5.3 Function Rules, Tables, and Graphs

THE FAB FIVE!
When you make a table, a good way to start is by using the five integers between -2 and 2. If you have a fraction multiplied by your x, it's a good idea to modify those 5 numbers to make them multiples of the denominator.

All functions have two variables.

The independent variable is the one that happens independently. Time is a very common independent variable because time always moves on. The independent variable is graphed on the x-axis.

The dependent variable is the one that depends on the other values and operations in the equation. It is graphed on the y-axis.

Use the following equations to make a table of x and y values.

$y = 3x + 4$

x	y
-2	-2
-1	1
0	4
1	7
2	10

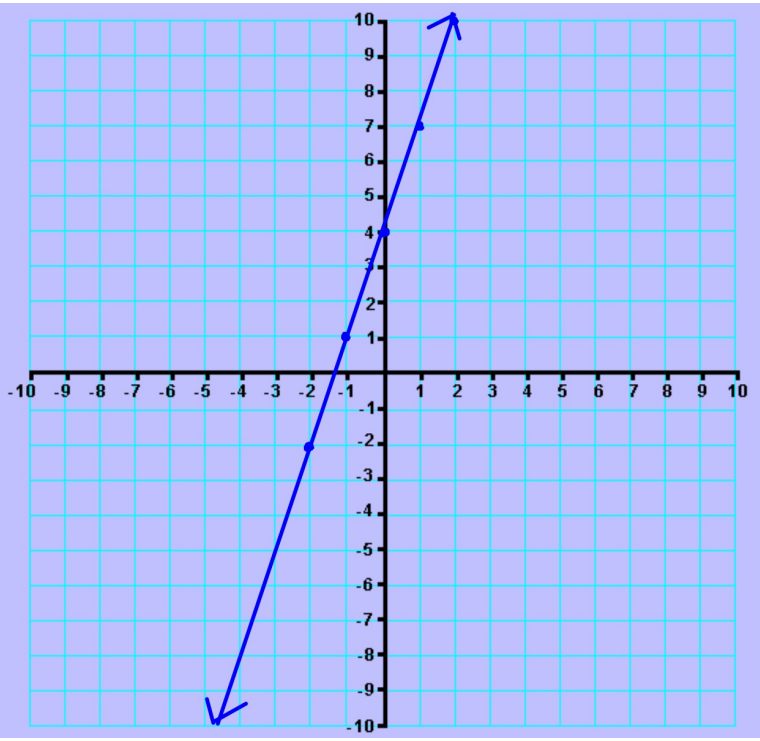
$\frac{1}{3} \cdot 6 - 3$

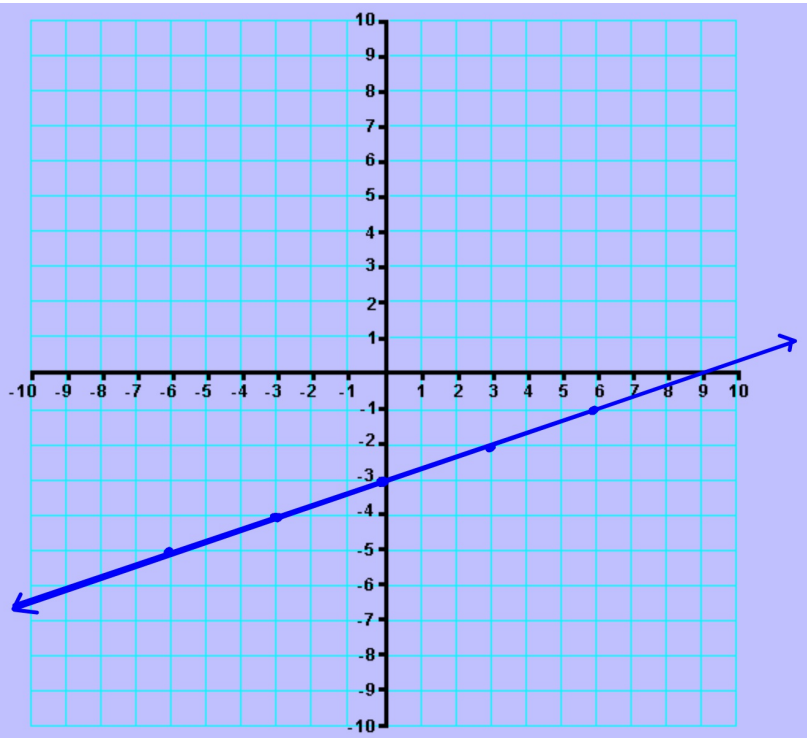
$2 - 3$

$y = 1/3x - 3$

x	y
-6	-5
-3	-4
0	-3
3	-2
6	-1

Then use your tables to make graphs. Plot the points and connect the dots.

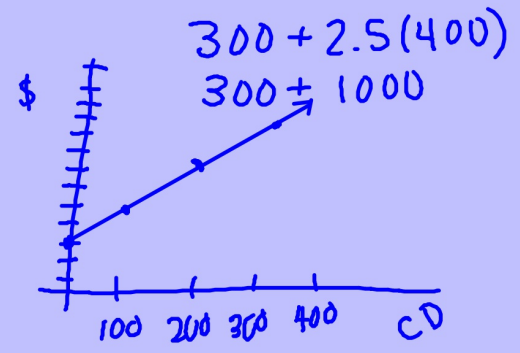




Page 5

A recording company charges $300 for making a master CD and designing the cover art. It charges $2.50 for burning each CD. Use the function rule P(c) = 300 + 2.5c to make a table of values and a graph.

c	P(c)
0	300
100	550
200	800
300	1050
400	1300



Page 6

Some graphs do not make straight lines. However, if you use the fab five, you can graph any function. As we go through the year, you will learn how to graph each family of functions even without the fab five.

