



Warm Up Questions

State the vertex, stretch factor, and direction.

1. $3(y-2) = 12 |x - 2| - 3$

2. $1/3y = 2|x - 2| - 1$

3. $4(2y-1) = -16 |x + 3| - 8$

4. $1/2y - 1 = |x - 2| - 3$

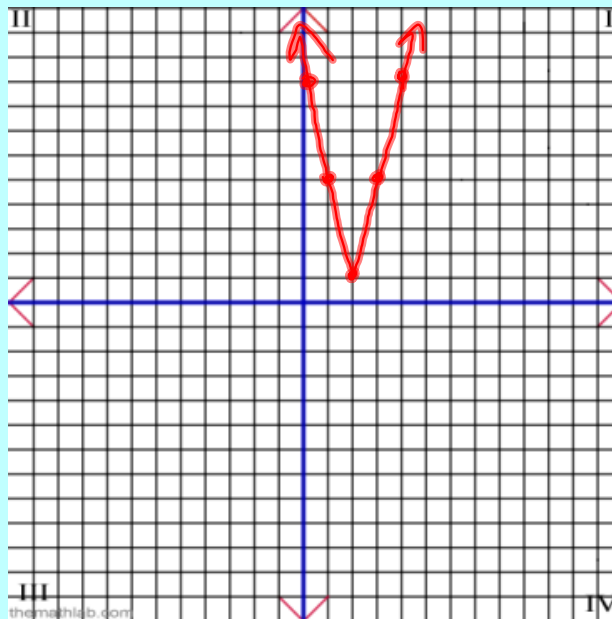
Equation:

$$\begin{aligned}3(y-2) &= 12|x-2|-3 \\3y-6 &= 12|x-2|-3 \\3y &= 12|x-2|-3+6 \\3y &= 12|x-2|+3 \\y &= 4|x-2|+1\end{aligned}$$

Vertex: (2, 1)

Stretch
Factor : 4

Dir: Up



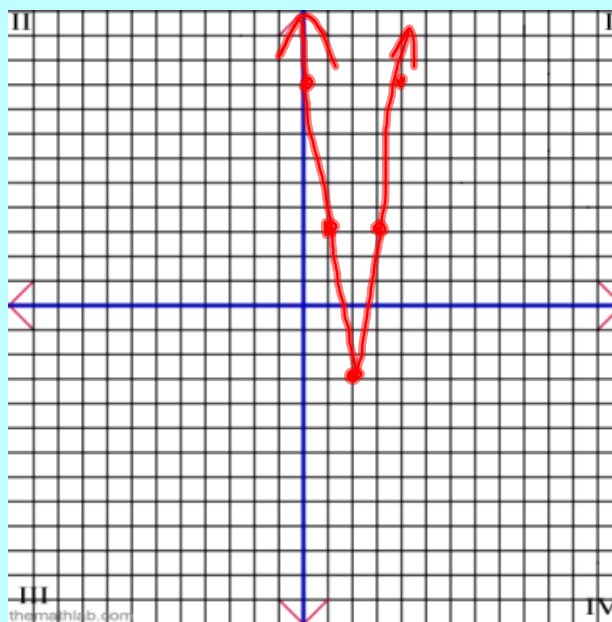
Over	Up
1	$1 \times 4 = 4$
2	$2 \times 4 = 8$
3	$3 \times 4 = 12$

Equation: $\frac{1}{3}y = 2|x - 2| - 1$
 $y = 6|x - 2| - 3$

Vertex: (2, -3)

Stretch Factor : 6

Dir: Up



Over Up

1	$1 \times 6 = 6$
2	$2 \times 6 = 12$
3	$3 \times 6 = 18$

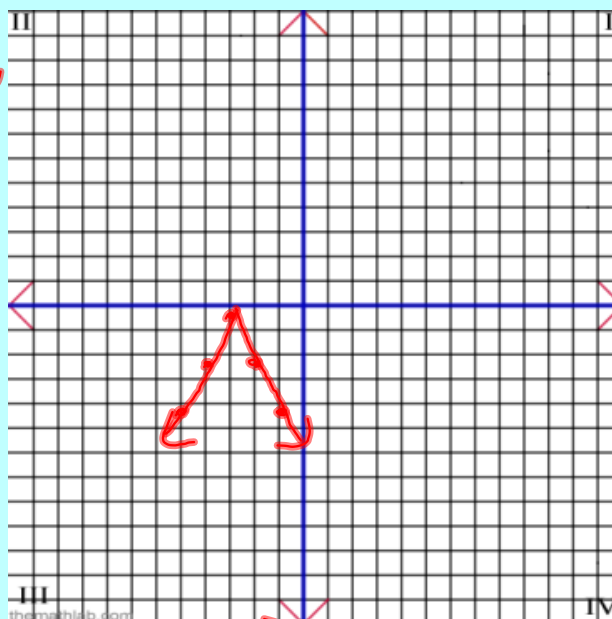
Equation:

