

# Algebra II: Translations on Parent Functions Review

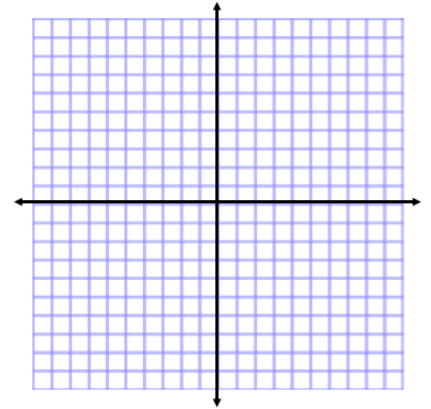
Name \_\_\_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_

For problem 1- 6, please give the name of the parent function and describe the transformation represented. You may use your graphing calculator to compare & sketch.

1.  $g(x) = x^2 - 6$

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

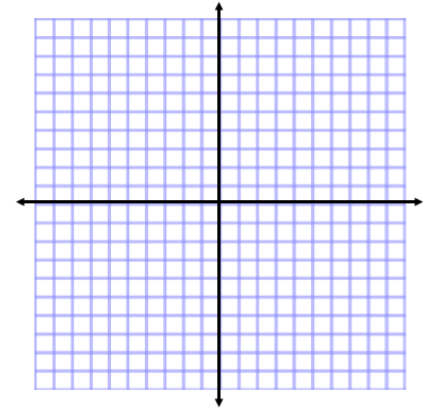
Transformations: \_\_\_\_\_



2.  $f(x) = |x-1|$

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

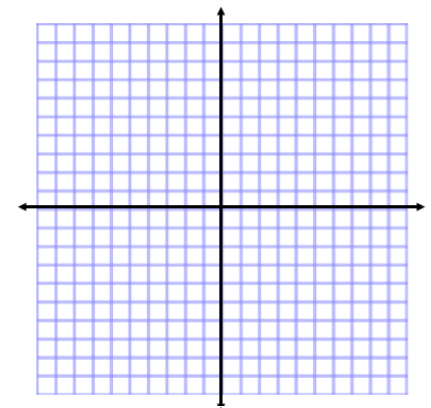
Transformations: \_\_\_\_\_



3.  $h(x) = \sqrt{x} + 4$

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

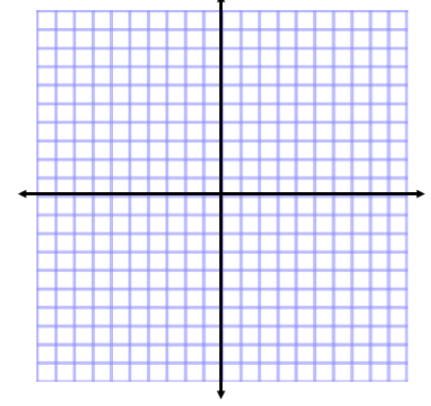
Transformations: \_\_\_\_\_



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

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

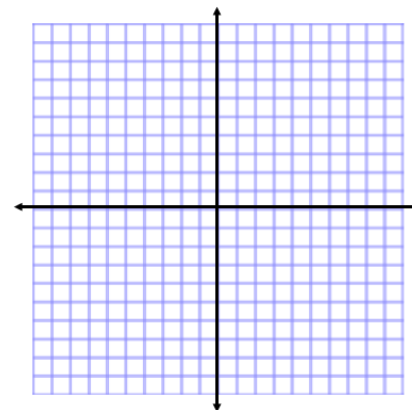
Transformations: \_\_\_\_\_



5.  $g(x) = x - 2$

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

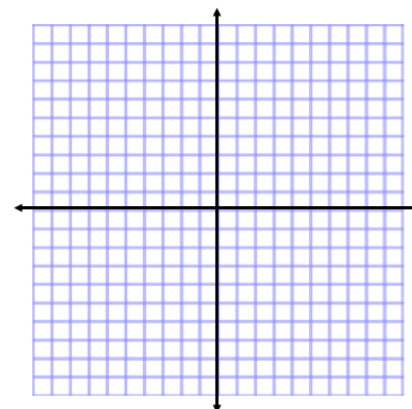
Transformations: \_\_\_\_\_



6.  $f(x) = |x + 5| - 2$

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

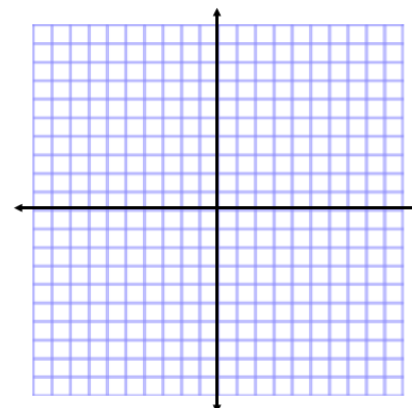
