

Name: _____ Period: _____ Date: _____

Transformation of Quadratic functions

Recall that we have done many transformations of functions so far this year, transformation of quadratic functions will be similar to the absolute value function. The transformation form of the quadratic function is

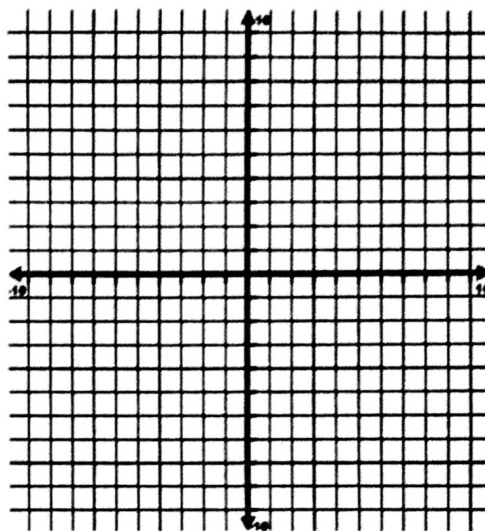
$$f(x) = a(bx - h)^2 + k$$

After you graph the following quadratic functions you will know what effect the variables a, h, and k have on the graph compared to the graph of the quadratic parent function.

Graph the quadratic parent function and give the domain and range.

1.) $f(x) = x^2$

x	f(x)
-3	
-2	
-1	
0	
1	
2	
3	



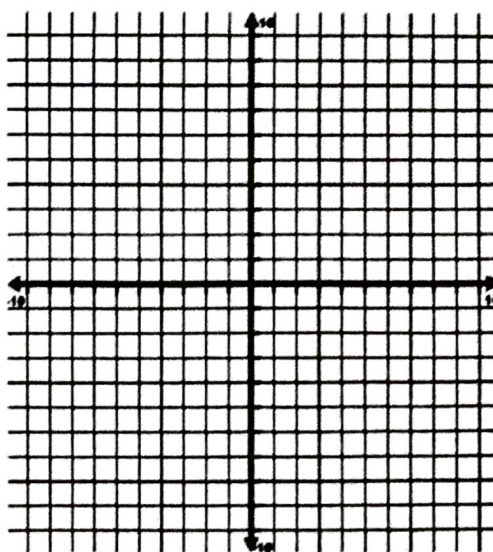
Domain: _____

Range: _____

Graph the following quadratic functions state the domain, range and describe the transformation compared to the parent quadratic equation $f(x) = x^2$.

