

Graphing Linear Equations

A simple way to graph linear equations is to find any two points that satisfy the equation and then draw a straight line through them.

Consider these sets of similar linear equations:

Example 1: $y = x$, $y = 2x$, $y = 3x$, $y = 4x$

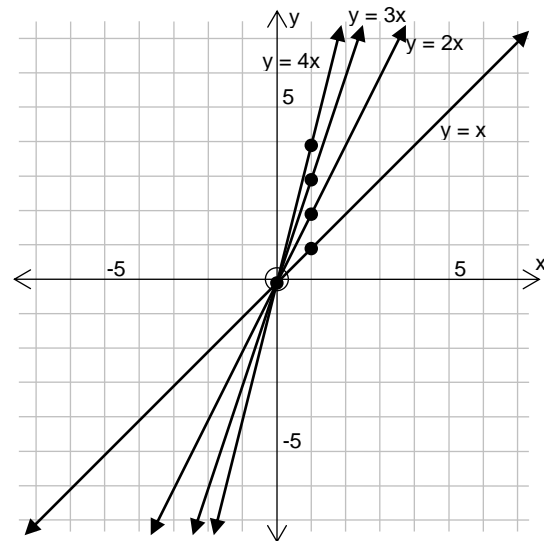
Solution:

$y = x$	
x	y
0	0
1	1

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

$y = 3x$	
x	y
0	0
1	3

$y = 4x$	
x	y
0	0
1	4



Example 2: $y = x$, $y = x + 1$, $y = x + 2$,
 $y = x + 3$

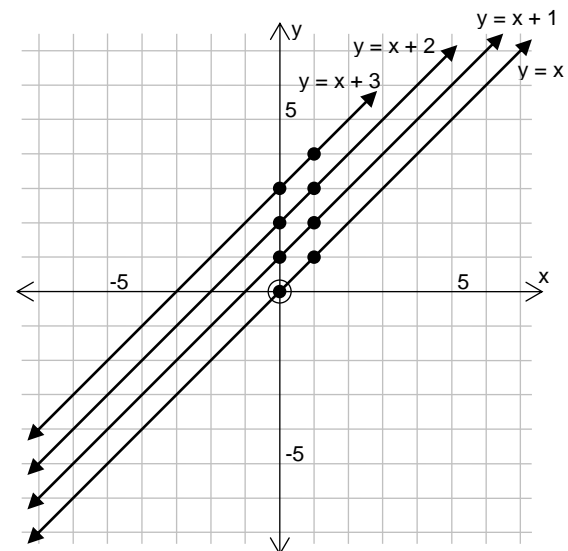
Solution:

$y = x$	
x	y
0	0
1	1

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

$y = x + 2$	
x	y
0	2
1	3

$y = x + 3$	
x	y
0	3
1	4



Note that these lines are all parallel.

Example 3: $y = 3x - 6$, $y = 3x - 3$, $y = 3x$,
 $y = 3x + 3$

Solution:

$$y = 3x - 6$$

x	y
0	-6
1	-3

$$y = 3x - 3$$

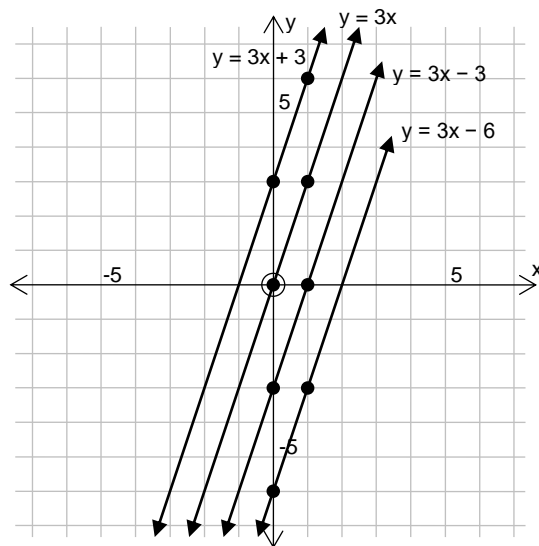
x	y
0	-3
1	0

$$y = 3x$$

x	y
0	0
1	3

$$y = 3x + 3$$

x	y
0	3
1	6



EXERCISES

A. Graph:

1)

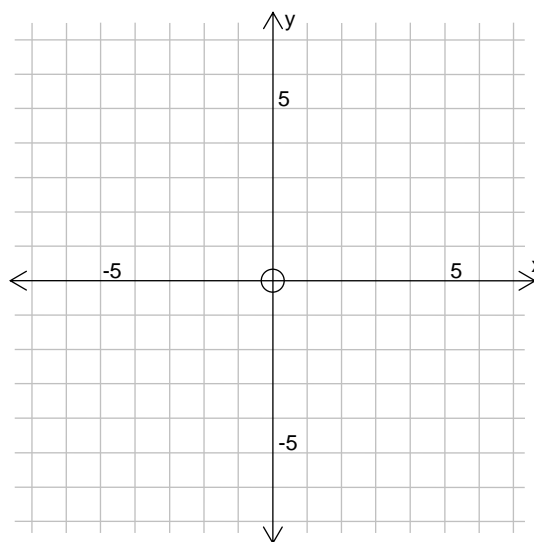
$$y = x - 3$$

x	y
0	-3
1	-2
-1	
2	

2)