Make a table of values using the fab five. Use your table to plot points, connect the points as logically as possible.

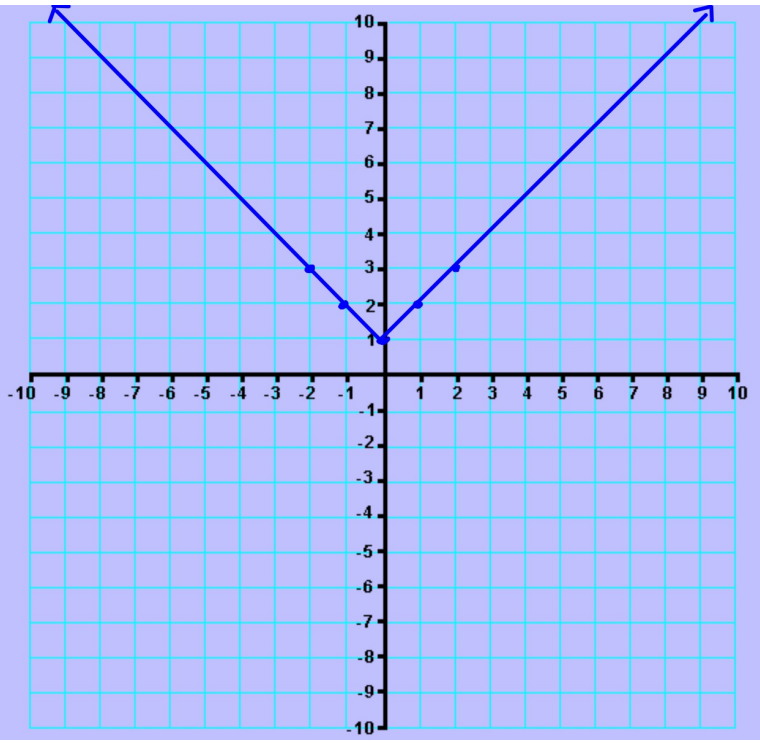
$y = |x| + 1$

x	y
-2	3
-1	2
0	1
1	2
2	3

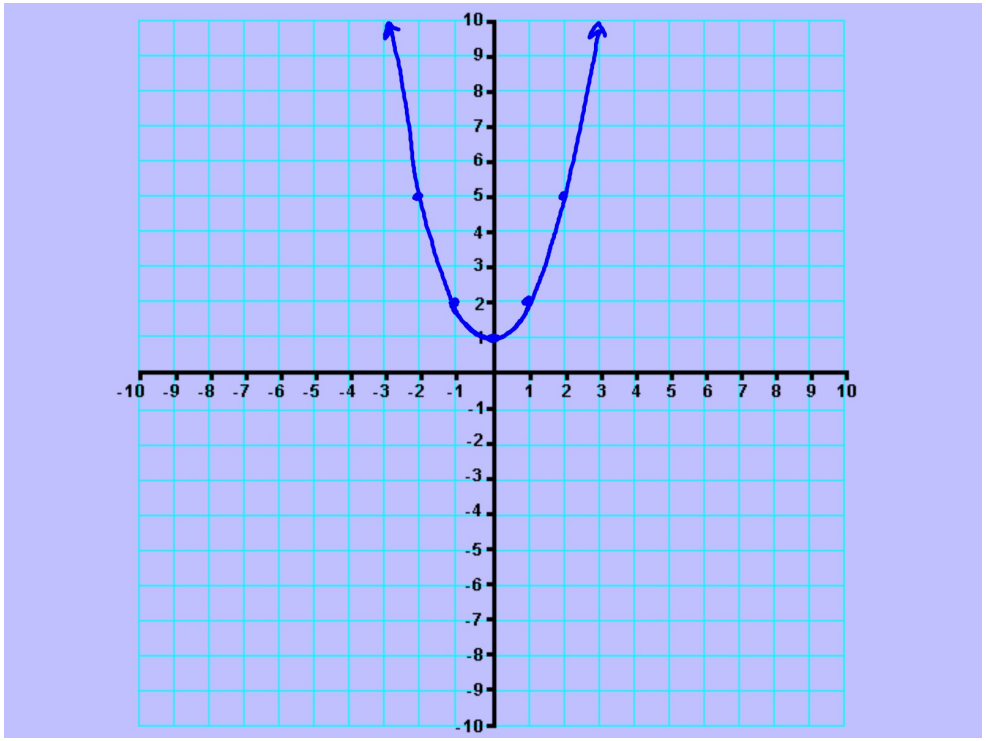
$y = x^2 + 1$

x	y
-2	5
-1	2
0	1
1	2
2	5

Page 7



Page 8


10
9
8
7
6
5
4
3
2
1
-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 1 2 3 4 5 6 7 8 9 10
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10