

# Graphs of Absolute Value Equations

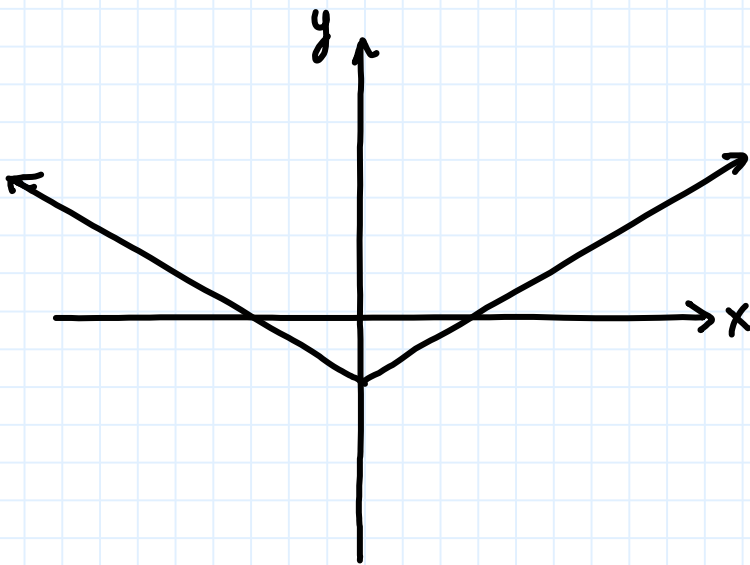


## Overview of problems



Example Set: A

Match the equation with the graph



$$y = |x| + 2$$

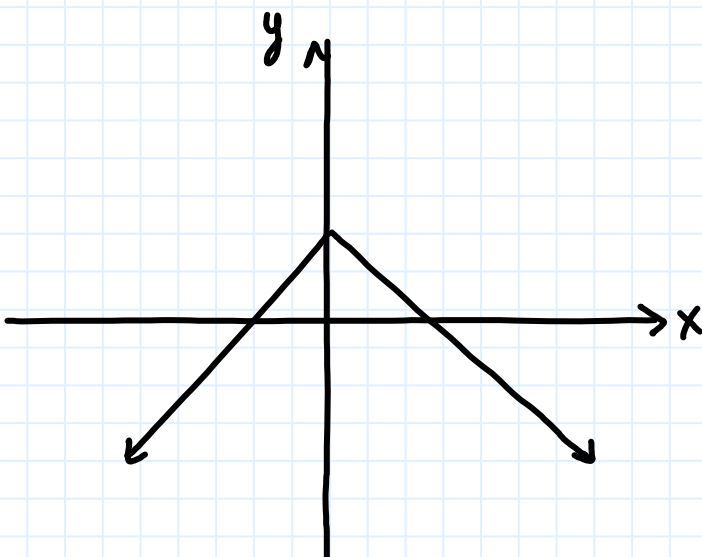
$$y = |x| - 1$$

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

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

