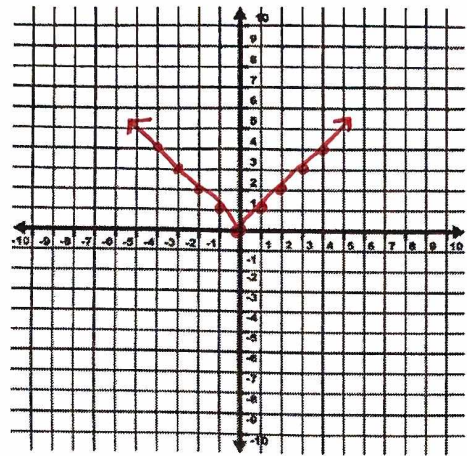


AA PREP: GRAPHING ABSOLUTE VALUE FUNCTIONS WITH TRANSFORMATIONS—WORKSHEET #1

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

1. $y = |x|$

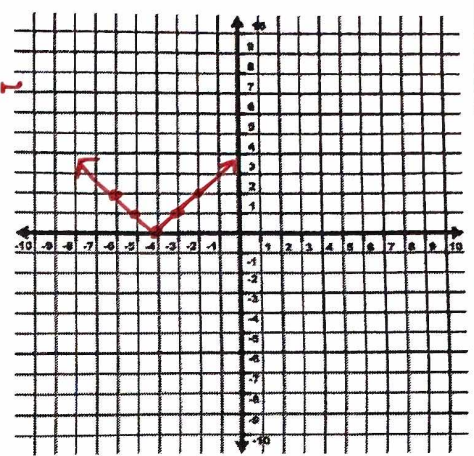
x	y
-2	2
-1	1
0	0
1	1
2	2



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

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

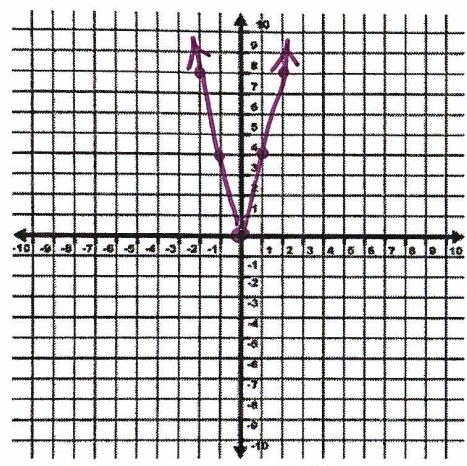
↑
H TRANSLATION
4 Ⓣ



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

3. $g(x) = 4|x|$

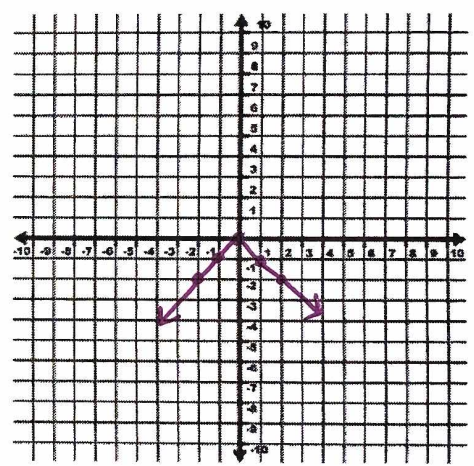
↑
V STRETCH
x 4
(y-values)
x 4



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

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

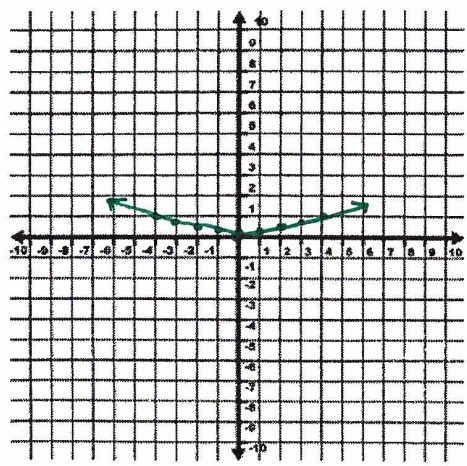
↑
REFLECTS
OVER
Y-AXIS



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

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

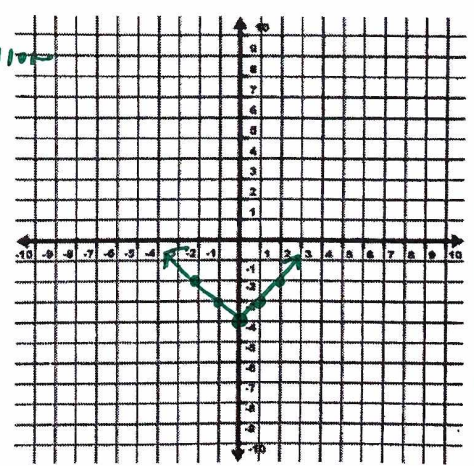
↑
V COMP
x 1/4
(y-values)
x 1/2



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

6. $y = |x| - 4$

↑
V TRANSLATION
4 Ⓣ



Domain: \mathbb{R} $(-\infty, \infty)$ Range: $y \geq -4$ $[-4, \infty)$