

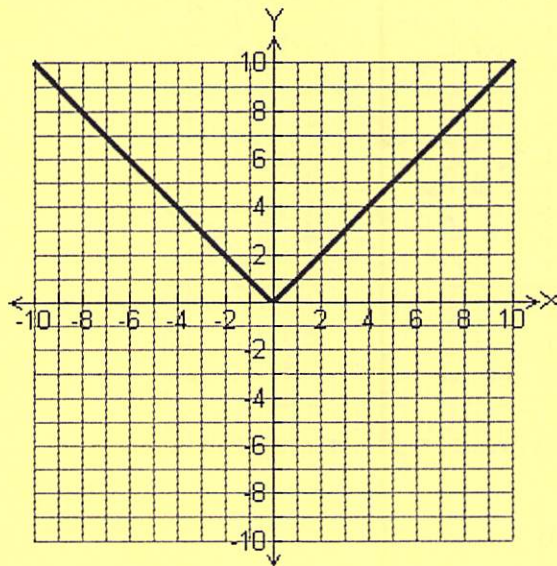
6-8 Graphing Absolute Value Equations

A V-shaped graph that points upwards or downwards is the graph of an

absolute
value

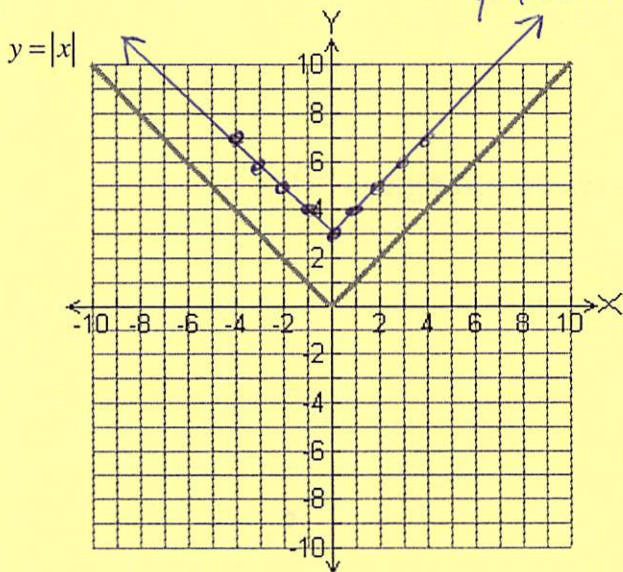
Value function.

Look at the Graph below of $y = |x|$.

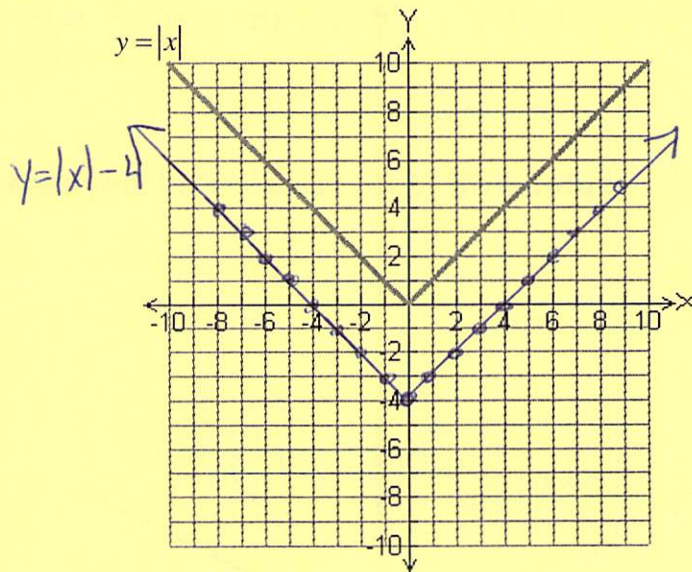


Graph each function.

$$y = |x| + 3$$



$$y = |x| - 4$$



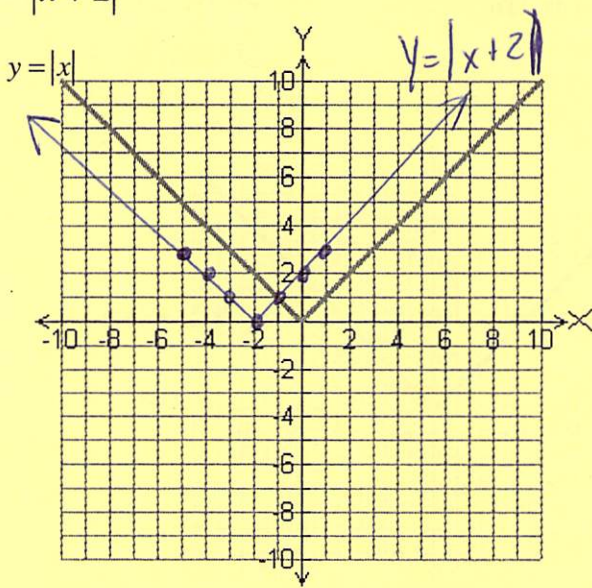
Given $y = |x|$

$y = |x| + \#$ moves the graph up # units

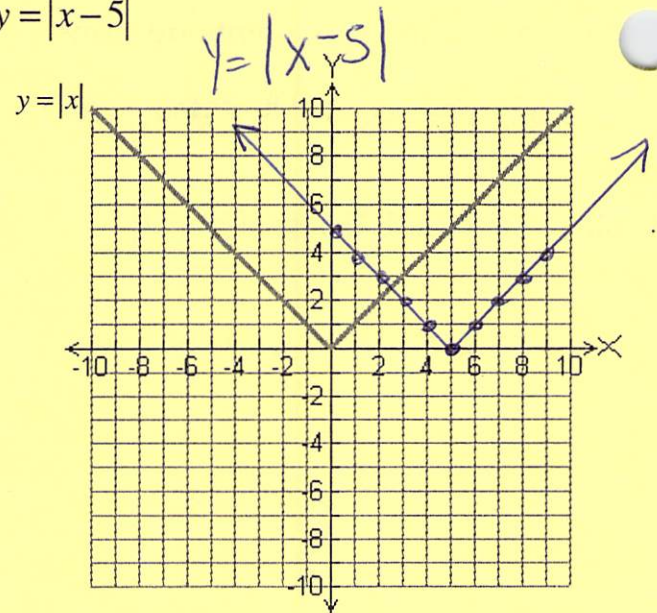
$y = |x| - \#$ moves the graph down # units