$$y = |x| - 2$$

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





## Example Set: B

Find the coordinates of the vertex

$$y = |x + 2| - 3$$

$$y = |x + 5| + 6$$

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

$$y = 2|x + 7| - 3$$

$$y = \left|\frac{1}{3}x\right| + 4$$

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

$$y = -|8 - 3x| + 1$$

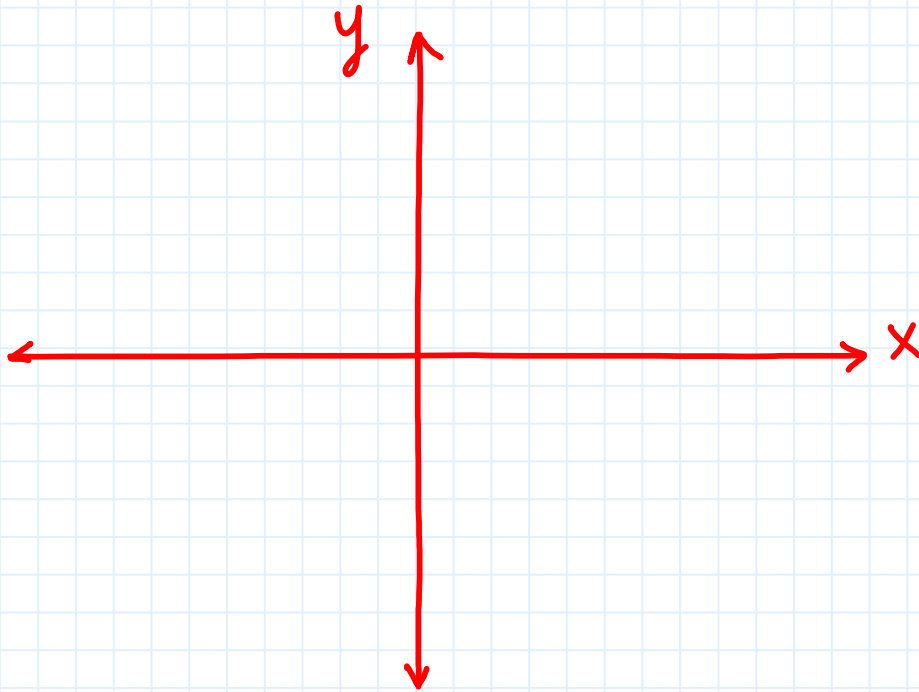


## Example Set: C

Complete the table and graph the equation

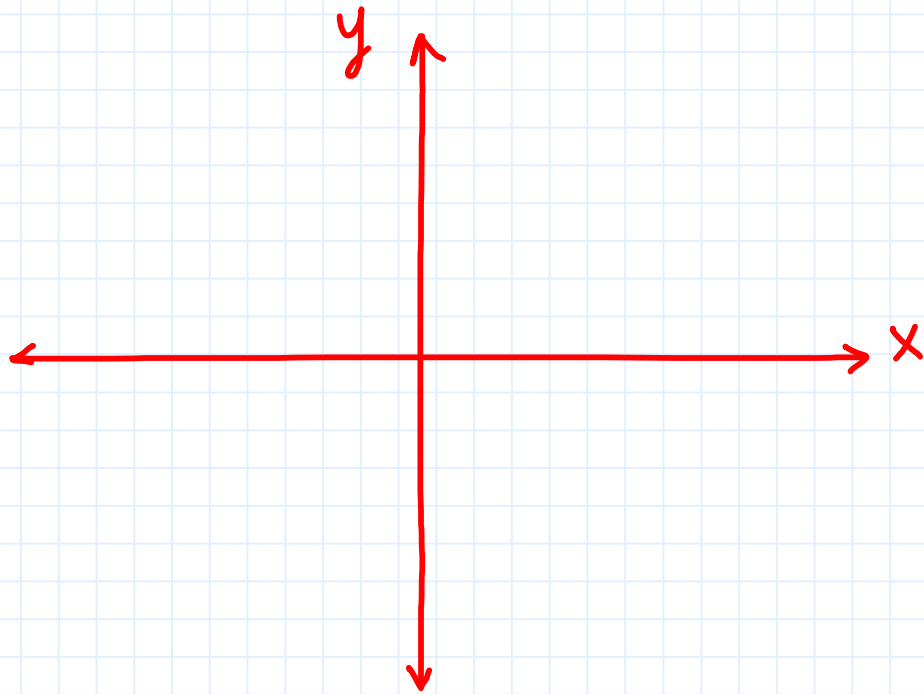
$$y = |x + 3|$$

x	-4	-1	0	1	4		
y							



$$y = -|2x + 3| - 8$$

x	-3	-1	0	1	3		
y							