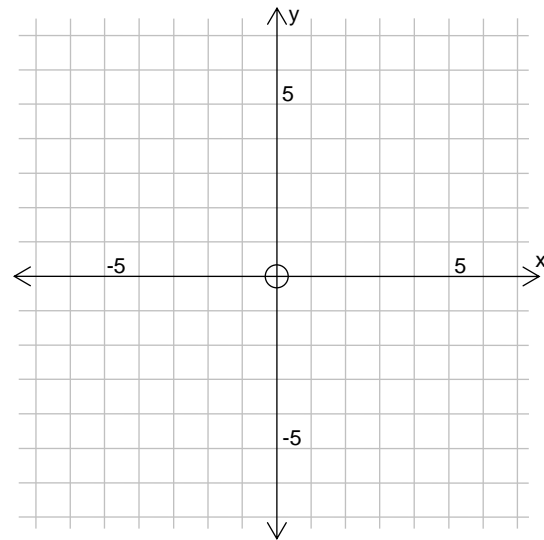
$$y = -x$$

x	y
0	0
1	-1
-1	
2	



3) $y = 3x + 5$

x	y
0	
1	
-1	
-2	

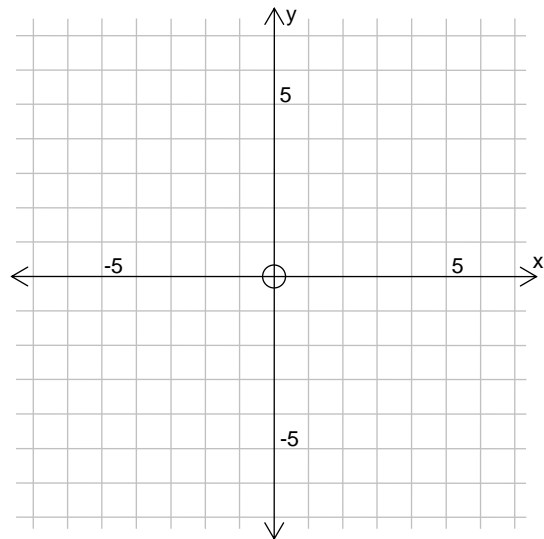


4) $y = \frac{1}{2}x - 4$

x	y
0	
2	
4	
-2	

5) $y = -2x + 3$

x	y
0	
1	
2	
-1	

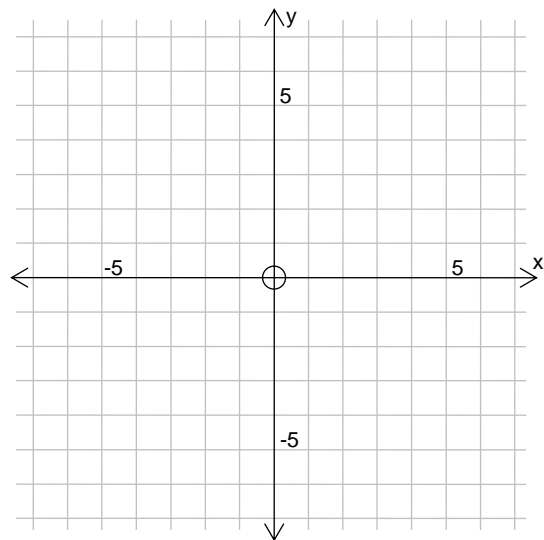


6) $y = -\frac{1}{4}x - 1$

x	y
0	
2	
4	
-4	

7) $3x + y = 7$

x	y
0	
1	
-1	
-2	



8) $y - 2x = -2$

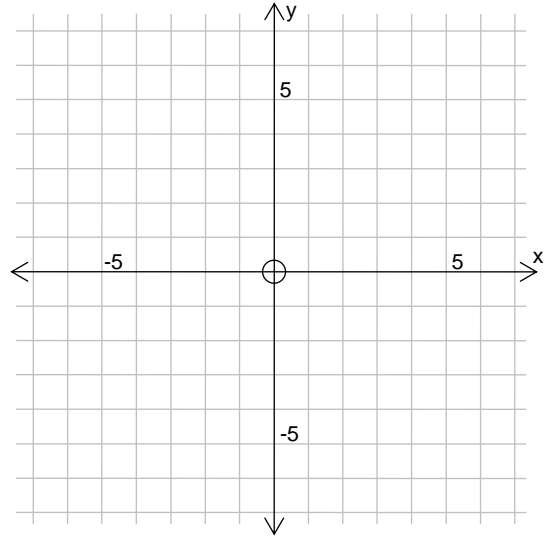
x	y
0	
2	
4	
-2	



9)

$$3y = 3x - 2$$

x	y



10)

$$3y = 4$$

x	y

SOLUTIONS