$$\begin{aligned}4(2y-1) &= -16|x+3| - 8 \\8y - 4 &= -16|x+3| - 8 + 4 \\8y &= -16|x+3| - 4 \\y &= -2|x+3| - \frac{1}{2}\end{aligned}$$

Vertex: $(-3, -0.5)$

Stretch Factor : 2

Dir: Down



over	Down
1	$1 \times 2 = 2$
2	$2 \times 2 = 4$
3	$3 \times 2 = 6$

Equation: $2 \cdot 2 \cdot 2$

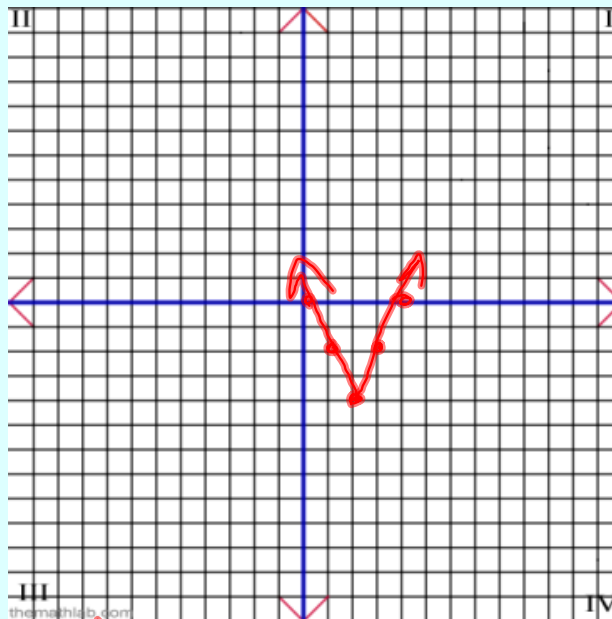
$$\frac{1}{2}y - 1 = |x - 2| - 3$$

$$y + 2 = 2|x - 2| - 6 + 2$$
$$y = 2|x - 2| - 4$$

Vertex: (2, -4)

Stretch Factor : 2

Dir: Up



Over up

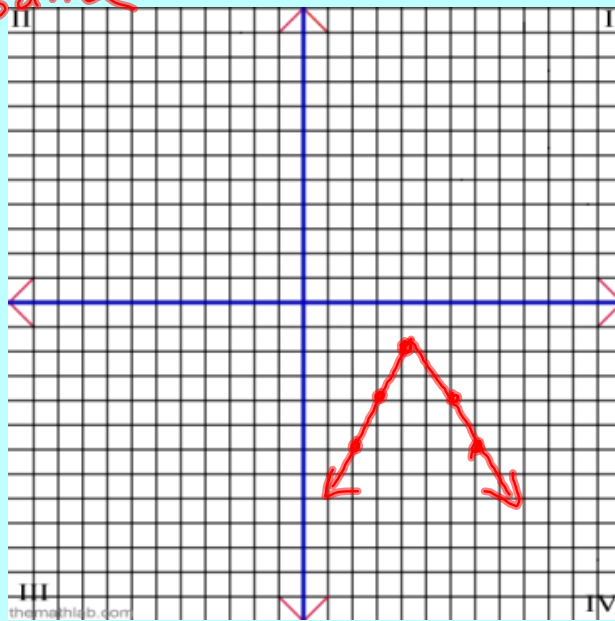
1	$1 \times 2 = 2$
2	$2 \times 2 = 4$
3	$3 \times 2 = 6$

opp \leftarrow h k \rightarrow same
(4, -2)