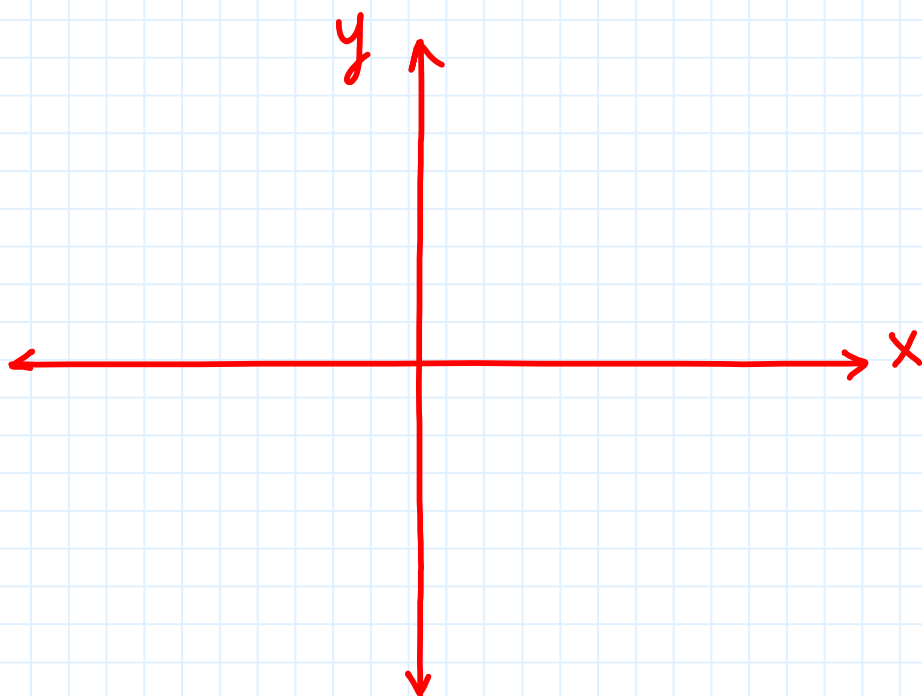




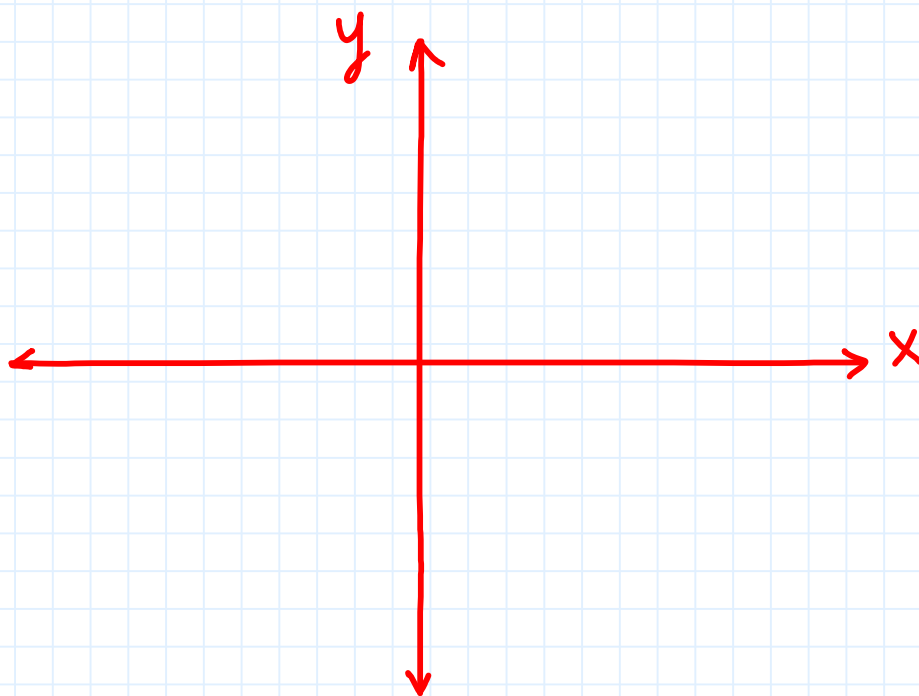
## Example Set: D

sketch the graph of the equation

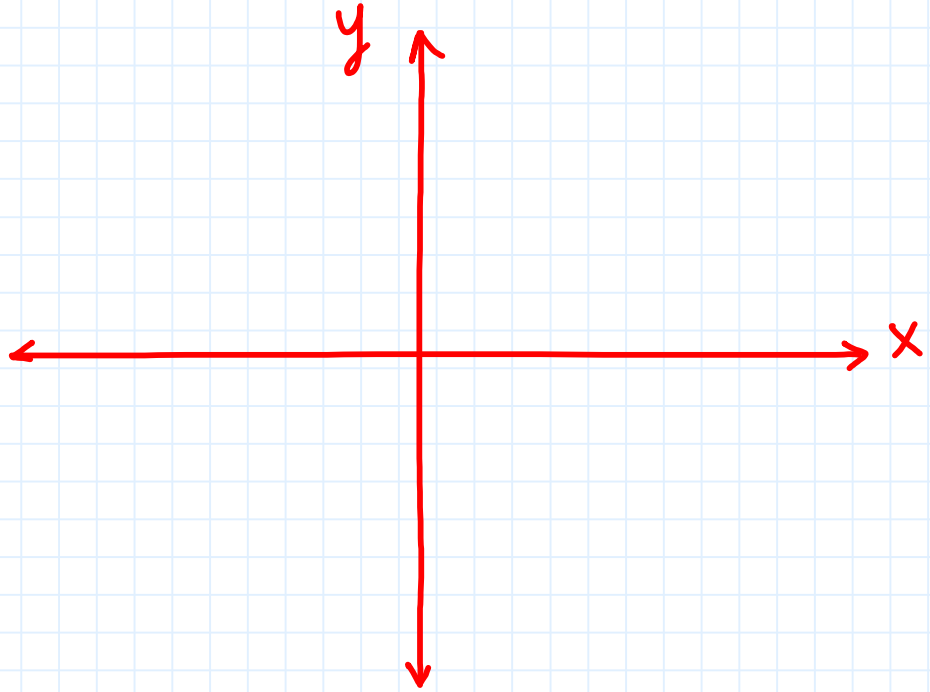
$$y = |x| - 4$$



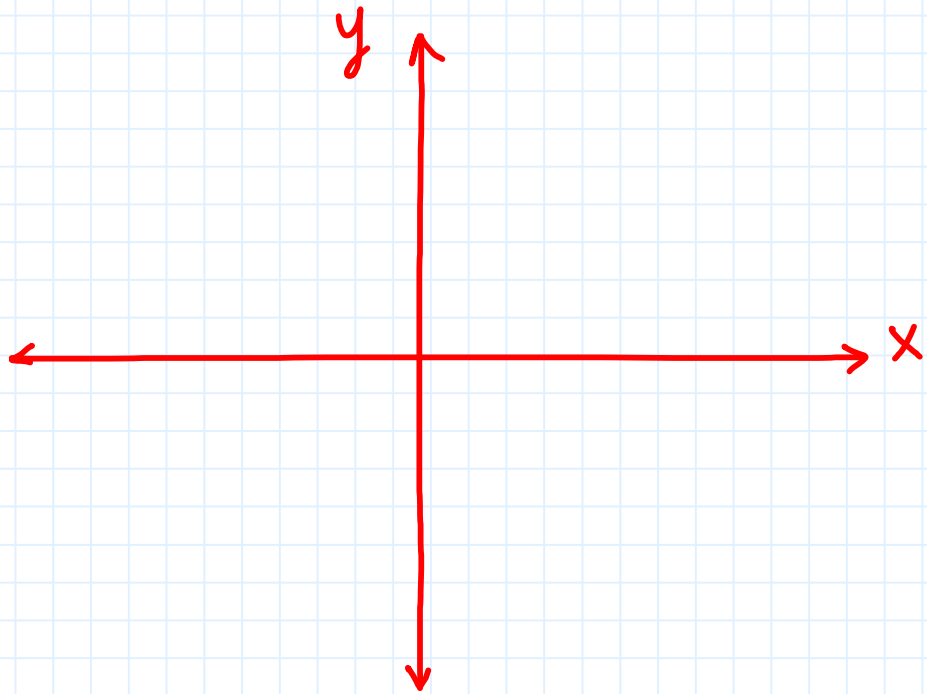
$$y = -2|x - 3|$$



$$y = \frac{1}{4}|x+2| - 5$$



$$y = -|5x-10| - 4$$



