M8 - 9.1 - Plotting Points Graph Notes

(x, y) A point on a graph is given by an "ordered pair"

x y
$\downarrow\ \downarrow$
$(3,4)$ (x, y)

Plot the following table of values:

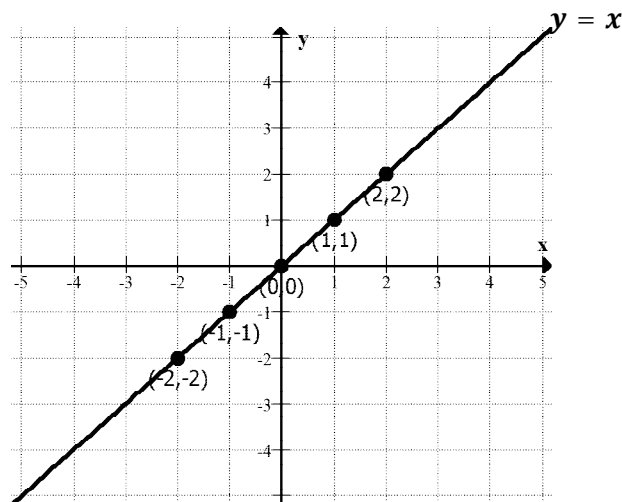| x	y	Ordered Pairs
2	−3	$(2, -3)$
−4	−1	$(-4, -1)$
−3	5	$(-3, 5)$
0	0	$(0,0)$
4	0	$(4,0)$
0	−3	$(0, -3)$

y-axis
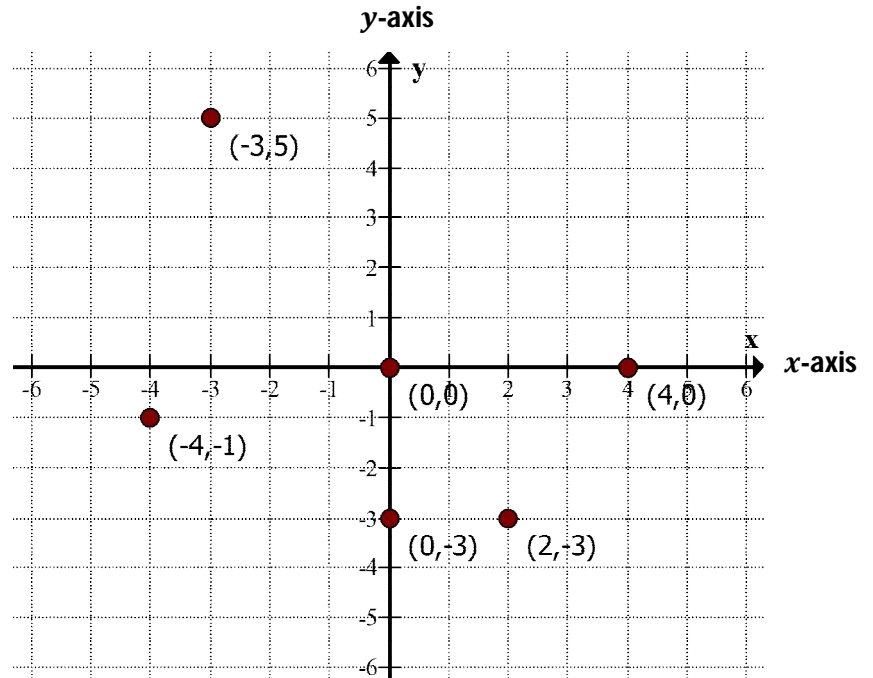
Steps to plot a point:
1. Find the x point on the x-axis. (The number in the left of the brackets.)
2. Go straight up or down to the y point. (The number on the right of the brackets).
3. Draw and label the point.

$y = x$

x	y	Ordered Pairs
−2	−2	(−2, −2)
−1	−1	(−1, −1)
0	0	(0,0)
1	1	(1,1)
2	2	(2,2)

$y = x$

$y = x$	$y = x$	$y = x$	$y = x$	$y = x$
$y = -2$	$y = -1$	$y = 0$	$y = 1$	$y = 2$

(−2, −2) (−1, −1) (0,0) (1,1) (2,2)

The x values in the table are given. The y values in the table must be solved by substituting the given x values in the table into the equation $y = x$.