Transformations: \_\_\_\_\_



7.  $h(x) = \sqrt{x + 2} - 5$

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

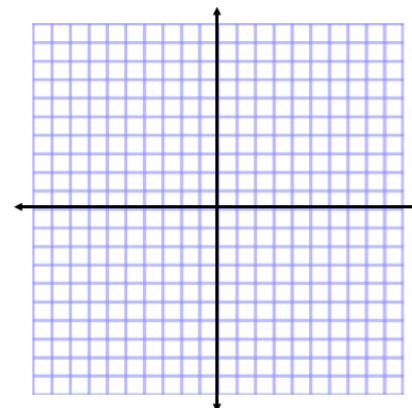
Transformations: \_\_\_\_\_



8.  $h(x) = x^2 + 1$

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

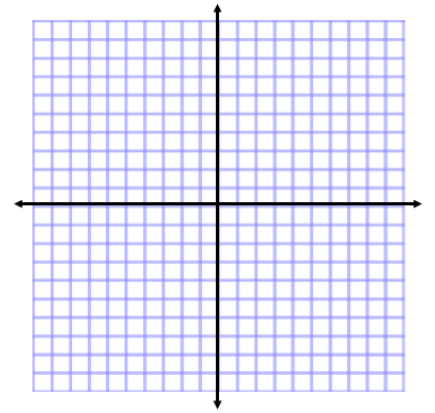
Transformations: \_\_\_\_\_



9.  $h(x) = x^3 - 2$

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

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



For problems 10 – 14, given the parent function and a description of the transformation, write the equation of the transformed function,  $f(x)$ .

10. Absolute value—vertical shift down 5, horizontal shift right 3. \_\_\_\_\_

11. Linear—vertical shift up 5. \_\_\_\_\_

12. Square Root —vertical shift down 2, horizontal shift left 7. \_\_\_\_\_

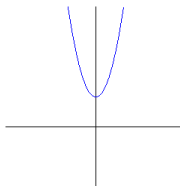
13. Quadratic— horizontal shift left 8. \_\_\_\_\_

14. Quadratic—vertex at  $(-5, -2)$ . \_\_\_\_\_

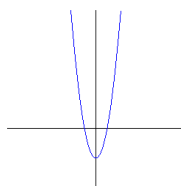
For problems 15 & 16, circle the graph that best represents the given function.

15.  $f(x) = x^2 - 2$ ?

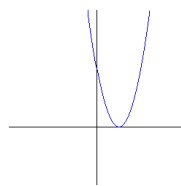
a.



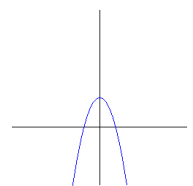
b.



