

Name \_\_\_\_\_

Date \_\_\_\_\_

Per \_\_\_\_\_

Learning Target: To identify 6 parent functions, name their transformations, and graph.

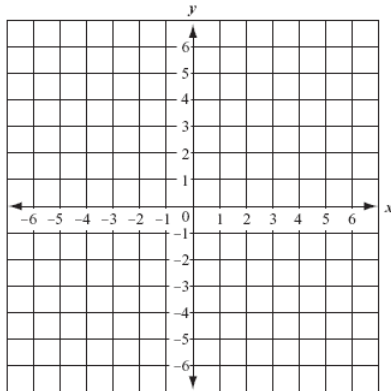
## Relations (non-functions)

## Functions

## Linear Function

$y = x$

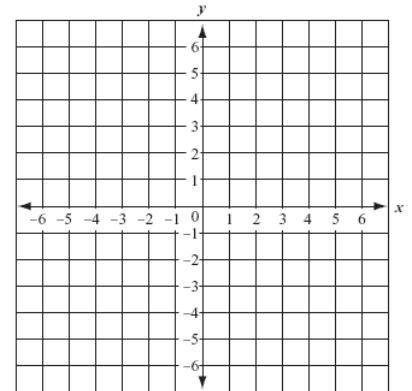
x	y
-2	
-1	
0	
1	
2	



## Quadratic Function

$y = x^2$

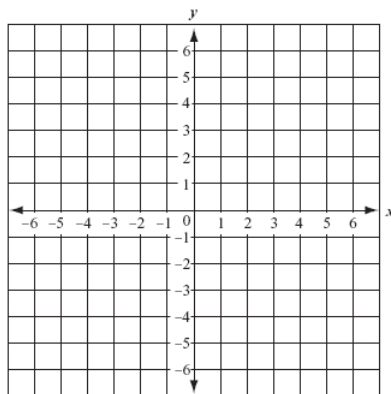
x	y
-2	
-1	
0	
1	
2	



## Cubic Function

$y = x^3$

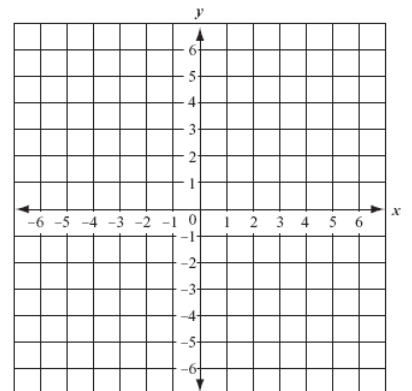
x	y
-2	
-1	
0	
1	
2	



## Absolute Value Function

$y = |x|$

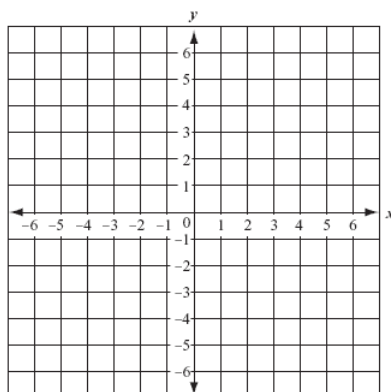
x	y
-2	
-1	
0	
1	
2	



$y = b^x$  where  $b > 1$  Exponential Function

$y = 2^x$

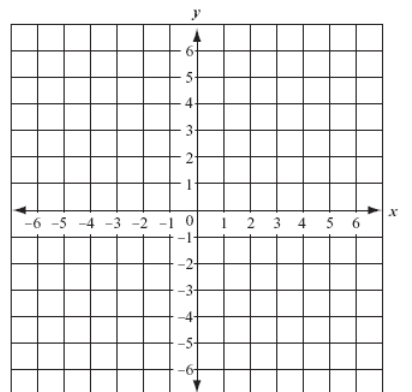
x	y
-2	
-1	
0	
1	
2	



## Square Root Function

$y = \sqrt{x}$

x	y
-2	
-1	
0	
1	
2	



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**Learning Target: To identify 6 parent functions, name their transformations, and graph.****Types of Function Transformations**

Horizontal Translation (right):	Horizontal Translation (left):	Vertical Translation (up):
Vertical Translation (down):	Horizontal Reflection (x-axis):	Vertical Reflection (y-axis):
Vertical Stretch:	Vertical Shrink or Compression:	

**All together with examples**a.) Name the parent function and all the transformations:  $f(x) = 2(x - 3)^2 + 4$ b.) Name the parent function and all of the transformations:  $f(x) = -\frac{1}{2}(x + 4)^3 - 3$ c.) Name the parent function and all of the transformations:  $f(x) = -|x + 1| - 3$ d.) Name the parent function and all of the transformations:  $f(x) = \sqrt{-x + 3} - 4$ e.) Name the parent function and all of the transformations:  $f(x) = 2(x + 7) - 4$ f.) Name the parent function and all of the transformations:  $f(x) = -2(3)^{x+5} + 8$