

## Systems of Equations

system of equations - a set of equations with the same variables

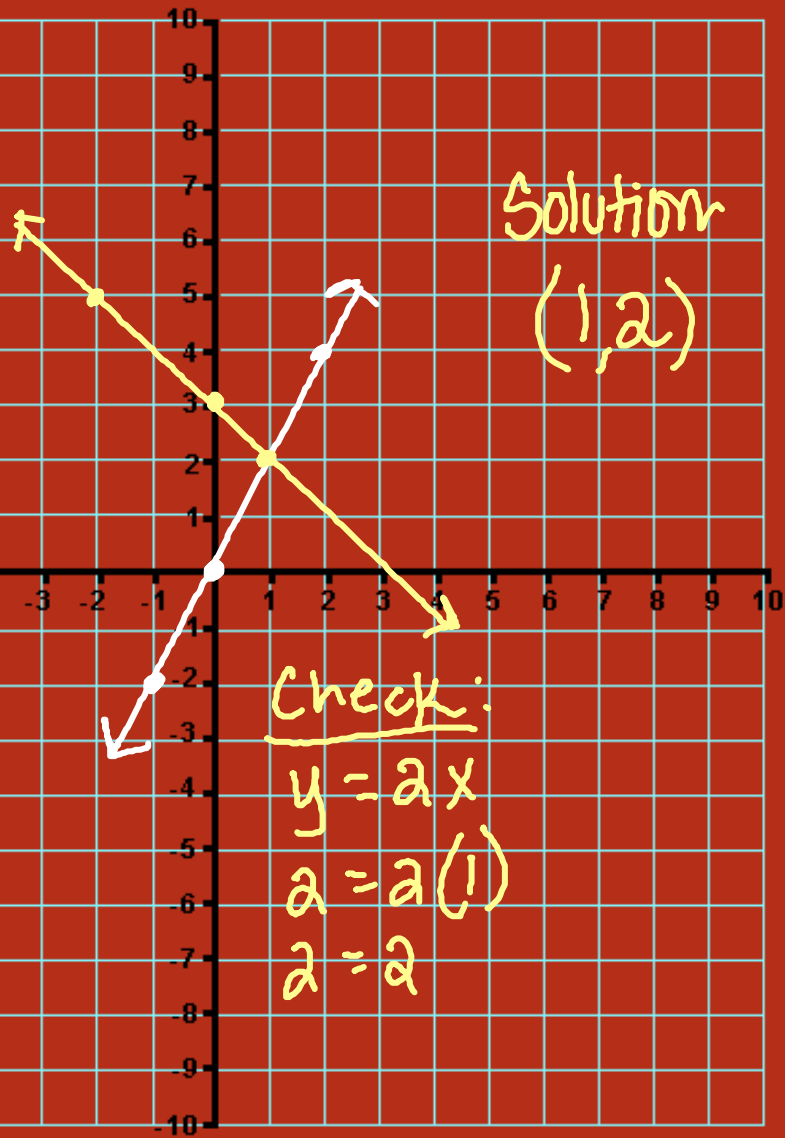
solutions - the ordered pair that is a solution of both equations (where the 2 graphs intersect)