Graph each function.

$$y = |x + 2|$$



$$y = |x - 5|$$



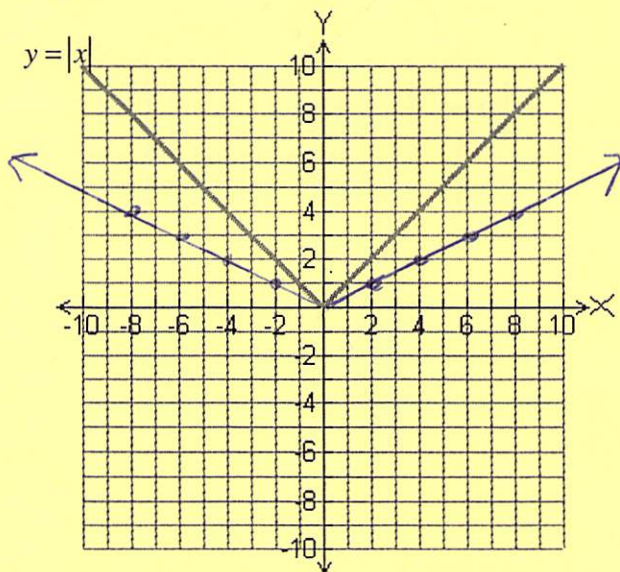
Given $y = |x|$

$y = |x + \#|$ moves the graph left # units

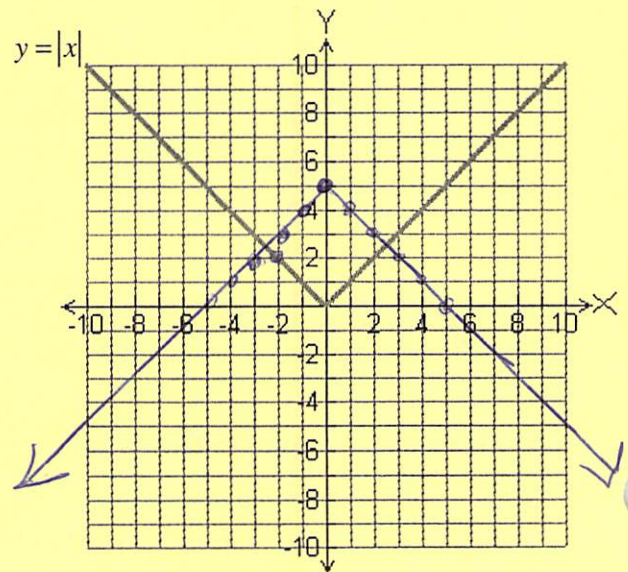
$y = |x - \#|$ moves the graph right # units

Lets Graph a Few More to see what happens when we change $y = |x|$.

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



$$y = -|x| + 5$$



Explain how the graphs of the following equations compares to the graph of $y = |x|$.

1. $y = |x+5|$

2. $y = |x|-3$

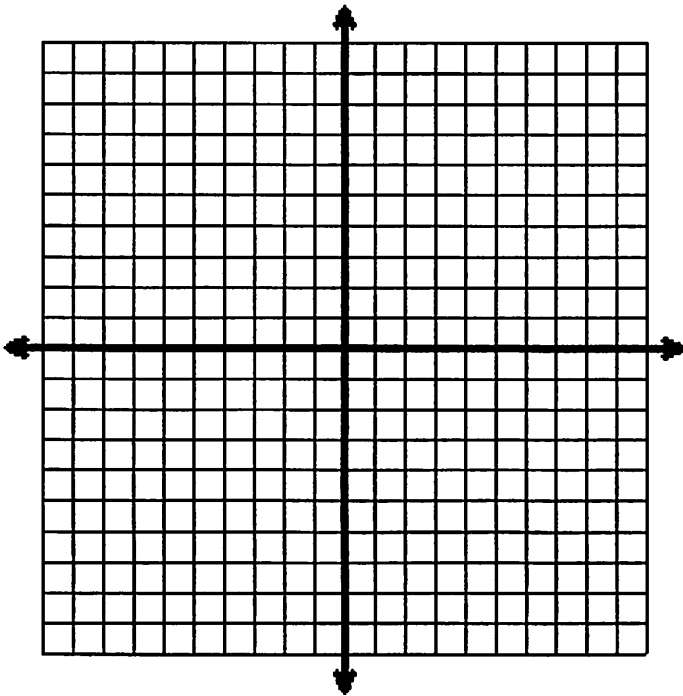
3. $y = |x-1|$

4. $y = |x|+8$

5. $y = -2|x|$

6. $y = \left|\frac{1}{3}x\right|$

7. On the set of axes below, graph and label the equations $y = |x|$ and $y = 3|x|$ for the interval $-3 \leq x \leq 3$.



Explain how changing the coefficient of the absolute value from 1 to 3 affects the graph.