

1) Simplify:

$$4(2x + 5) - 2(x - 6)$$

$$\underline{8x + 20} - \underline{2x + 12}$$

$$\boxed{6x + 32}$$

2) Graph the system linear equations and identify the solution

$$y = \frac{1}{2}x + 1$$

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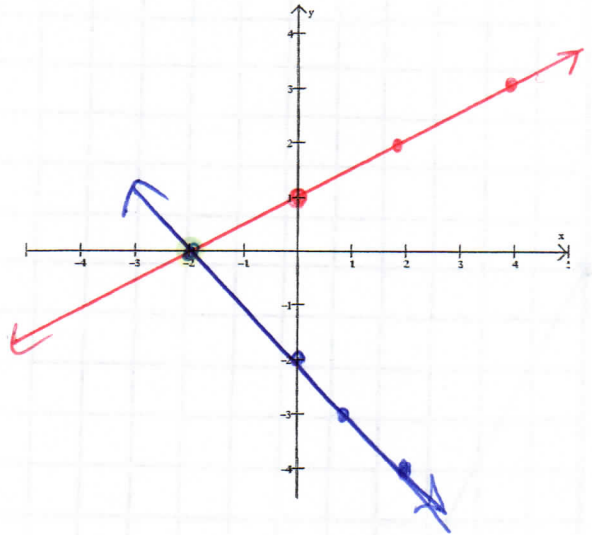
$$y = -x - 2$$

$$y = -x - 2$$

x	y
0	1
2	2
4	3

$$\boxed{(-2, 0)}$$

x	y
0	-2
1	-3
2	-4



3) Solve the system of linear equations

$$-3(-7x + y = -19)$$

$$-2x + 3y = -19$$

$$\rightarrow \begin{array}{r} 21x - 3y = 57 \\ + -2x + 3y = -19 \\ \hline 19x = 38 \end{array}$$

$$19x = 38$$

$$x = 2$$

$$-2x + 3y = -19$$

$$-2(2) + 3y = -19$$

$$-4 + 3y = -19$$

$$3y = -15$$

$$y = -5$$

$$\boxed{(2, -5)}$$

4) Down on the Farm: Old McDonald had a farm, E-I-E-I-O. And on that farm he had some ducks and sheep. There are 23 animals on the farm and 64 feet. Write a system of equations that would enable you to find the number of ducks and the number of sheep that are on Old McDonald's farm. Then use your equations to find out how many ducks and sheep are on the farm.

**BONUS!!!** Graph your system of linear equations on the back and find the solution graphically.

$$s + d = 23$$

$$4s + 2d = 64$$

$$\begin{array}{r} -2s - 2d = -46 \\ + 4s + 2d = 64 \\ \hline 2s = 18 \end{array}$$

$$\boxed{s = 9}$$

$$\boxed{d = 14}$$

5) Perimeter Question: A rectangle garden has a width of  $2x - 3$  and a length of  $4x - 7$  and a perimeter of 52 feet. What is the length and width of the garden to the nearest foot?

$$2x - 3$$

$$4x - 7$$

$$P = 52$$

$$2(2x - 3) + 2(4x - 7) = 52$$

$$\underline{4x - 6} + \underline{8x - 14} = 52$$

$$12x - 20 = 52$$

$$+20 \quad +20$$

$$12x = 72$$

$$x = 6$$

$$\boxed{\text{Length} = 17 \text{ feet}}$$

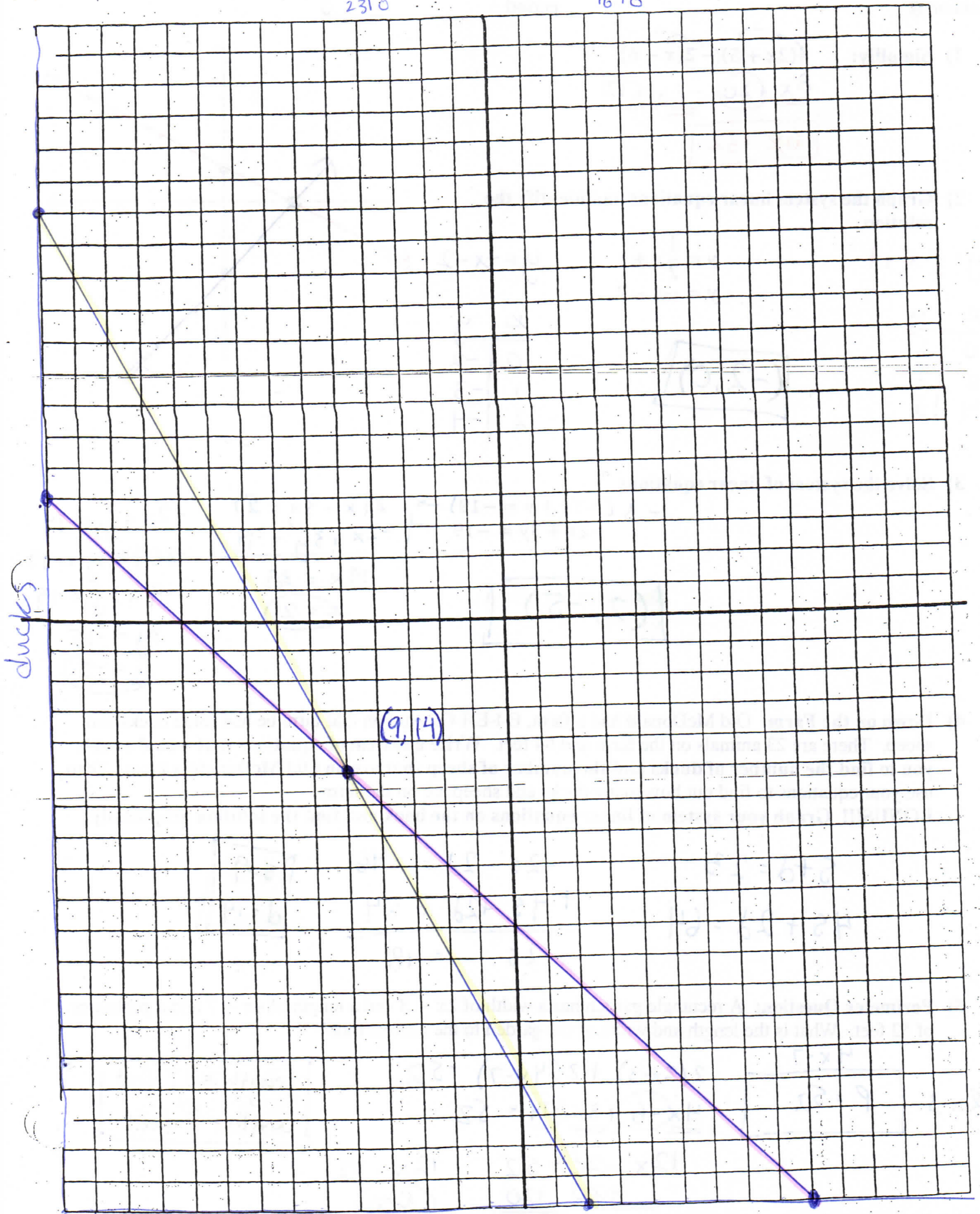
$$\boxed{\text{width} = 9 \text{ feet}}$$

$$s + d = 23$$

$$\begin{array}{r|l} s & d \\ \hline 0 & 23 \\ 23 & 0 \end{array}$$

$$4s + 2d = 64$$

$$\begin{array}{r|l} s & d \\ \hline 0 & 32 \\ 16 & 0 \end{array}$$



0,0

sheep

(8) 1/4-inch grid S215