Graph  $y=2x$

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

$$y = -x + 3$$

x	-x+3	y
0	-0+3	3
1	-1+3	2
-2	-(-2)+3	5



Graph  
 $y = -3x$

x	-3x	y
0	-3(0)	0
1	-3(1)	-3
-2	-3(-2)	6

$y = 2 - x$

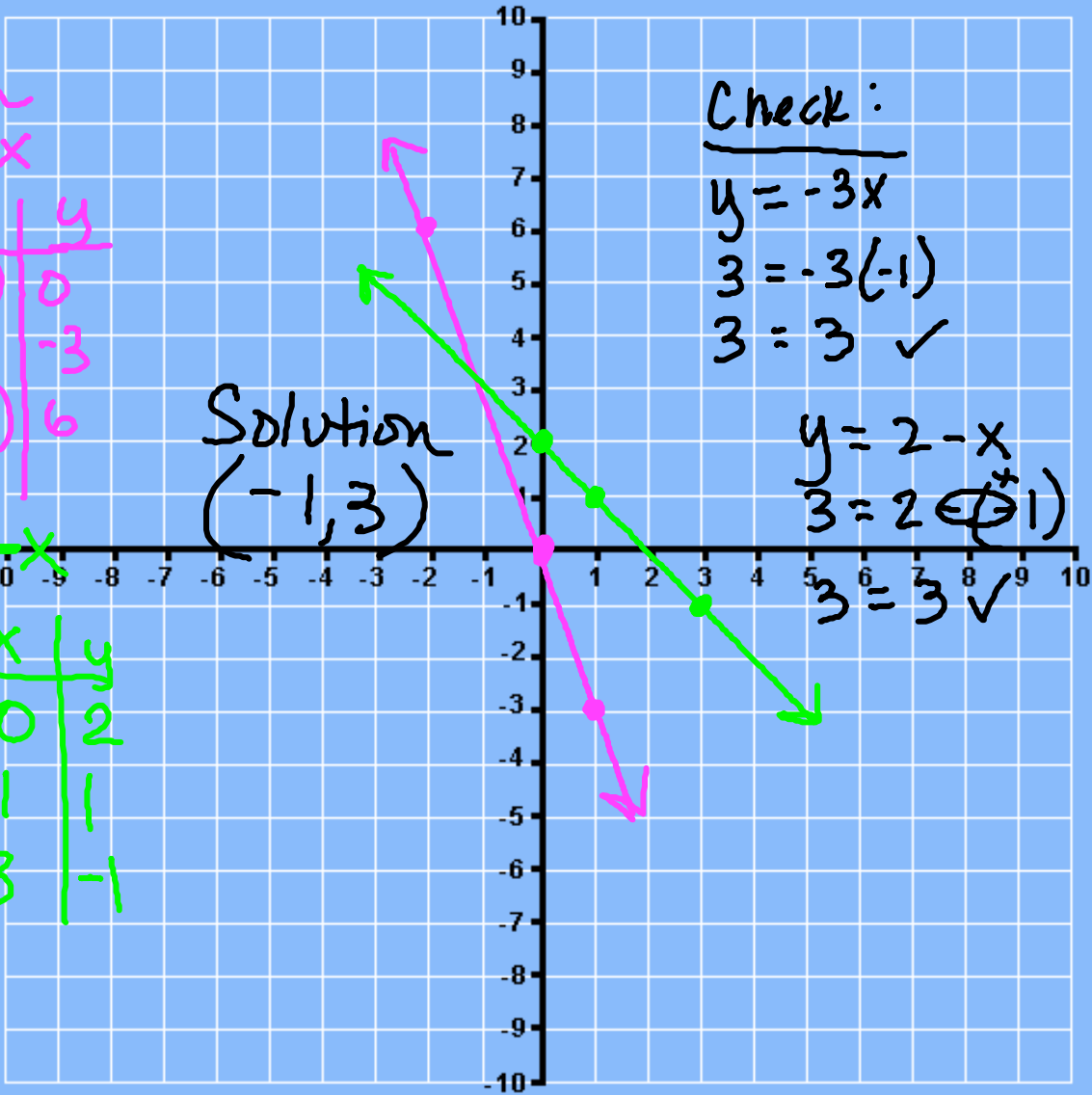
x	2-x	y
0	2-0	2
1	2-1	1
3	2-3	-1

Solution  
 $(-1, 3)$

Check:

