Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_ Block: \_\_\_\_\_\_\_\_\_\_

***Algebra 2***

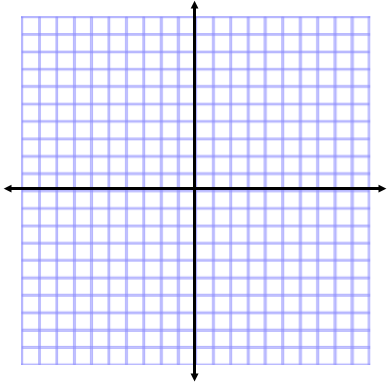
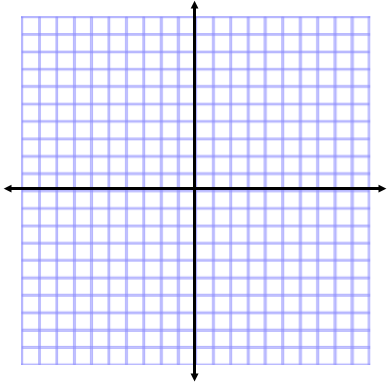
***Parent Functions & Transformations***

**For problem 1- 8, please give the name of the parent function and describe the transformation represented. You may use your graphing calculator to compare & sketch.**

1. g(x) = x 2 – 1 **2.** f(x) = 

Parent: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Parent: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

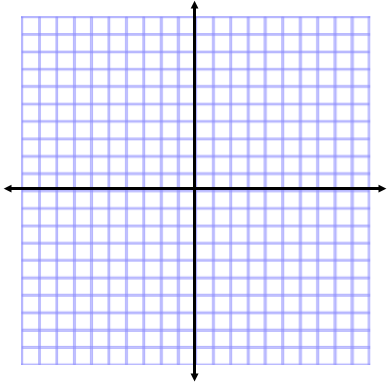
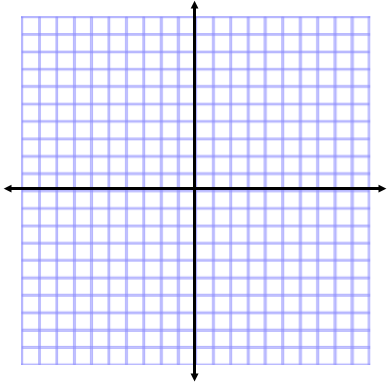
Transformations:\_\_\_\_\_\_\_\_\_\_ Transformations:\_\_\_\_\_\_\_\_\_\_

**3.** h(x) =  **4.** g(x) = -2(x+1)2 + 3

Parent: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Parent: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

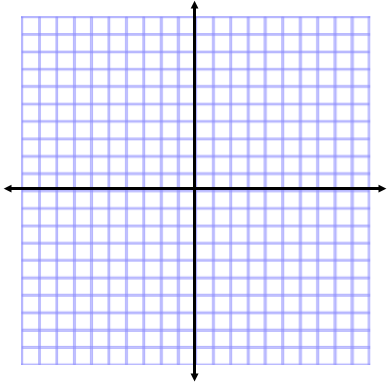
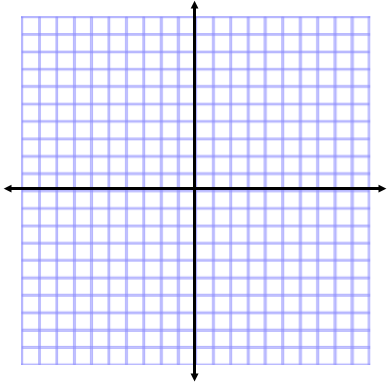
Transformations:\_\_\_\_\_\_\_\_\_\_ Transformations:\_\_\_\_\_\_\_\_\_\_

**5.** g(x) =  **6.** f(x) =  - 2

Parent: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Parent: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

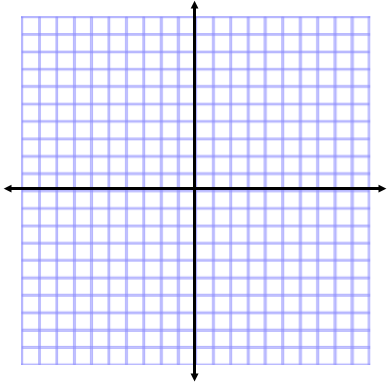
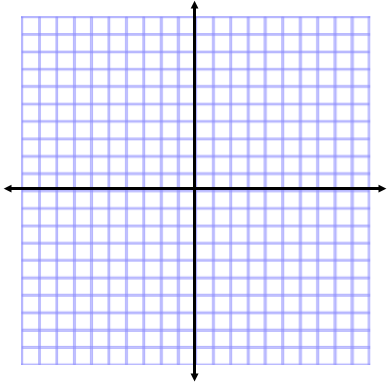
Transformations:\_\_\_\_\_\_\_\_\_\_ Transformations:\_\_\_\_\_\_\_\_\_\_

**7.** h(x) =  **8.** g(x) = 

Parent: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Parent: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Transformations:\_\_\_\_\_\_\_\_\_\_ Transformations:\_\_\_\_\_\_\_\_\_\_

**For problems 9 – 14, given the parent function and a description of the transformation, write the equation of the transformed function, f(x).**

**9.** Absolute value—vertical shift up 5, horizontal shift right 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**10.** Cosine function – vertical shift down 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**11.** Linear—vertical stretch/compression by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**12.** Root —flipped over the x axis, vertical shift down 2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Exponential—vertical stretch by 8 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Quadratic—vertical stretch by 5, horizontal shift left 8.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Which graph best represents the function f(x) = 2x2 - 2?

a. b. c. d.