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

x	f(x)
-1	
0	
1	
2	
3	
4	
5	



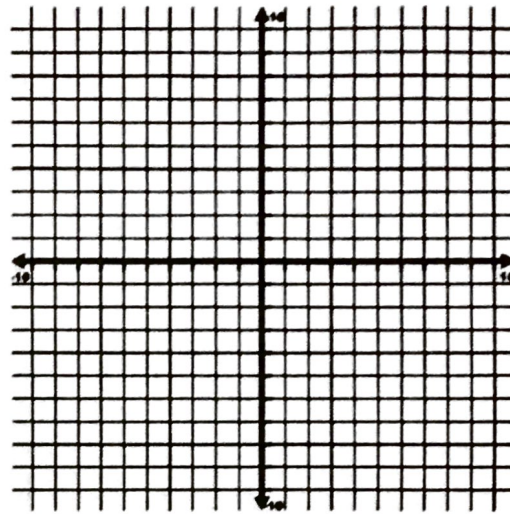
Domain: _____

Range: _____

Transformation: _____

3.) $f(x) = (x + 1)^2$

x	f(x)
-4	
-3	
-2	
-1	
0	
1	
2	



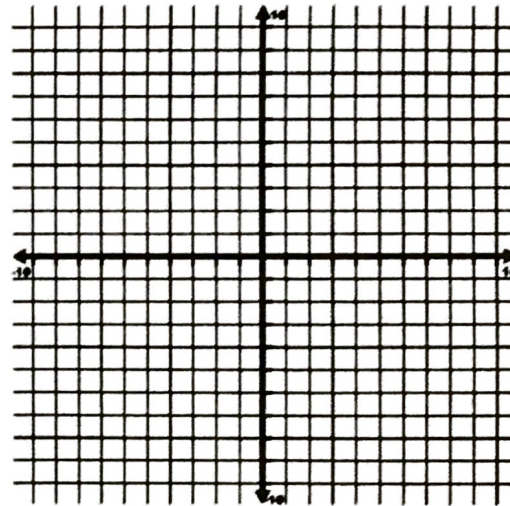
Domain: _____

Range: _____

Transformation: _____

4.) $f(x) = x^2 + 2$

x	f(x)
-3	
-2	
-1	
0	
1	
2	
3	



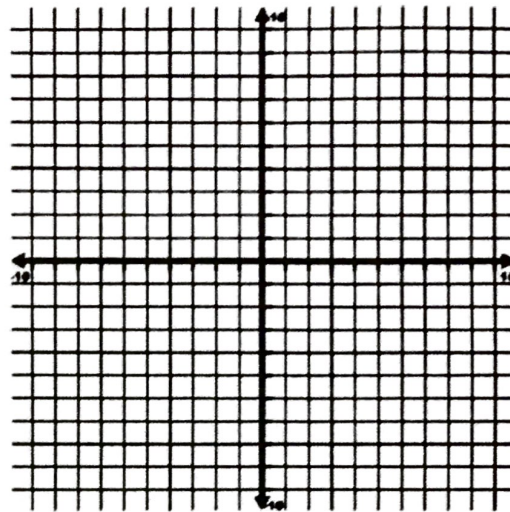
Domain: _____

Range: _____

Transformation: _____

5.) $f(x) = x^2 - 1$

x	f(x)
-3	
-2	
-1	
0	
1	
2	
3	



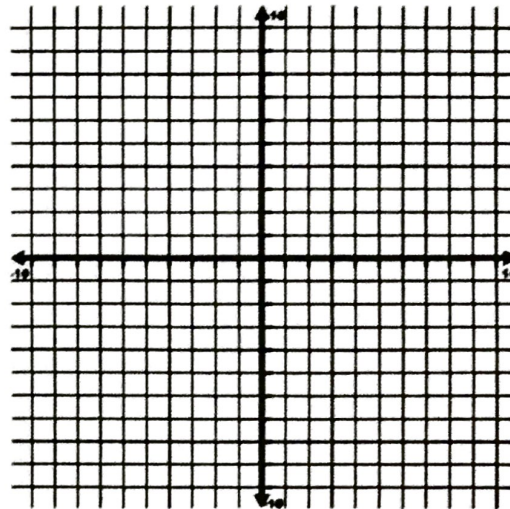
Domain: _____

Range: _____

Transformation: _____

6.) $f(x) = (-x)^2$

x	f(x)
-3	
-2	
-1	
0	
1	
2	
3	



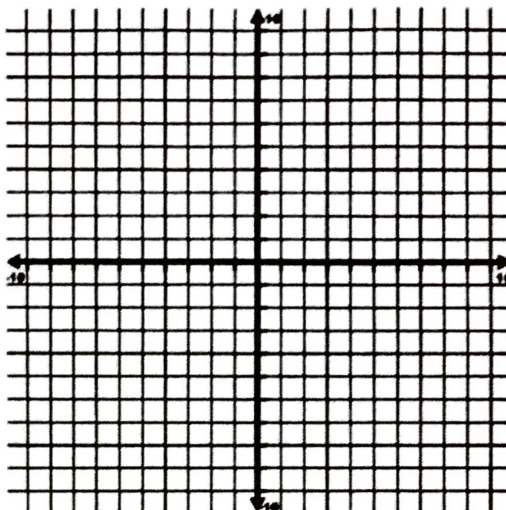
Domain: _____

Range: _____

Transformation: _____

7.) $f(x) = -(x)^2$

x	f(x)
-3	
-2	
-1	
0	
1	
2	
