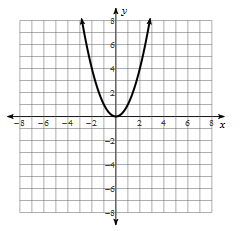
FOM2 Unit 2 Lesson 4 Transformations of a Parabola Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Transforming a Quadratic Equation Investigation**

What does it mean transforming a Quadratic Equation?

Using a Graphing Calculator complete

|  |
| --- |
| Function Color  1. Black  2.  3.  4.  5.  6.  7.  8. |

|  |
| --- |
| Describe the transformation  1. Parent Graph 5.  2. 6.  3. 7.  4. 8. |

**Summary of Transformations:**

**k produces a vertical shift \_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_ h produces a horizontal shift \_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_**

if k is positive, the graph moves \_\_\_\_\_\_\_\_\_\_ if h is positive, the graph moves \_\_\_\_\_\_\_\_\_\_\_

if k is negative, the graph moves\_\_\_\_\_\_\_\_\_\_ if h is negative, the graph moves \_\_\_\_\_\_\_\_\_\_\_

**a causes the graph to get narrower or wider also called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

If , the result is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by a scale factor of

If 0 , the result is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by a scale factor of

If a is negative, the graph is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ over the x-axis

Describe the transformations of the parent graph

1.

2.

3.

4.

5.

Write the equation that represents the transformation from the graph

6. up 3 units, left 2 units

7. reflected over the x-axis, right 2 units

8. shrink by a scale factor of , right 4 units, down 8 units

9. stretch by a scale factor of 7, reflected over the x-axis, left 10 units

10. vertical compression by a scale factor of , reflected over the x-axis, right 10 3 units, down 5 units