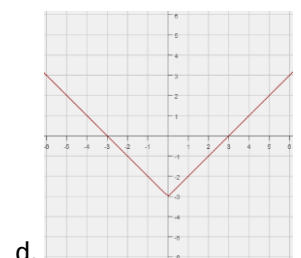
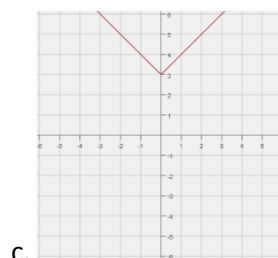
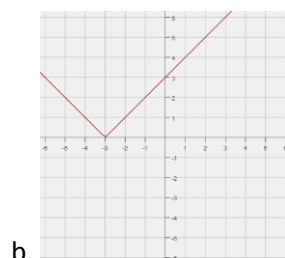
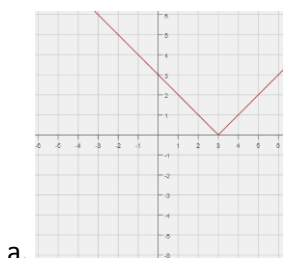
c.



d.

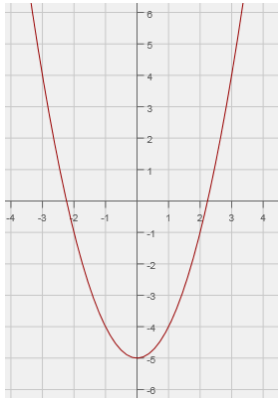


16.  $g(x) = |x+3|$ ?

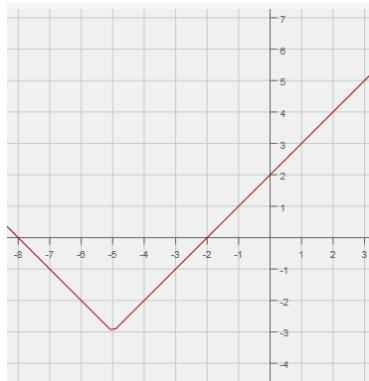


Write the equation for the following translations of their particular parent graphs. You may use  $y=$  or function notation (the  $f(x)$  type notation).

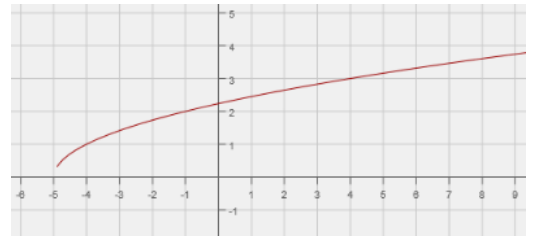
17. \_\_\_\_\_



18. \_\_\_\_\_



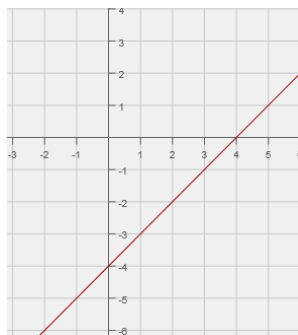
19. \_\_\_\_\_



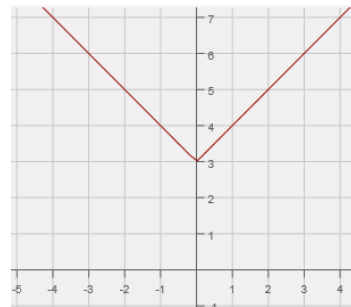
20. \_\_\_\_\_



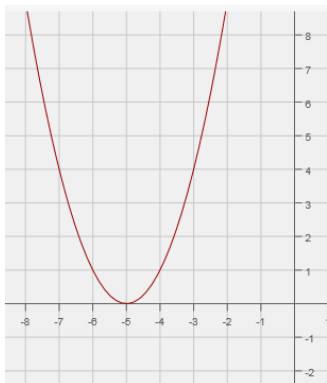
21. \_\_\_\_\_



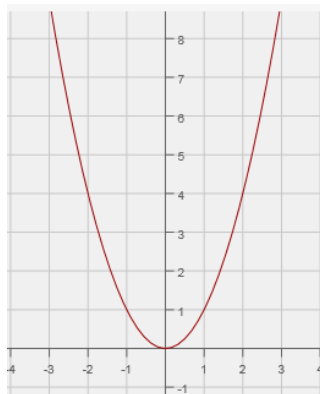
22. \_\_\_\_\_



23. \_\_\_\_\_



24. \_\_\_\_\_



25. \_\_\_\_\_