Vertex: _____

^a
Stretch
Factor : _____

Dir: _____



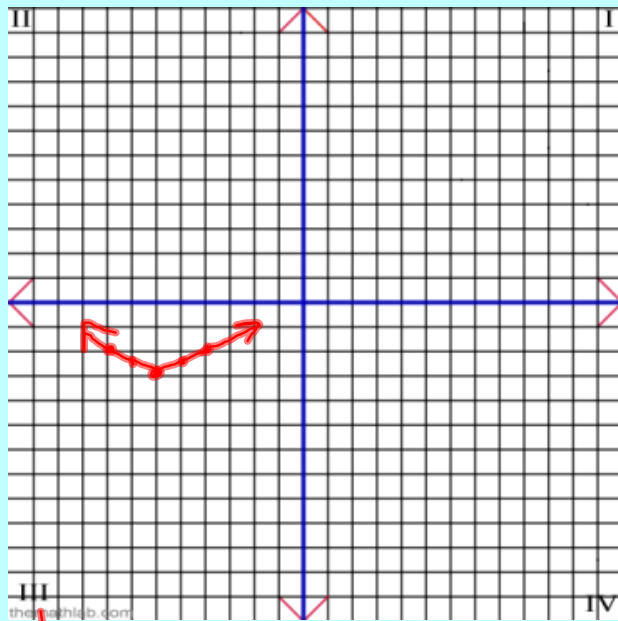
Equation: _____

$$y = a|x+h| + k$$
$$y = -2|x-4| - 2$$

Vertex: $(-6, -3)$

Stretch Factor : $\frac{1}{2}$

Dir: Up.

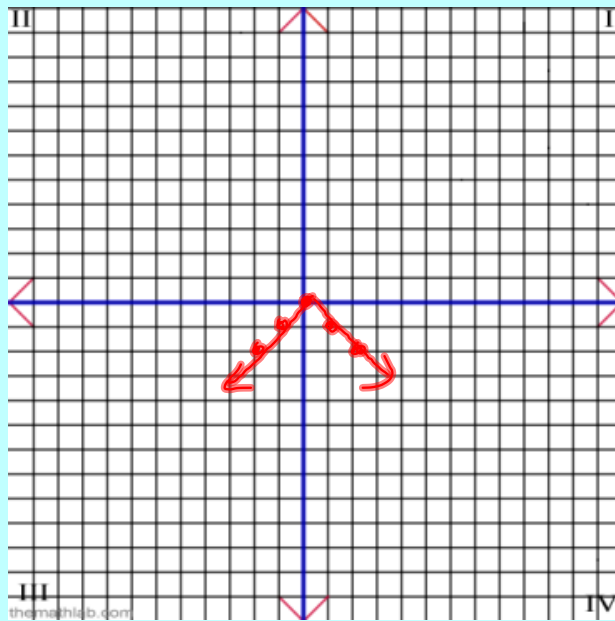


Equation: $y = \frac{1}{2}|x+6| - 3$
 $y = a|x+h| + k$

Vertex: (0,0)

Stretch Factor : 1

Dir: Down.

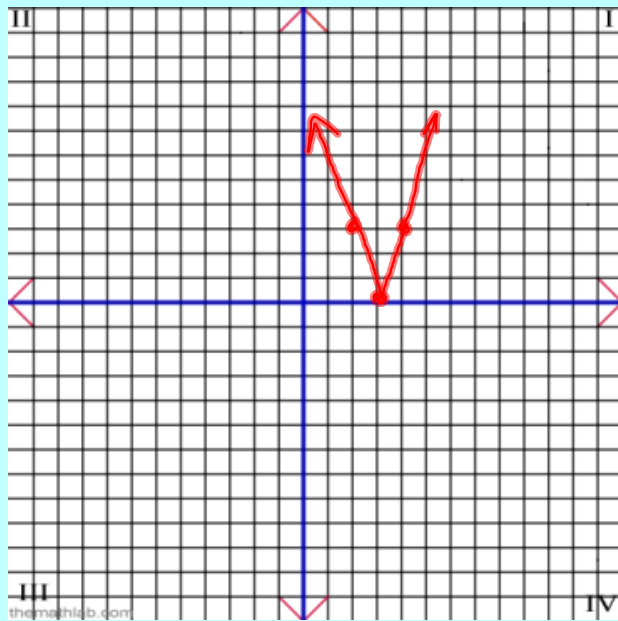


Equation: $y = -|x|$

Vertex: (3,0)

Stretch Factor : 3

Dir: up.



Equation: $y = 3|x - 3|$

