Graphing Linear Equations Part 2

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Mathematics 9
Linear Relations
Graphing Linear Equations Part 2

A. Graphing a Linear Equation

Remember that in order to graph a linear equation you must first create a table of values with at least 3 points acceptable. When no table is provided for you then you will have to create your own table and choose your own values for x.

Example #1

$$x+2y=-7$$

x	y	
1	−4	(1, −4)
3	−5	(3, −5)
−3	−2	(−3, −2)

$x + 2y = -7$
$(2) + 2y = -7$
$-2 \quad -2$
$\frac{2y}{2} = -\frac{9}{2}$ ⊗

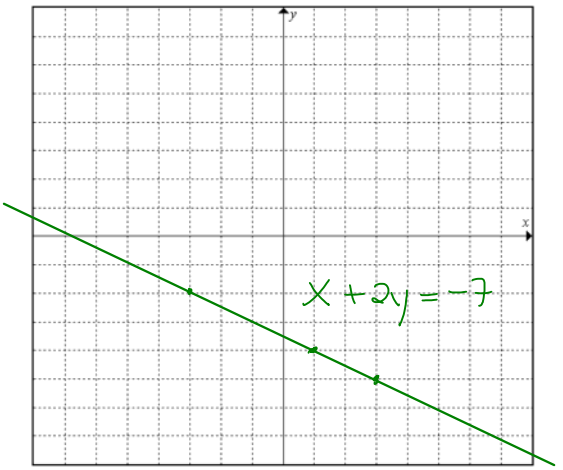
$x + 2y = -7$
$(1) + 2y = -7$
$-1 \quad -1$
$\frac{2y}{2} = -\frac{8}{2}$
$y = -4$ ✓

$x + 2y = -7$
$(3) + 2y = -7$
$-3 \quad -3$
$\frac{2y}{2} = -\frac{10}{2}$
$y = -5$ ✓

$x + 2y = -7$
$(-3) + 2y = -7$
$+3 \quad +3$
$\frac{2y}{2} = -\frac{4}{2}$
$y = -2$ ✓

Rules For Choosing Points

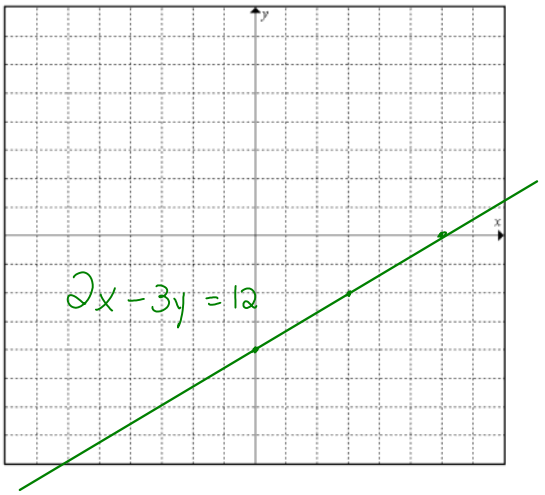
a) Choose a value for x and then solve the equation for y.
b) You must have whole number points (No decimals or fractions).
c) Your points for x and y must be between +8 and -8 (they must fit on the graph paper).
d) You must have at least 3 acceptable points
e) Remember that your points may not be all the same as your friend's but the graphs should look exactly the same.



Example #2

$$2x-3y=12$$

x	y	
3	−2	(3, −2)
6	0	(6, 0)
0	−4	(0, −4)



$2x-3y=12$
$2(3)-3y=12$
$6-3y=12$
$-6 \quad -6$
$\frac{-3y}{-3}=\frac{6}{-3}$
$y=-2$ ✓

$2x-3y=12$
$2(2)-3y=12$
$4-3y=12$
$-4 \quad -4$
$\frac{-3y}{-3}=\frac{8}{-3}$ ✗

$2x-3y=12$
$2(6)-3y=12$
$12-3y=12$
$-12 \quad -12$
$\frac{-3y}{-3}=\frac{0}{-3}$
$y=0$ ✓

