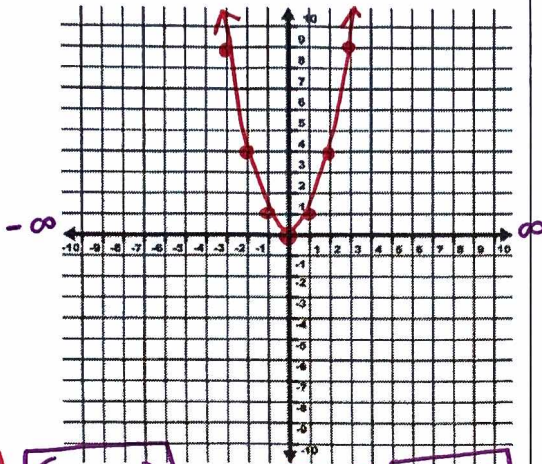


# AA PREP: GRAPHING QUADRATIC FUNCTIONS WITH TRANSFORMATIONS

Graph the quadratic parent function. Then, graph each of the following quadratic functions using transformations. State domain and range.

1.  $y = x^2$

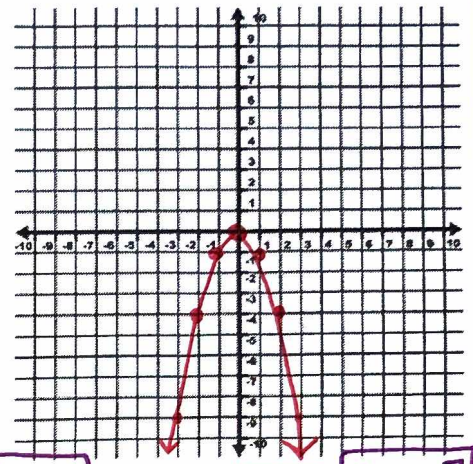
x	y
-2	4
-1	1
0	0
1	1
2	4



Domain:  $\mathbb{R}$   $(-\infty, \infty)$  Range:  $y \geq 0$   $[0, \infty)$

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

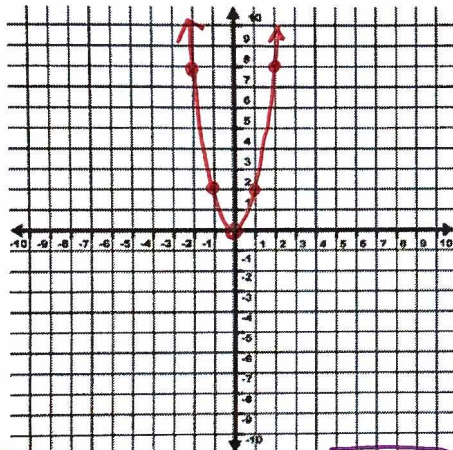
REFLECTS  
OVER  
X-AXIS



Domain:  $\mathbb{R}$   $(-\infty, \infty)$  Range:  $y \leq 0$   $(-\infty, 0]$

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

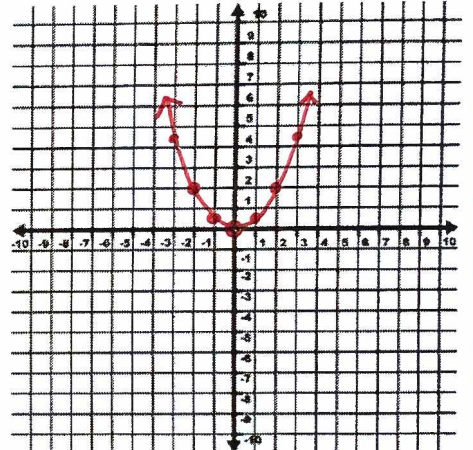
STRETCH  
 $\times 2$   
(y-VALUES)  
 $\times 2$



Domain:  $\mathbb{R}$   $(-\infty, \infty)$  Range:  $y \geq 0$   $[0, \infty)$

4.  $y = \frac{1}{2}x^2$

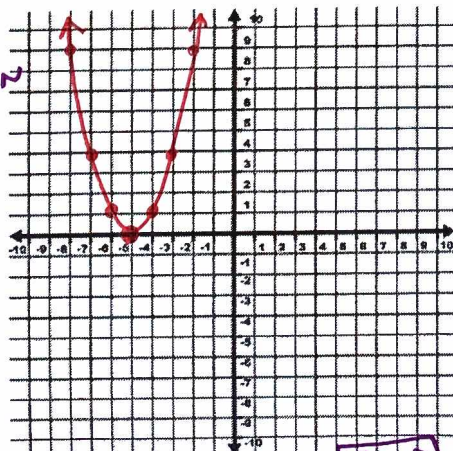
COMP.  
 $\times \frac{1}{2}$   
(y-VALUES)  
 $\times \frac{1}{2}$



Domain:  $\mathbb{R}$   $(-\infty, \infty)$  Range:  $y \geq 0$   $[0, \infty)$

5.  $f(x) = (x+5)^2$

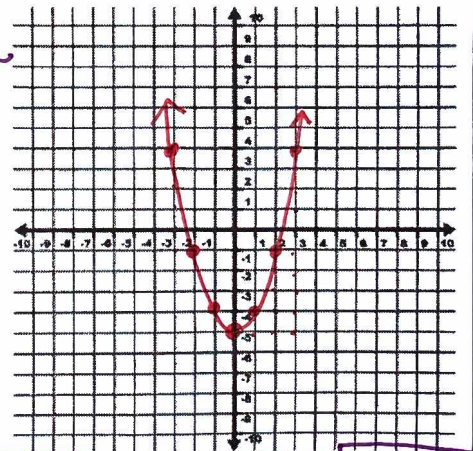
H TRANSLATION  
5 (L)



Domain:  $\mathbb{R}$   $(-\infty, \infty)$  Range:  $y \geq 0$   $[0, \infty)$

6.  $g(x) = x^2 - 5$

V TRANSLATION  
5 (D)



Domain:  $\mathbb{R}$   $(-\infty, \infty)$  Range:  $y \geq -5$   $[-5, \infty)$