# Graphs of Absolute Value Equations

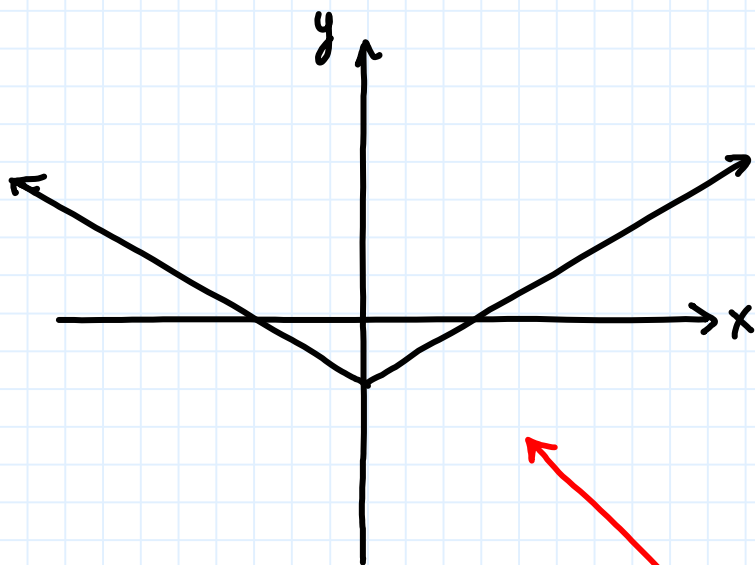


## Overview of problems- KEY



Example Set: A

Match the equation with the graph



$$y = |x| + 2$$

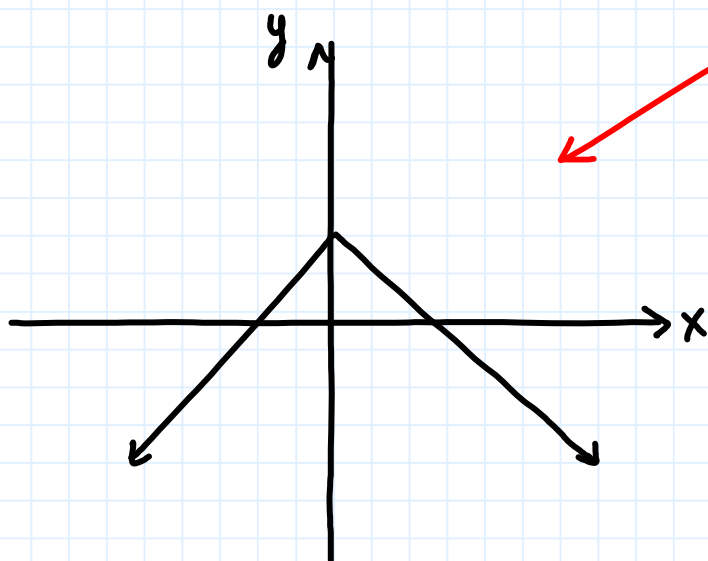
$$y = |x| - 1$$

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

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