$y = x + 1$

x	y	Ordered Pairs
−2	−1	(−2, −1)
−1	0	(−1,0)
0	1	(0,1)
1	2	(1,2)
2	3	(2,3)

$y = x + 1$
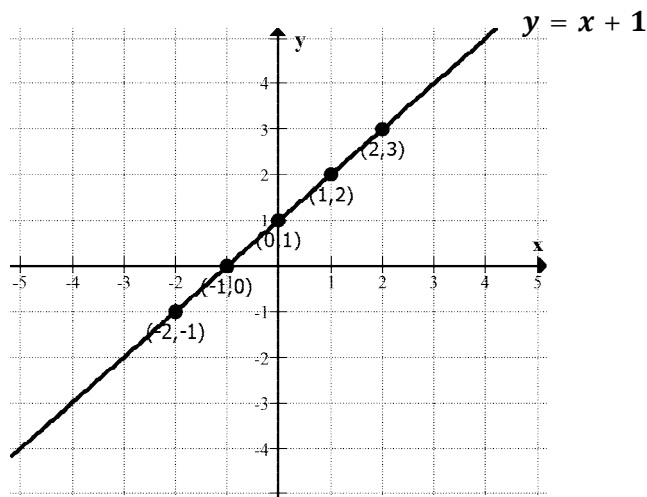
$y = x + 1$	$y = x + 1$	$y = x + 1$	$y = x + 1$
$y = -2 + 1$	$y = -1 + 1$	$y = 0 + 1$	$y = 1 + 1$
$y = -1$	$y = 0$	$y = 1$	$y = 2$

(−2, −1)   (−1,0)   (0,1)   (1,2)

Notice: the graph of $y = x + 1$ is the graph of $y = x$, moved up 1.

$y = 2x$

x	y	Ordered Pairs
−2	−4	(−2, −4)
−1	−2	(−1, −2)
0	0	(0,0)
1	2	(1,2)
2	4	(2,4)

$y = 2x$
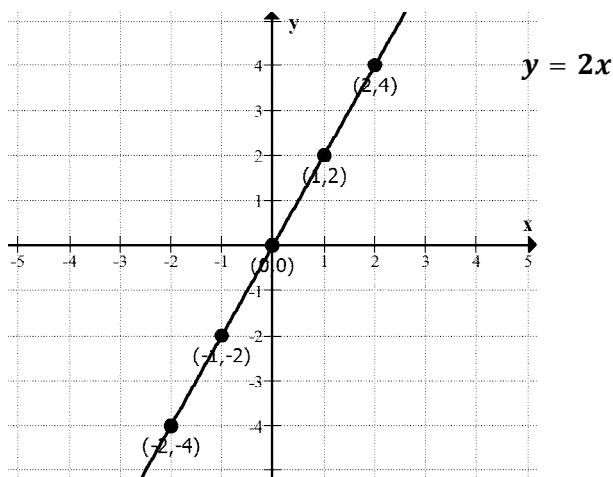
$y = 2x$	$y = 2x$	$y = 2x$	$y = 2x$
$y = 2(-2)$	$y = 2(-1)$	$y = 2(0)$	$y = 2(1)$
$y = -4$	$y = -2$	$y = 0$	$y = 2$

(−2, −4)   (−1, −2)   (0,0)   (1,2)

Notice: the graph of $y = 2x$ is the graph of $y = x$ twice as steep.

M9 - 9.2 - Graphing TOV: $y = 2x + 1$ Notes

Graphing using a table of values.

$y = 2x + 1$

x	y
−2	−3
−1	−1
0	1
1	3
2	5

Ordered Pairs

$(−2, −3)$

$(−1, −1)$

$(0,1)$

$(1,3)$

$(2,5)$

$y = 2x + 1$
$y = 2(−2) + 1$
$y = −4 + 1$
$y = −3$

$(−2, −3)$

$y = 2x + 1$
$y = 2(−1) + 1$
$y = −2 + 1$
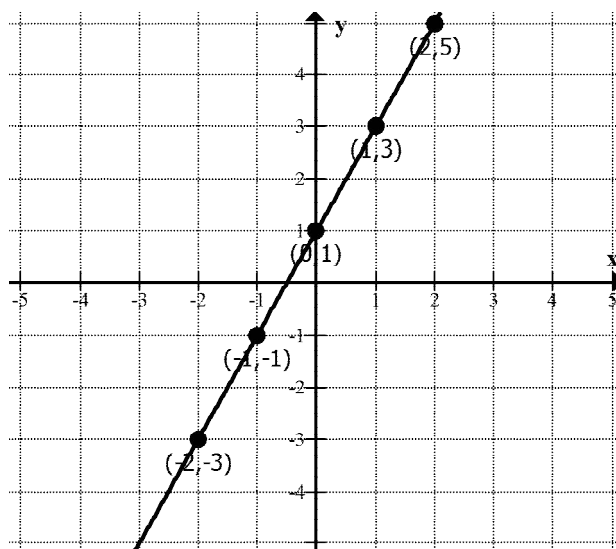$y = −1$

$(−1, −1)$

$y = 2x + 1$
$y = 2(0) + 1$
$y = 0 + 1$
$y = 1$

$(0,1)$

$y = 2x + 1$

Notice: the graph of $y = 2x + 1$ is the graph of $y = x$ twice as steep and up 1.