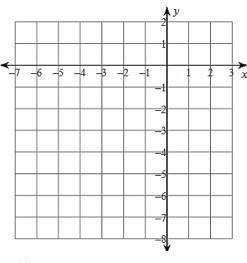
## Graph each function.

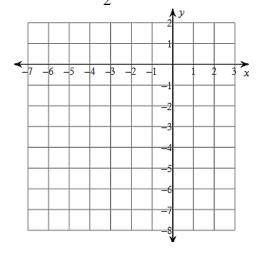
**1.** 
$$g(x) = 3(x-2)^2 + 3$$



**2.** 
$$k(x) = -2(x+2)^2 + 1$$



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



Vertex:

Domain:

Range:

Axis of Symmetry:

Avg ROC over  $x \in [1, 4]$ :

Vertex:

Range: y – intercept

Opening up or down?

Interval where k(x) is decreasing:

Vertex:

Axis of Symmetry:

Avg ROC over  $x \in [-5, -2]$ 

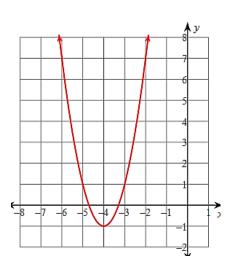
Interval where f(x) is increasing:

2. Write an equation for a quadratic function that has been dilated by a factor of 7, reflected across the x – axis, and moved to the right 23 units.

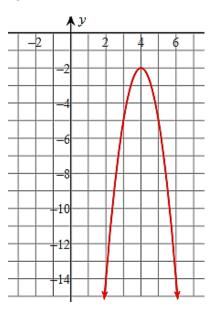
3. Write an equation for a quadratic function that has been dilated by a factor of  $\frac{1}{2}$ , translated left 6 and down 8.

Describe the transformations from the quadratic parent function then write the equation for each graph.

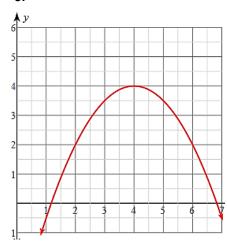
4.



5.



6.



a. Transformations (order matters!):

a. Transformations:

a. Transformations:

b. Equation:

b. Equation:

b. Equation:

Email me a completed copy of the worksheet. Title the worksheet "8.1-8.2 Worksheet – Your Name."