

Bellwork:

NC Math 2 Unit 6 Square Root and Inverse Variation Functions

Lesson 4

READY, SET, GO!

Name Key Period _____
Date _____

READY

Topic: Transformations of Quadratic Functions.

For each of the following quadratic functions, describe the transformations that have occurred from the parent graph $f(x) = x^2$

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

- reflect over x-axis
- shift right 2

2. $h(x) = \frac{1}{2}(x + 3)^2$

- vertical shrink by $\frac{1}{2}$
- shift left 3

3. $m(x) = (x - 1)^2 + 5$

- shift right 1
- shift up 5

4. $w(x) = -2(x - 6)^2 - 1$

- reflect over x-axis
- vertical stretch by 2
- shift right 6
- shift down 1

5. $d(x) = x^2 + 4x + 10$

$$= (x^2 + 4x + 4) + 10 - 4$$

$$= (x+2)^2 + 6$$

- shift left 2, up 6

6. $p(x) = (x + 6)(x - 4)$

$$= x^2 + 2x - 24$$

$$= (x^2 + 2x + 1) - 24 - 1$$

$$= (x+1)^2 - 25$$

- shift left 1, down 25