

VERTEX - point where graph changes
DIRECTIONS

Vertex form

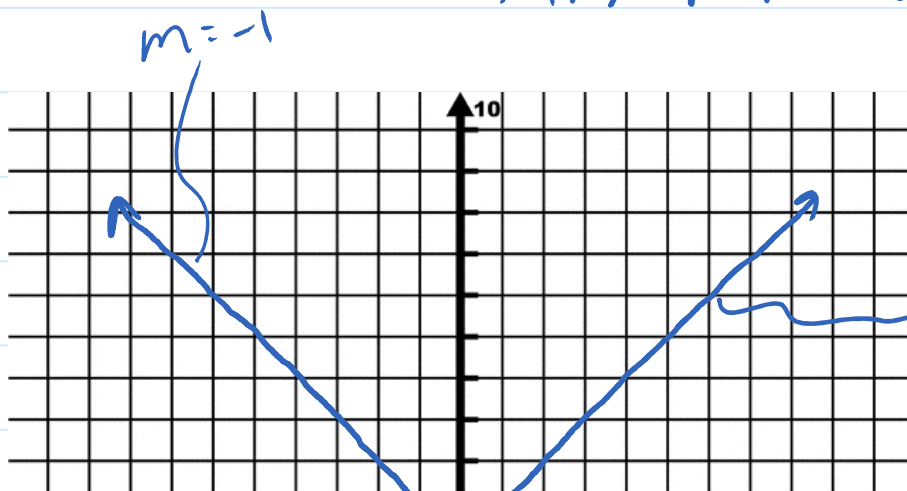
$$f(x) = a|x-h| + k$$

Vertex (h, k)
 a Vertex stretch or ~~compression~~ ^{stretch}

Parent function

$$f(x) = |x| \quad \text{Vertex } (0, 0)$$

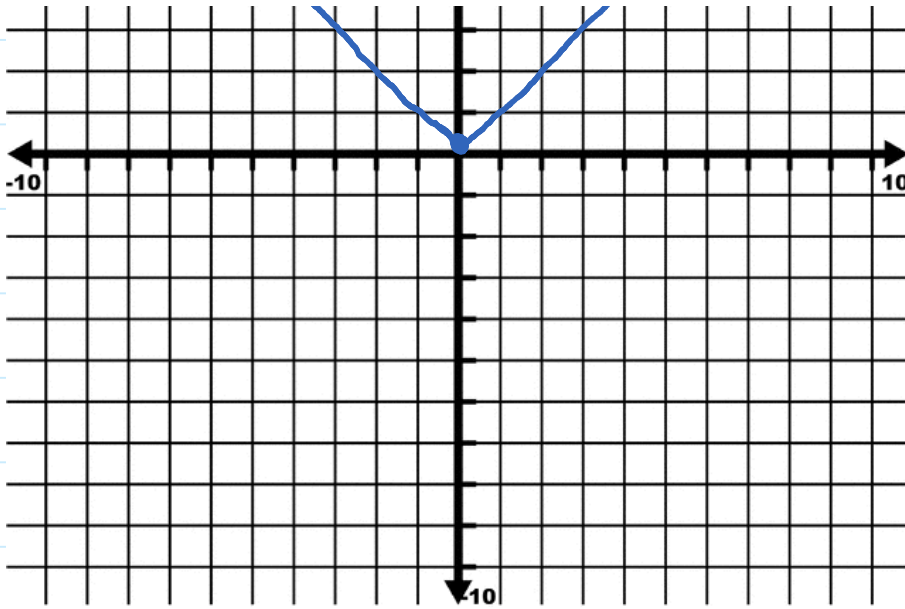
$a = 1$



Slope = $\pm a$

