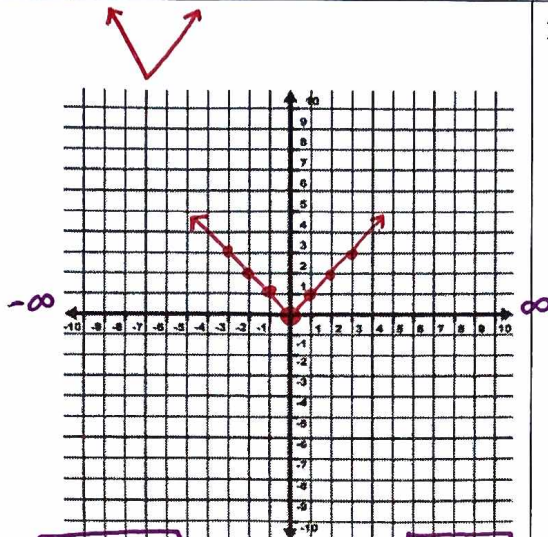


AA PREP: GRAPHING ABSOLUTE VALUE FUNCTIONS WITH TRANSFORMATIONS

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

1. $y = |x|$

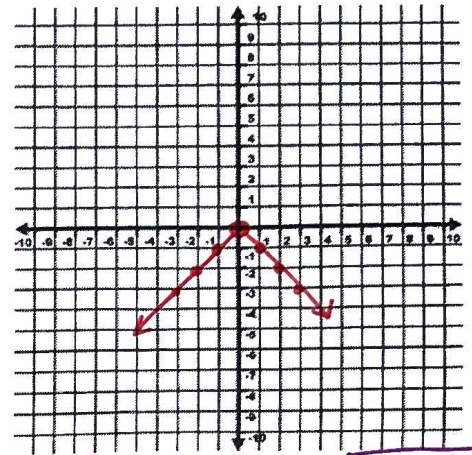
x	y
-2	2
-1	1
0	0
1	1
2	2



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

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

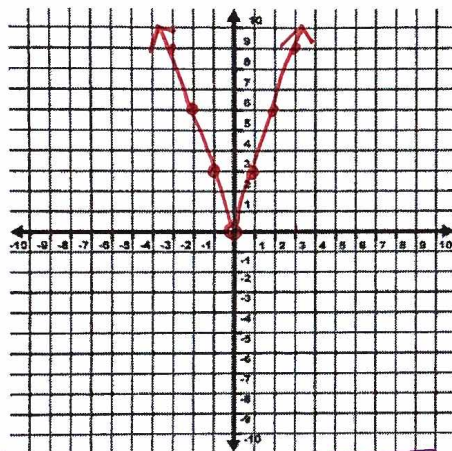
REFLECTS
OVER
X-AXIS



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

3. $g(x) = 3|x|$

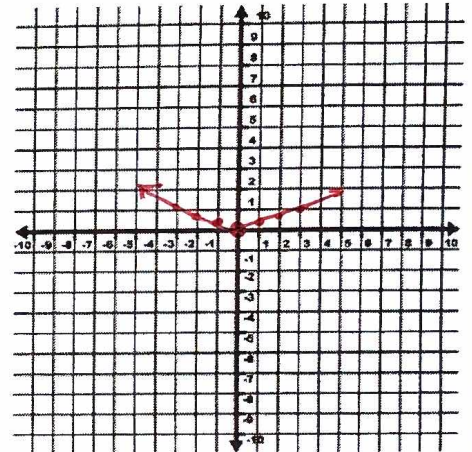
V STRETCH
 $\times 3$
(y-VALUES)
 $\times 3$



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

4. $y = \frac{1}{3}|x|$

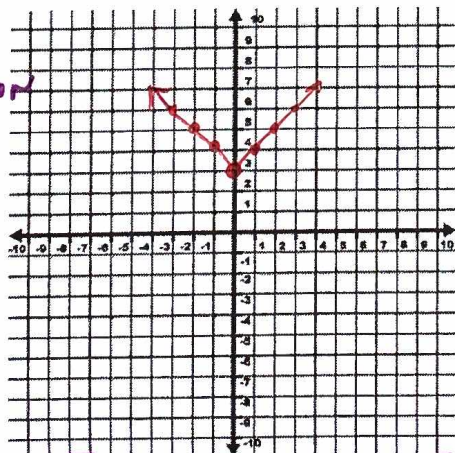
V COMP.
 $\times \frac{1}{3}$
(y-VALUES)
 $\times \frac{1}{3}$



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

5. $y = |x| + 3$

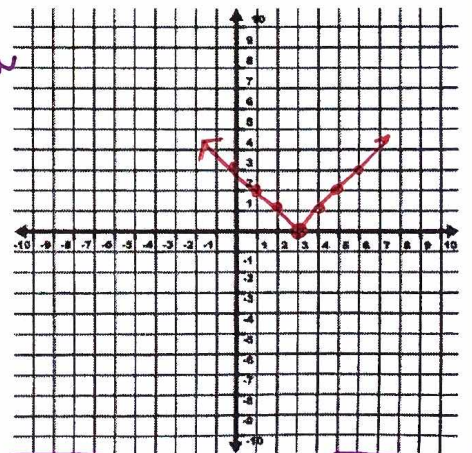
V TRANSLATION
3 (↑)



Domain: \mathbb{R} $(-\infty, \infty)$ Range: $y \geq 3$ $[3, \infty)$

6. $y = |x - 3|$

H TRANSLATION
3 (→)



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