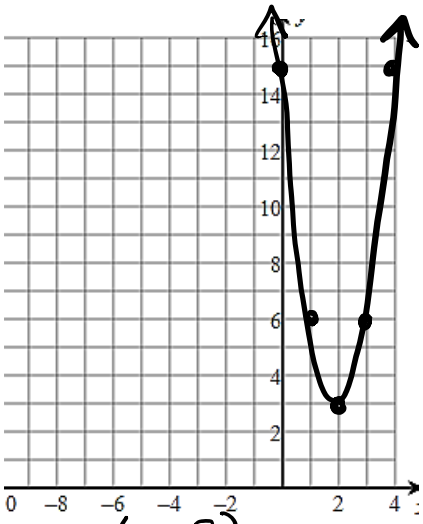
8.1-8.2 Quiz Review Name Key

Graph each function.

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



Vertex: (2, 3)

Domain: $x \in (-\infty, \infty)$

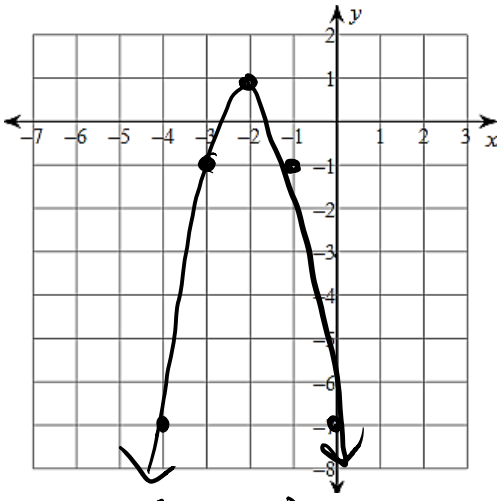
Range: $y \in [3, \infty)$

Axis of Symmetry: $x = 2$

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

$\frac{9}{3} = 3$

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



Vertex: (-2, 1)

Range: $y \in (-\infty, 1]$

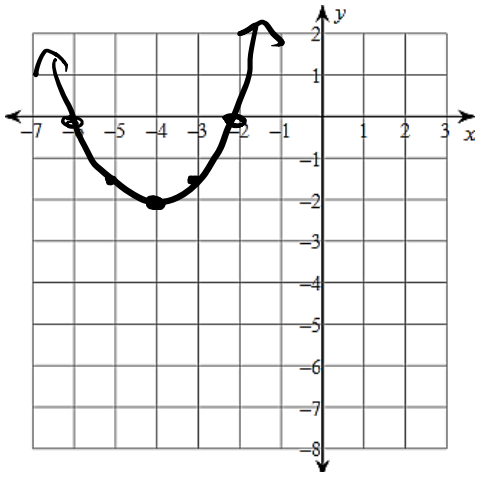
y – intercept (0, -7)

Opening up or down? down

Interval where $k(x)$ is decreasing:

$x \in (-2, \infty)$

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



Vertex: (-4, -2)

Axis of Symmetry: $x = -4$

Avg ROC over $x \in [-5,-2]$ $\frac{1}{2}$

Interval where $f(x)$ is increasing:

$x \in (-4, \infty)$

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.

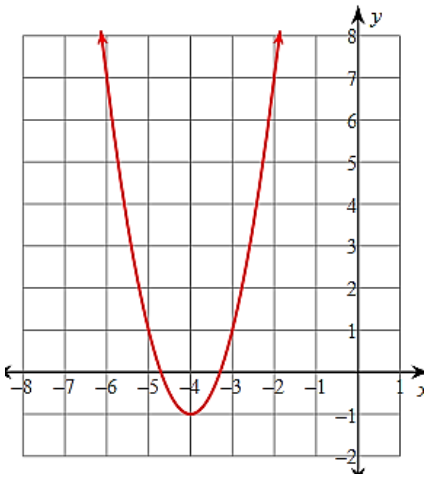
$$y = -7(x-23)^2$$

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.

$$y = \frac{1}{2}(x+6)^2 - 8$$

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

4.



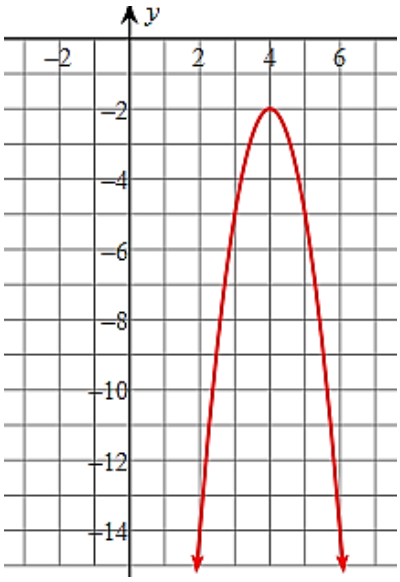
a. Transformations (order matters!):

Vert. Dilated by 2
translated left 4 & down 1

b. Equation:

$y = 2(x+4)^2 - 1$

5.



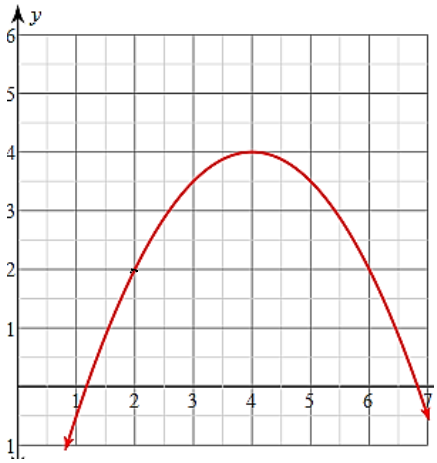
a. Transformations:

- Reflected over x axis
- vert. dilated by 3
- translated right 4, down 2

b. Equation:

$y = -3(x-4)^2 - 2$

6.



a. Transformations:

- Reflected over x axis
- vert dilation of ½
- right 4, up 4

b. Equation:

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

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