$m = 1$

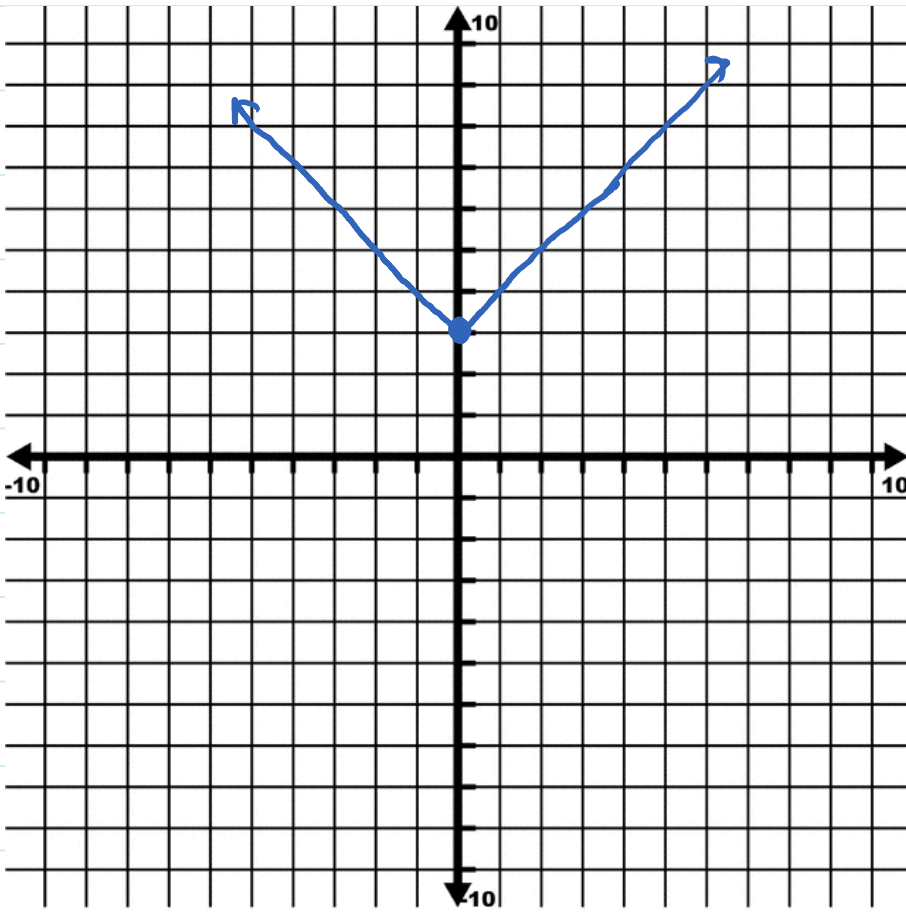
x	$ x $
2	2



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

$$f(x) = |x| + 3 \quad \text{Vertex } (0, 3)$$

$$\left(\begin{array}{l} h=0 \\ k=+3 \end{array} \right) \quad a=1$$



$$g(x) = a|x-h| + k$$

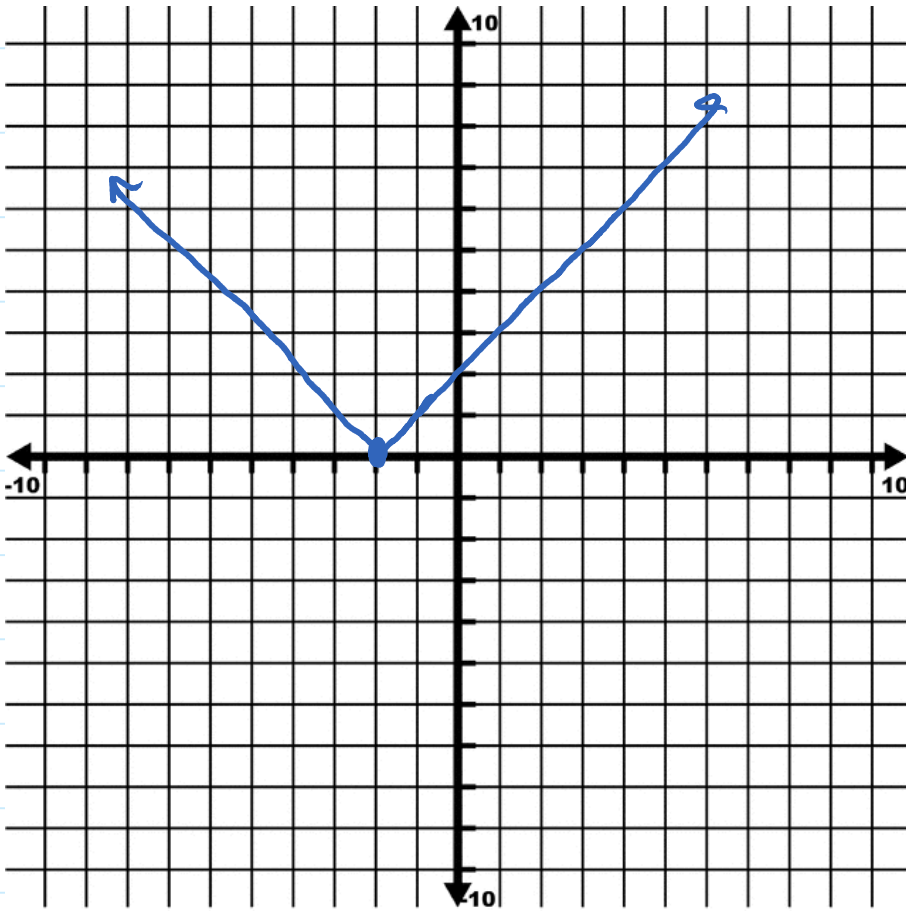
$a = 1$

