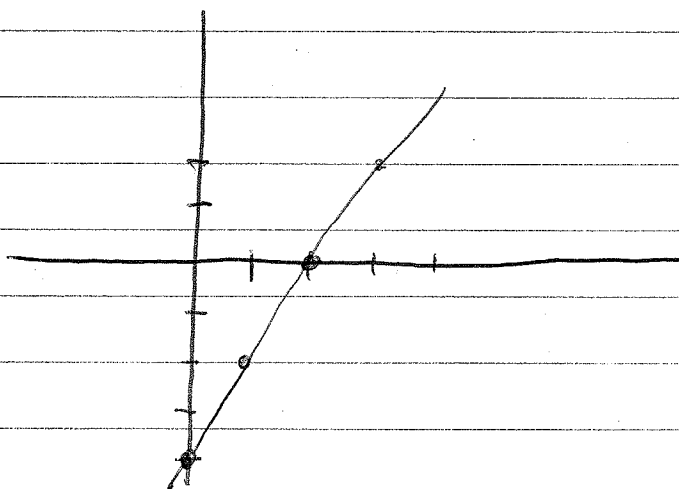


Math 115 Quiz #1 No calculators; show all work 9/2/09

① Plot the graph of  $y = -4 + 2x$ , using the table:

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



② Solve for  $x$ :  $-2ax + 6(x + 3b) = -4x + 1$

(If not possible, explain why.)

$$-2ax + 6x + 18b = -4x + 1$$

$$+4x - 18b \quad +4x \quad -18b$$

$$-2ax + 10x = 1 - 18b$$

$$(-2a + 10)x = 1 - 18b$$

$$x = \frac{1 - 18b}{-2a + 10}$$

③ Solve for  $x$ :  $\frac{4x - 2}{8x + 7} = \frac{1}{2}$

(If not possible, explain why.)

$$\text{Cross-multiply: } 2(4x - 2) = 1(8x + 7)$$

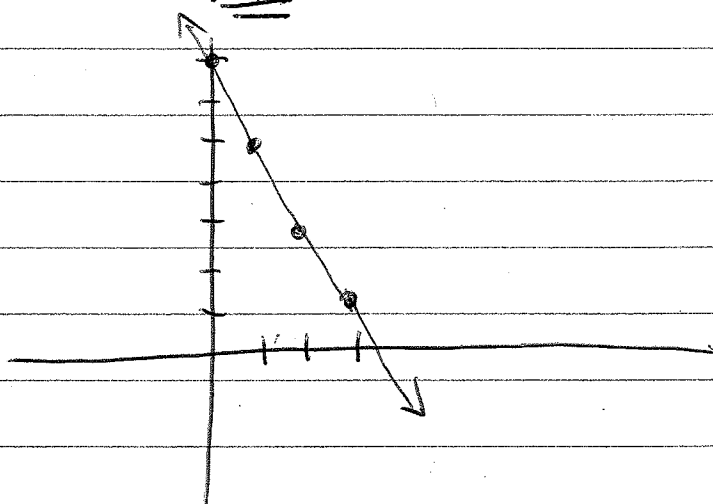
$$8x - 4 = 8x + 7$$

$-4 = 7$  (false, so there is no solution for  $x$ )

Math 115 Quiz #1 No calculators; show all work 9/2/09

① Plot the graph of  $y = 7 - 2x$ , using the table:

x	0	1	2	3
y	7	5	3	1



② Solve for  $x$ :  $4 - 2(x - 2b) = ax + 3$   
(if not possible, explain why.)

$$4 - 2x + 4b = ax + 3$$

$$+2x \quad -3 \quad +2x \quad -3$$

$$4 + 4b - 3 = ax + 2x$$

$$4b + 1 = (a + 2)x$$

$$\Rightarrow x = \frac{4b + 1}{a + 2}$$

~~$4 - 2(x - 2b) = ax + 3$~~

③ Solve for  $x$ :  $\frac{5x + 1}{10x - 3} = \frac{1}{2}$

(if not possible, explain why.)

$$\text{Cross-multiply: } 2(5x + 1) = 1(10x - 3)$$

$$10x + 2 = 10x - 3$$

$$2 = -3, \text{ a false statement,}$$

so there is no solution. (i.e. it's not possible to solve for an  $x$

which makes the equation work.)