

The Absolute Value Parent Function

$$y = |x|$$

slopes of the lines = $\pm a$
 $a > 0$; "v" opens up; $a < 0$; "v" opens down

h gives the x -coordinate of the cusp

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

k gives the y -coordinate of the cusp

The Absolute Value Parent Function Graph

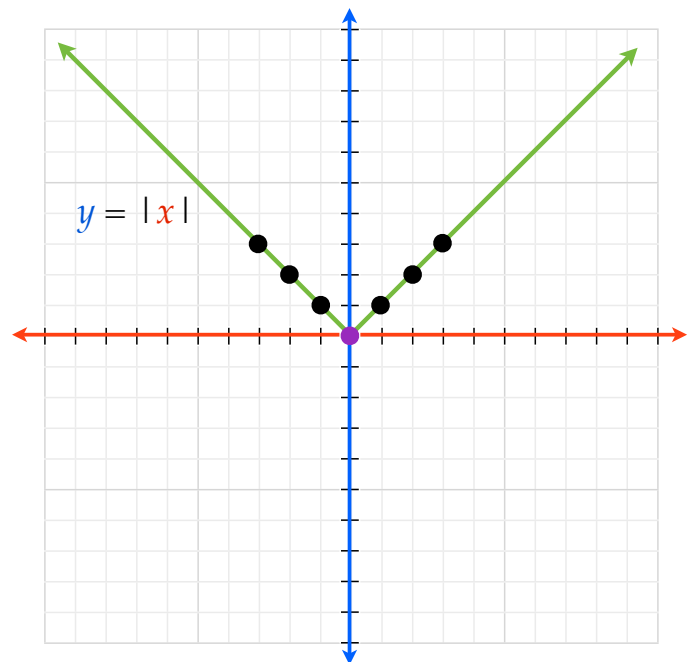
$$y = |x|$$

$$a = 1 \quad h = 0 \quad k = 0$$

Opens: up

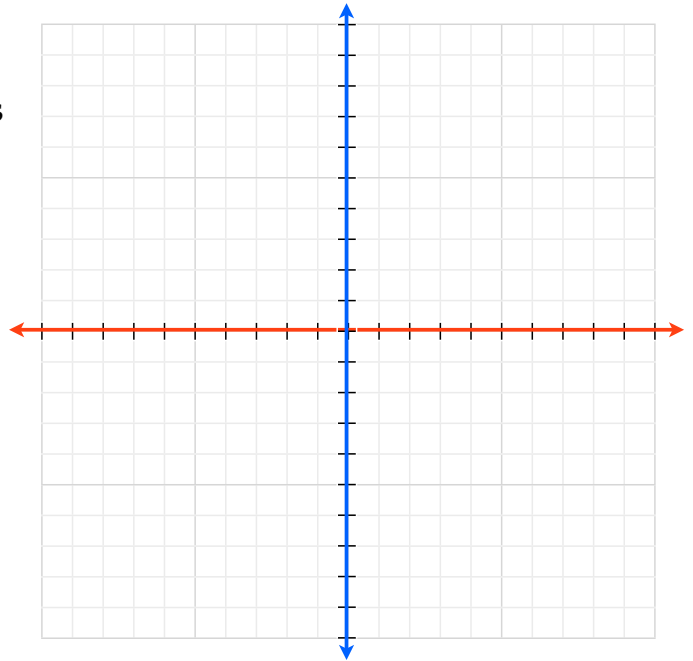
Cusp: (0,0)

Slopes: ± 1



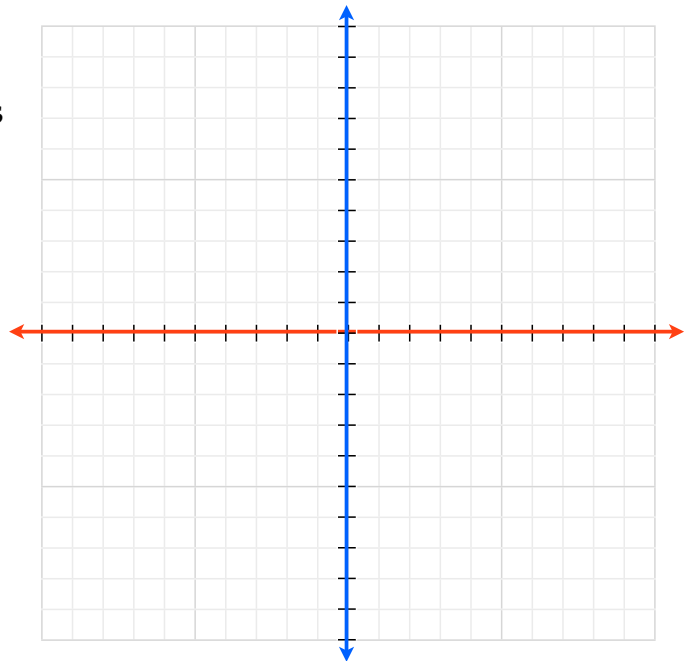
Graph the following absolute value functions

