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)  8) 

   

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