$h = -2$

$k = 0$

Vertex $(-2, 0)$

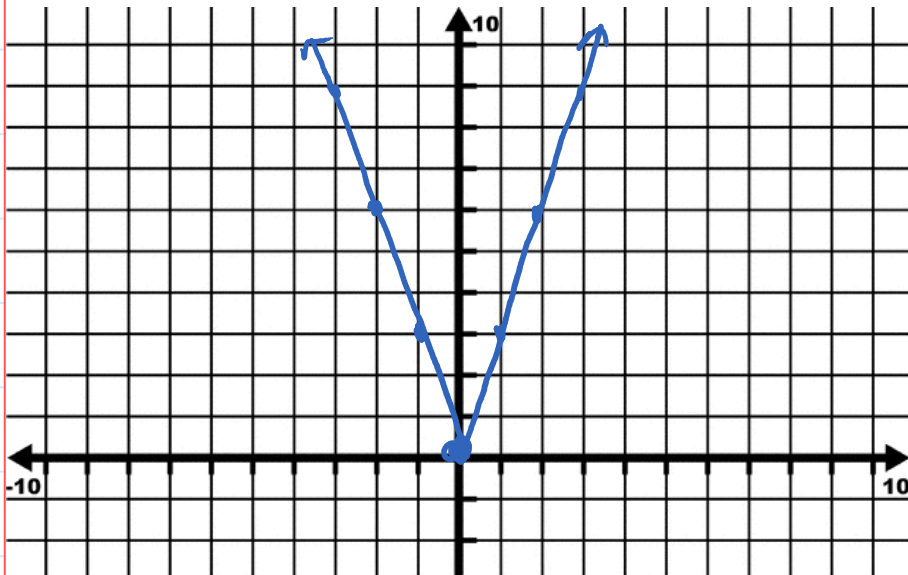
(h, k)

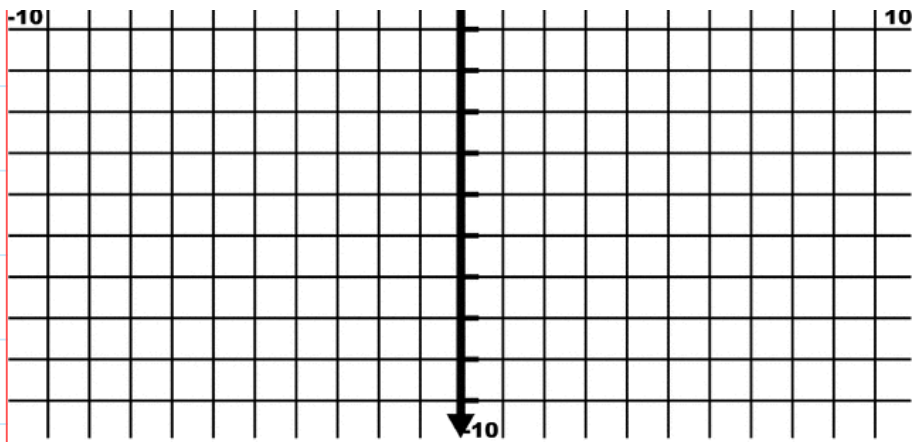


$$h(x) = 3|x|$$

$\left. \begin{array}{l} h=0 \\ k=0 \end{array} \right\} \text{ vertex } (c, c)$

$a=3$
 $m = \pm 3$





$$r(x) = 2|x+2| - 3$$

$|x-h|$

Vertex $(-2, -3)$
 $a=2$ $m=\pm 2$

