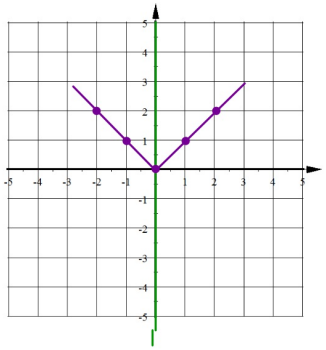
$y = |x|$

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

Get a sheet of graph paper and graph this absolute value function using the values in the table.

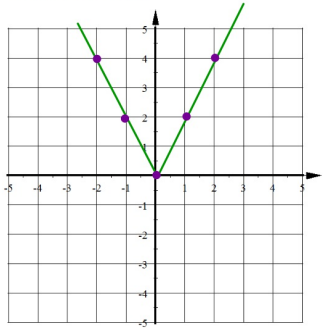


$y = |x|$ is called the Parent Function

$y = 2|x|$

x	y
-2	4
-1	2
0	0
1	2
2	4

Graph this absolute value function using the values in the table.



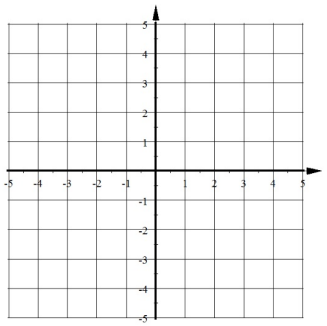
What does the coefficient 2 do to the graph?

Makes it twice as tall.

It is called a vertical stretch factor.

Use a graphing calculator to graph
$y = a|x|$
for different values of a

Graph with a Standard Window.



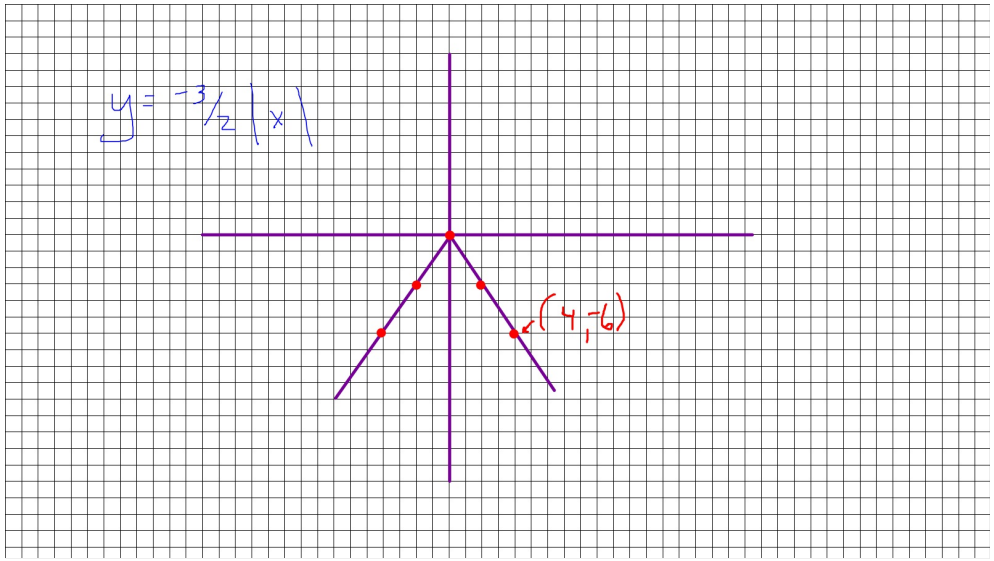
What does the value of a do to the graph?

$y = a|x|$

The larger the value of a the taller the graph
The smaller the value of a the shorter the graph

a is the slope of the sides of the V

When a is neg the V opens down.



Solve each system of equations.

1. (-3,3)

(4x - 6y = -30) 2
(5x + 4y = -3) 3

8x - 12y = -60
+ 15x + 12y = -9

23x = -69

x = -3

2.

5(8A - 12B = 40)
2(20A - 30B = 77)

40A - 60B = 200
- 40A - 60B = 154

0 + 0 = 46

NO SOL

3.

y = 7x - 12
10x - 6y = -24

10x - 6(7x - 12) = -24
10x - 42x + 72 = -24
-72 -72
-32x = -96

x = 3

(3,9)