$2x-3y=12$
$2(0)-3y=12$
$0-3y=12$
$\frac{-3y}{-3}=\frac{12}{-3}$
$y=-4$ ✓

Assignment: Graphing Linear Equations Part 2 Assignment

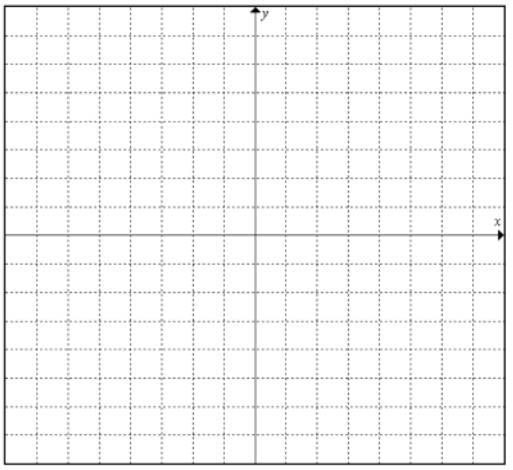
Name:_____

Graphing Linear Equations Part 2 Assignment

For each of the following linear equations, create a table of values of 3 acceptable points and then graph and label the linear equation.

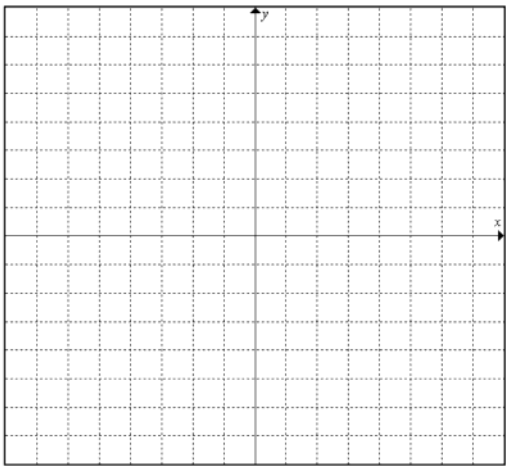
1) $x+2y=6$

x	y



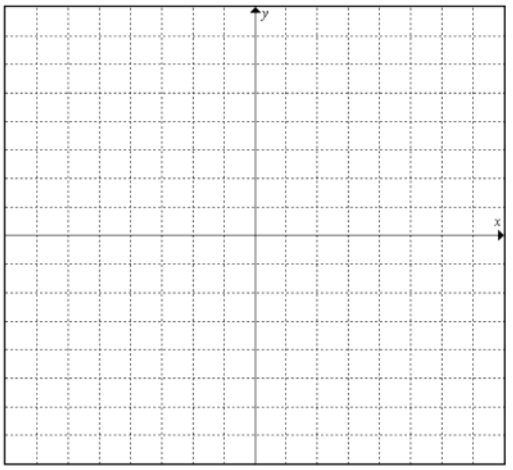
2) $2x+y=-3$

x	y



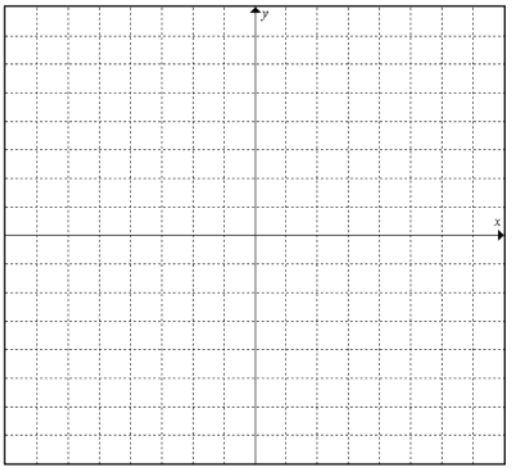
3) $3x - y = 8$

x	y



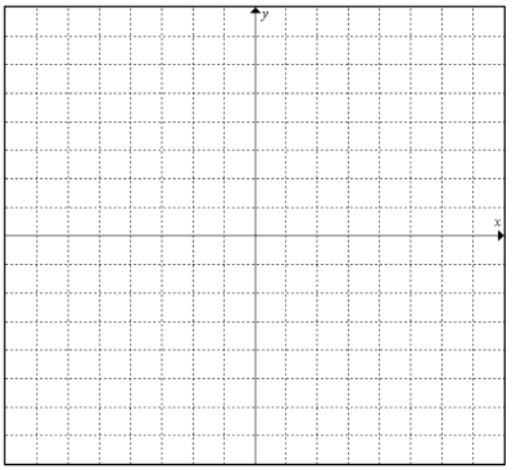
4) $2x - 2y = 12$

x	y



5) $-x-y=3$

x	y



6) $2x-3y=-12$

x	y