

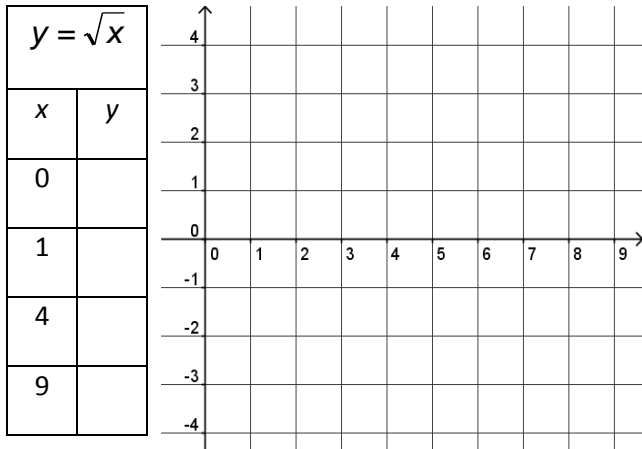
Name _____

Single Transformations

Equation	Effect on Parent
1. $y = f(x+a)$	
2. $y = f(x)+a$	
3. $y = f(ax)$	
4. $y = a \cdot f(x)$	
5. $y = f(-x)$	
6. $y = -f(x)$	
7. $y = f(x)$	
8. $y = f(x) $	

1. Consider the parent function $y = \sqrt{x}$ on the domain $x \geq 0$.

A) Complete the table, and sketch the graph.



- What is the range of $y = \sqrt{x}$?

B) Use a different color to sketch a graph of the family member that results when the parent function is translated -3 units vertically.

- Determine the domain and range of the resulting function.

- Write the equation for the new graph.

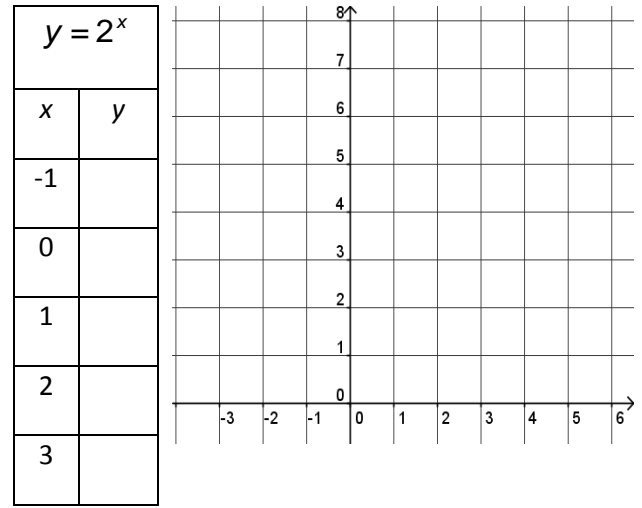
C) With a third color, sketch a graph of the family member that results when the parent function is reflected about the x -axis.

- Determine the domain and range of the resulting function.

- Write the equation for the new graph.

2. Consider the parent function $y = 2^x$ on the domain of all real numbers.

A) Complete the table, and sketch the graph.



- What is the range of $y = 2^x$?

B) Use a different color to sketch a graph of the family member that results when the y -values of the parent function are multiplied by 0.25 .

- Determine the domain and range of the resulting function.

- Write the equation for the new graph.

C) With a third color, sketch a graph of the family member that results when the parent function is translated 1 unit vertically.

- Determine the domain and range of the resulting function.

- Write the equation for the new graph.