$$y = |x| - 2$$

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





## Example Set: B

Find the coordinates of the vertex

$$y = |x + 2| - 3 \quad (-2, -3)$$

$$y = |x + 5| + 6 \quad (-5, 6)$$

$$y = -\frac{1}{3}|x - 4| \quad (4, 0)$$

$$y = 2|x + 7| - 3 \quad (-7, -3)$$

$$y = \left|\frac{1}{3}x\right| + 4 \quad (0, 4)$$

$$y = -6|2x + 2| \quad (-1, 0)$$

$$y = -|8 - 3x| + 1 \quad \left(\frac{8}{3}, 1\right)$$

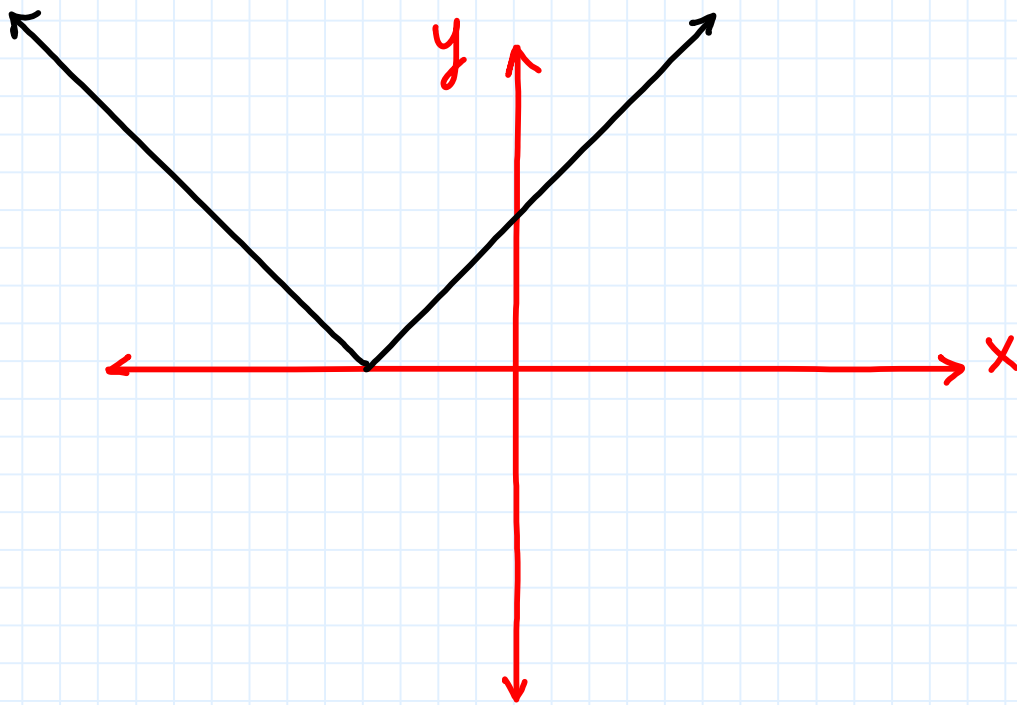


## Example Set: C

Complete the table and graph the equation

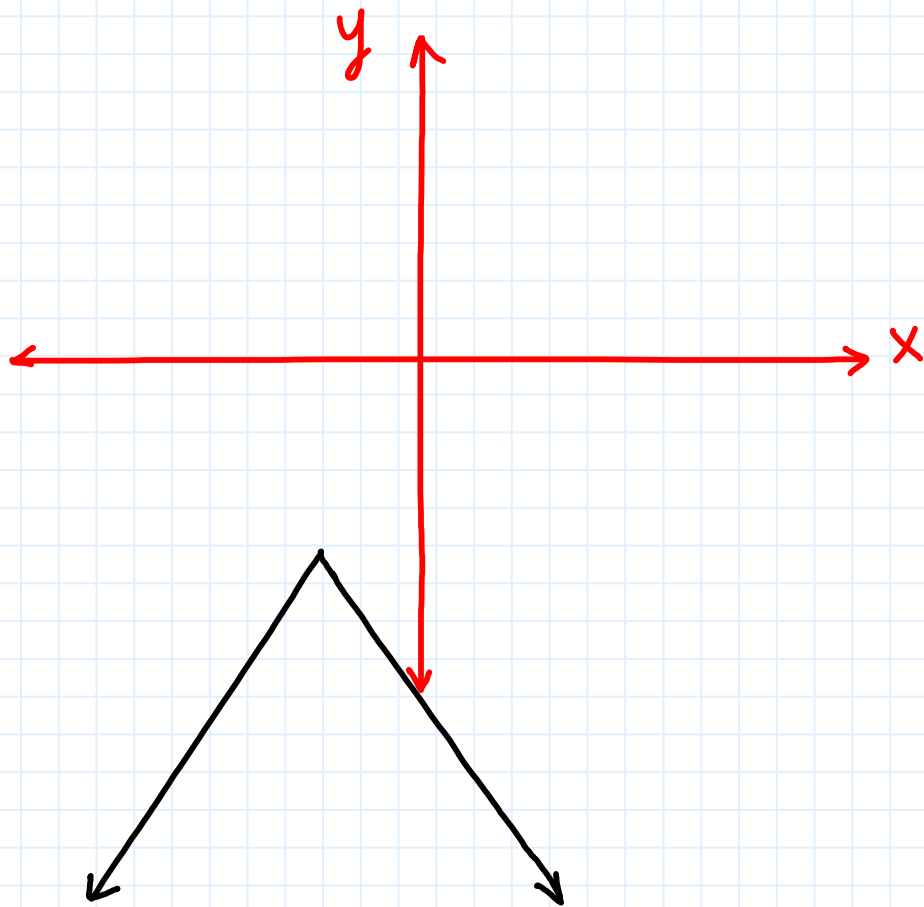
$$y = |x + 3|$$

x	-4	-1	0	1	4		
y	1	2	3	4	7		



$$y = -|2x + 3| - 8$$