$$y = -3x$$
$$3 = -3(-1)$$
$$3 = 3 \checkmark$$

$$y = 2 - x$$
$$3 = 2 - (-1)$$
$$3 = 3 \checkmark$$



$$y = x - 8$$

x	x-8	y
1	1-8	-7
-1	-1-8	-9
0	0-8	-8

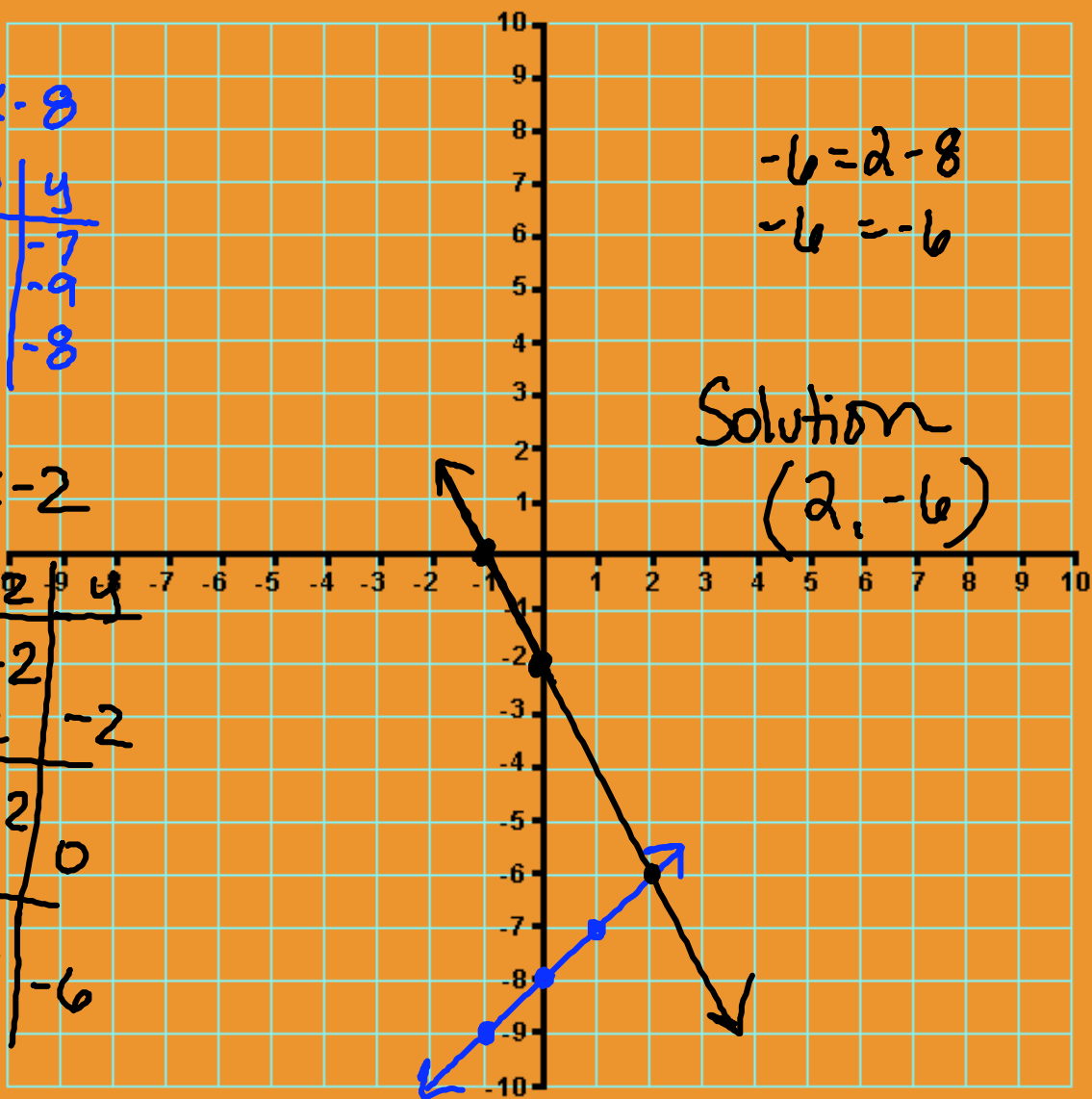
$$y = -2x - 2$$

x	-2x-2	y
0	-2(0)-2	-2
-1	-2(-1)-2	0
2	-2(2)-2	-6

$$-6 = 2 - 8$$

$$-6 = -6$$

Solution  
(2, -6)



$$y = x + 3$$

x	x+3	y
0	0+3	3
-1	-1+3	2
3	3+3	6

$$y = x + 4$$

x	x+4	y
0	0+4	4
-2	-2+4	2
-1	-1+4	3

