Transformations of Functions Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Worksheet #3 Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour \_\_\_\_\_\_\_\_\_

Graph the parent function and the transformation for each function below.

1)  2)  3)  4) 

  

5)  6)  7) f(x) = |x + 5| 8) f(x) = |x| + 5



9)  10)  11)  12) 



Compare each pair of functions from the same family. What do they have in common? What is the difference between the two transformations?

Given the parent function and a description of the transformation, write the equation of the transformed function, f(x).

13) Quadratic – vertical shift up 3 \_\_\_\_\_\_\_\_\_\_\_\_

14) Linear – vertical shift down 7 \_\_\_\_\_\_\_\_\_\_\_\_

15) Logarithmic – horizontal shift right 2 \_\_\_\_\_\_\_\_\_\_\_\_

16) Exponential – vertical shift down 4 \_\_\_\_\_\_\_\_\_\_\_\_

17) Absolute Value – vertical shift up 6 \_\_\_\_\_\_\_\_\_\_\_\_

18) Absolute Value – vertical shift up 3, horizontal shift left 4 \_\_\_\_\_\_\_\_\_\_\_\_

19) Logarithmic – horizontal shift right 2, vertical shift down 2 \_\_\_\_\_\_\_\_\_\_\_\_

20) Exponential – vertical shift down 4, horizontal shift right 1 \_\_\_\_\_\_\_\_\_\_\_\_

21) Quadratic – vertical shift up 3, horizontal shift left 4 \_\_\_\_\_\_\_\_\_\_\_\_

22) Linear – vertical shift up 3