3	



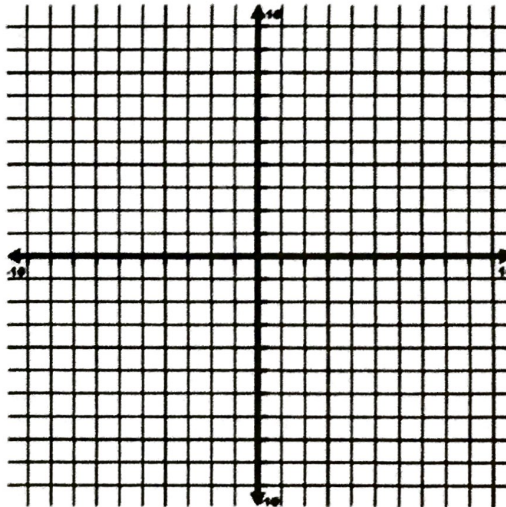
Domain: _____

Range: _____

Transformation: _____

8.) $f(x) = (2x)^2$

x	f(x)
-1.5	
-1	
0	
1	
1.5	
2	



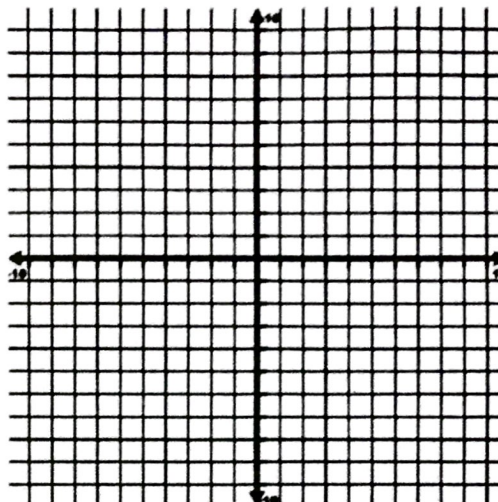
Domain: _____

Range: _____

Transformation: _____

9.) $f(x) = (\frac{1}{2}x)^2$

x	f(x)
-6	
-4	
-2	
0	
2	
4	
6	



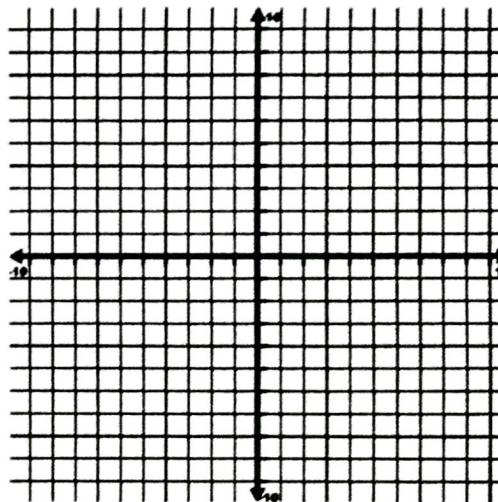
Domain: _____

Range: _____

Transformation: _____

10.) $f(x) = 2(x)^2$

x	f(x)
-2	
-1	
0	
1	
2	
3	



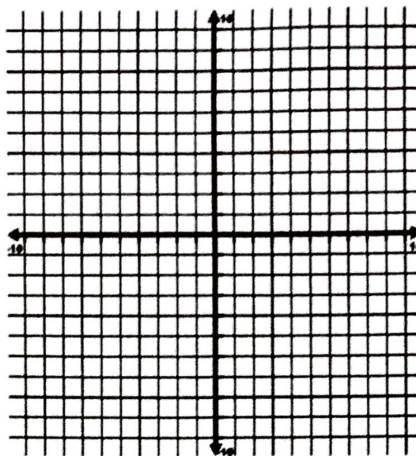
Domain: _____

Range: _____

Transformation: _____

11.) $f(x) = \frac{1}{2}(x)^2$

x	f(x)
-4	
-3	
-2	
-1	
0	
1	
2	



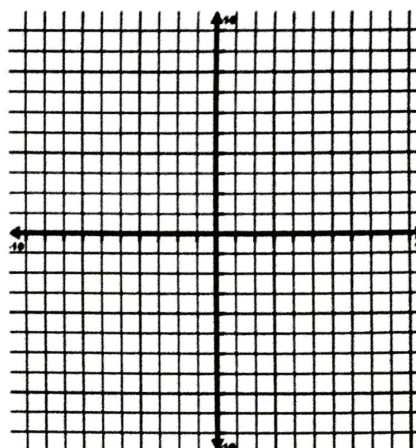
Domain: _____

Range: _____

Transformation: _____

12.) $f(x) = 2(x + 2)^2 - 3$

x	f(x)
-4	
-3	
-2	
-1	
0	
1	
2	



Domain: _____

Range: _____

Transformation: _____