x	-3	-1	0	1	3		
y	-11	-9	-11	-13	-17		

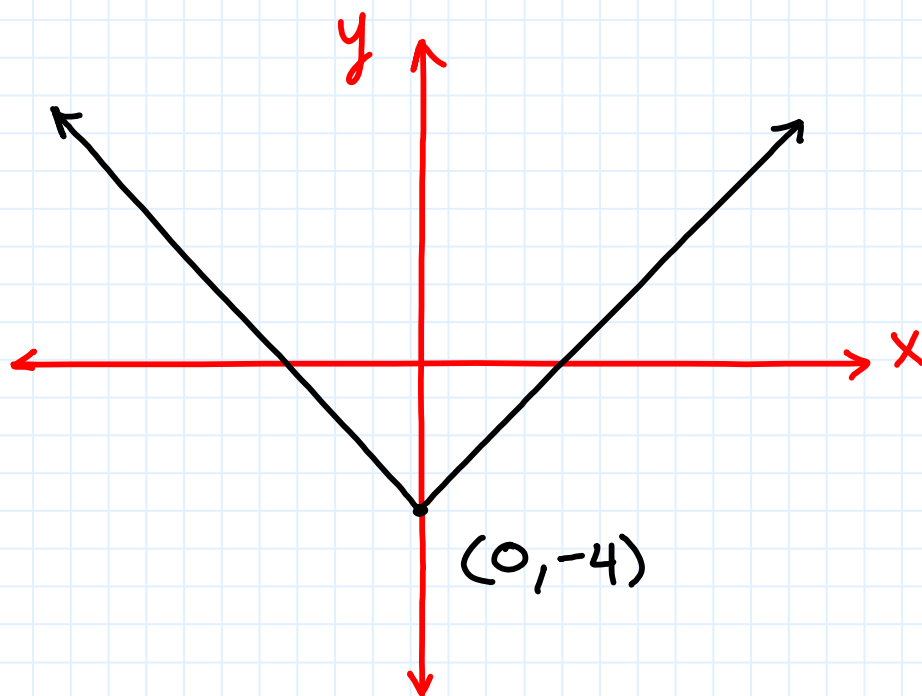




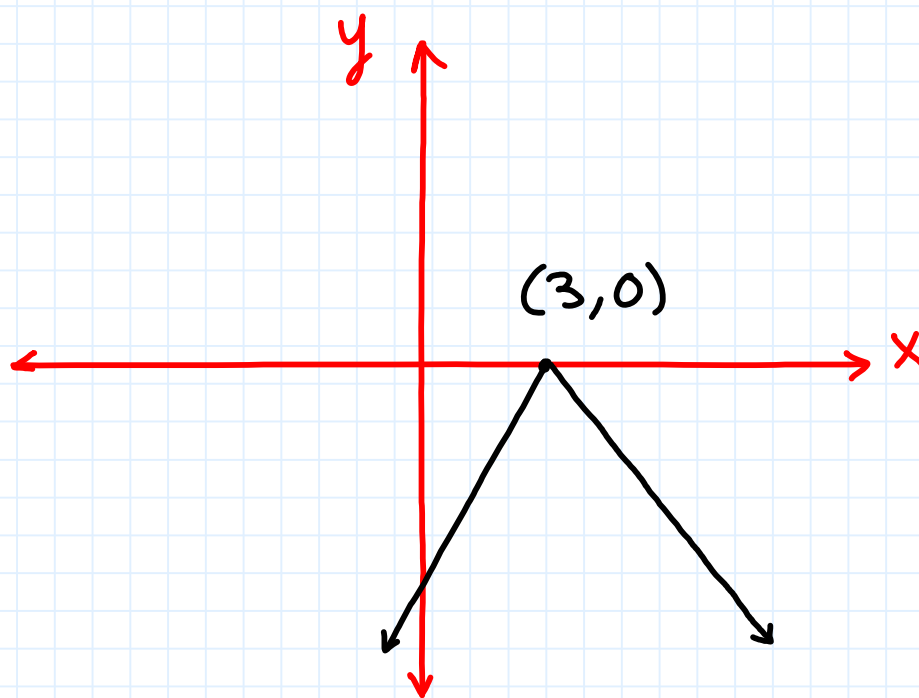
## Example Set: D

sketch the graph of the equation

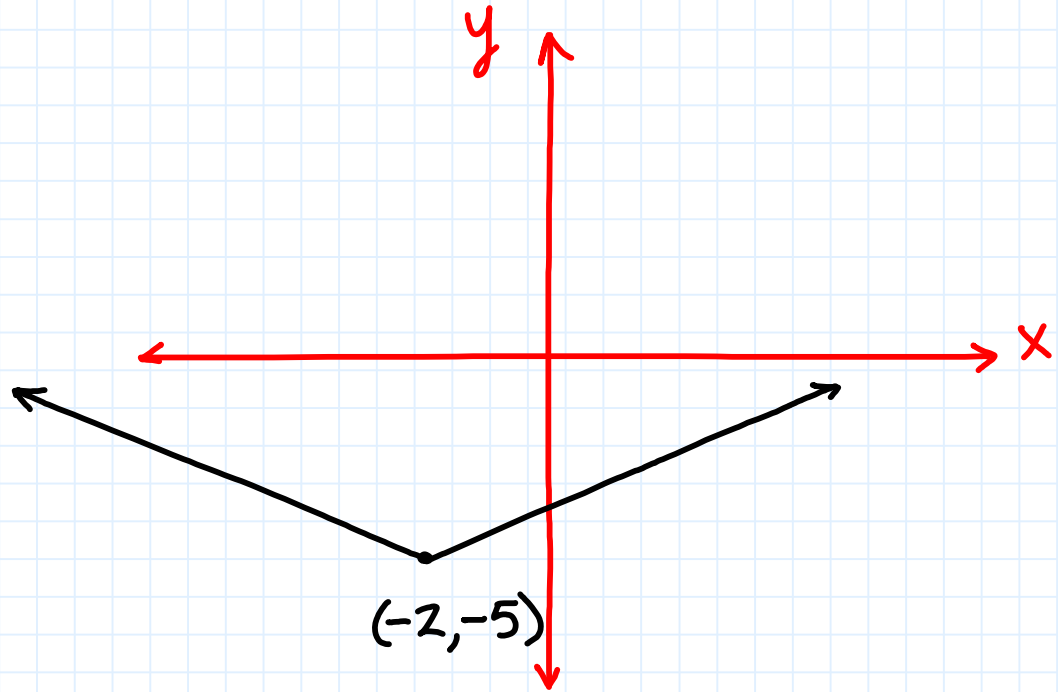
$$y = |x| - 4$$



$$y = -2|x - 3|$$



$$y = \frac{1}{4}|x+2| - 5$$



$$y = -|5x-10| - 4$$

