**Name:** _____ **Date:** _____

# Ch. 2 Quadratic Function Test Review

☑ *Use when you get it right all by yourself*

***S*** *Use when you did it all by yourself, but made a silly mistake*

***H*** *Use when you could do it alone with a little help from teacher or peer*

***G*** *Use when you completed the problem in a group*

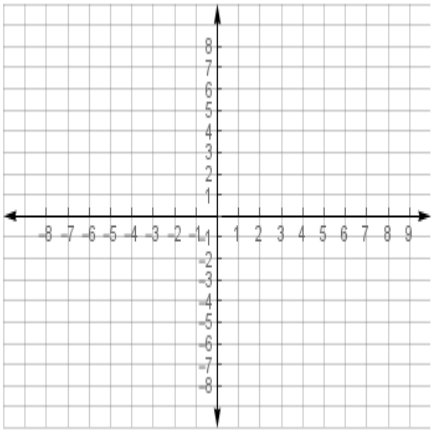
***X*** *Use when a question was attempted but wrong (get help)*

***N*** *Use when a question was not even attempted*

| CONCEPTS | BASIC | INTERMEDIATE | ADVANCED |
|---|---|---|---|
| Graphing Quadratic Functions | | | |
| Describing Transformations | | | |
| Domain/Range | | | |
| Writing functions given transformations | | | |
| Labeling parts of a parabola | | | |
| Identifying Key Characteristics | | | |
| Writing an Equation given key characteristics | | | |

**1 – 4: Graph the function, describe the transformation(s) from $f(x) = x^2$, and state the domain and range of the new transformed function in interval notation.**

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

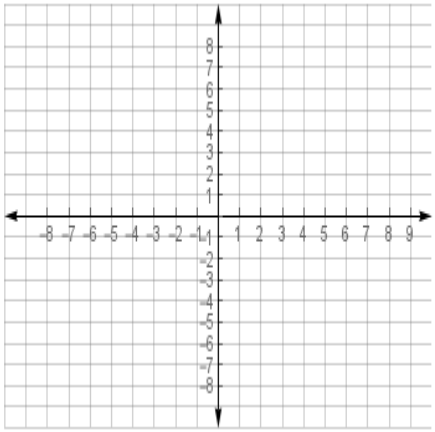


**Transformation(s):**

**Domain:**

**Range:**

**2.** $g(x) = 2x^2 - 4$

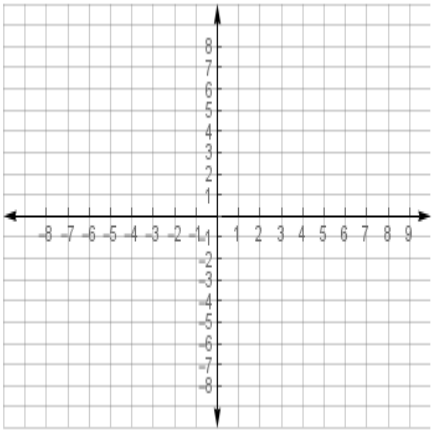


**Transformation(s):**

**Domain:**

**Range:**

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

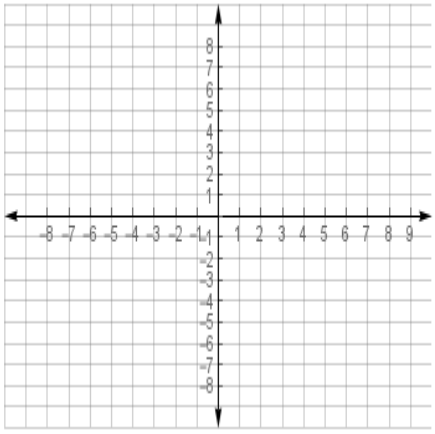


**Transformation(s):**

**Domain:**

**Range:**

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



**Transformation(s):**

**Domain:**

**Range:**

**5 – 7: Write a rule for *g(x)* described by the transformation of the graph of *f(x)*.**

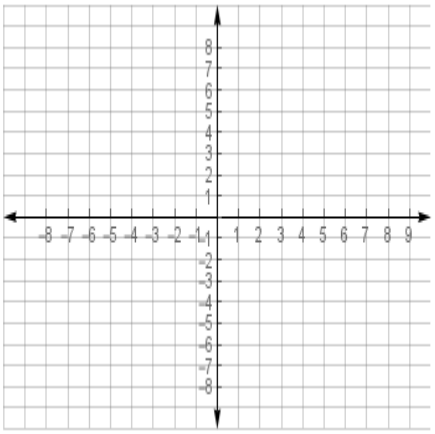
5. $f(x) = x^2$ , vertical stretch by a factor of 4 and a reflection in the x-axis, followed by a translation 2 units down.

6. $f(x) = x^2$, horizontal stretch by 5, followed by a translation 4 units up.

7. $f(x) = 2x^2 - 3$ , reflection in the x-axis, followed by a translation 2 units to the right.

**8 – 9: Graph the function. Label the vertex and axis of symmetry. State the domain and range.**

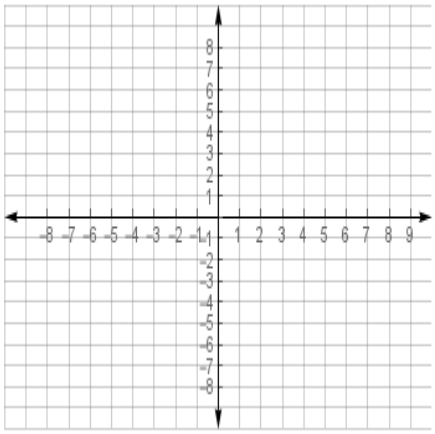
8. $f(x) = \frac{1}{2}(x-1)^2 + 2$



**Domain:**

**Range:**

9. $f(x) = x^2 - 4x + 3$

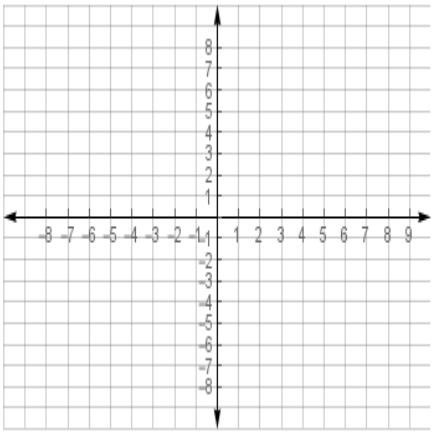


**Domain:**

**Range:**

**10: Graph the function. Label the x-intercepts, vertex, and axis of symmetry. State the key characteristics.**

**10.** $g(x) = 2(x-3)(x-5)$



**x-intercepts:**

**roots**

**y-intercept:**

**vertex:**

**Axis of Symmetry:**

**Domain:**

**Range:**

**11: Write the equation of a parabola in vertex form from the given information: passes through (0, -5) and has a vertex at (3, 2).**

**12: Write the equation of a parabola in root form from the given information: x-intercepts of (2, 0) and (8, 0), and passes through (0, 3).**

**Other materials to review not on this review:**

- Practice worksheets for 2.4 quadratic regression
- ACT multiple choice questions that can be chapter 1 or algebra 1
- Quiz 2.1 – 2.2
- Homework problems

---

**CYU Reflection:** *How far can you go: basic, intermediate, or advanced?*

**Rate your mastery level!**

How confident are you with the skills this CYU covered? Circle the score you would give yourself.