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



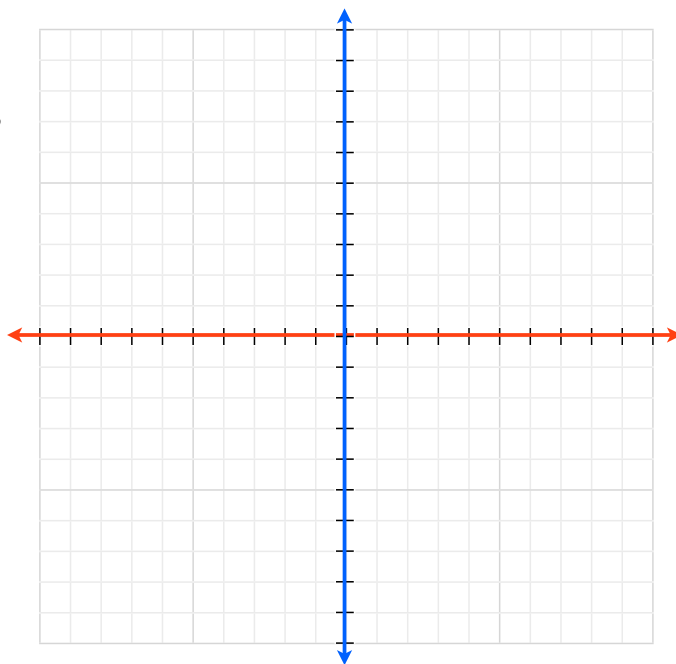
Graph the following absolute value functions

$$y = 3|x - 1| - 7$$



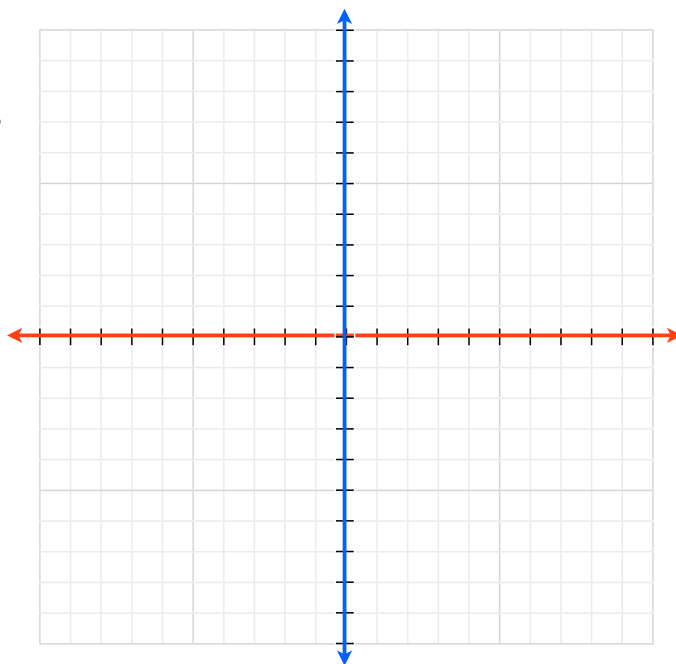
Graph the following absolute value functions

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

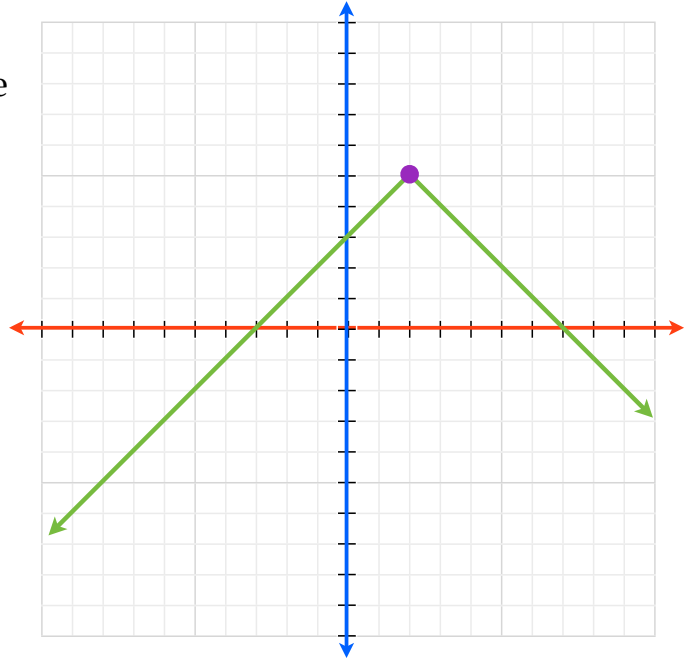


Graph the following absolute value functions

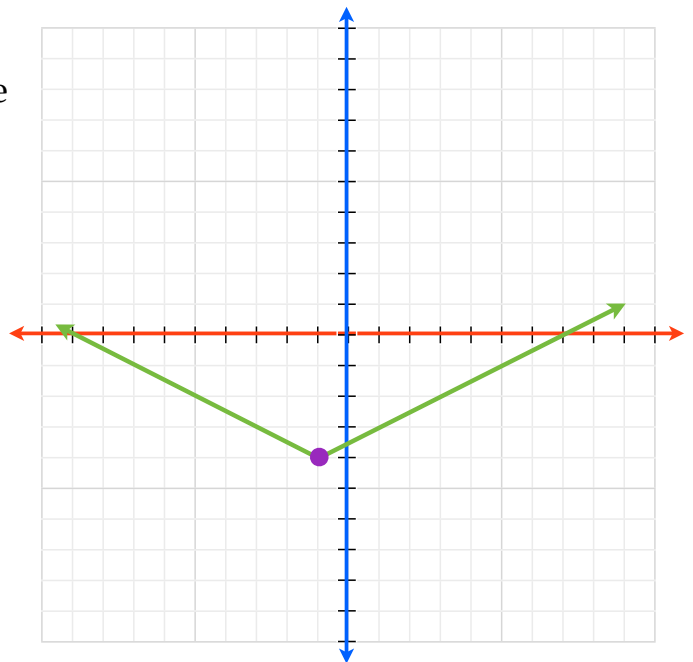
$$y = 2|x + 6| + 3$$



Determine the absolute value equation for the following graphs



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