Linear Systems LS1

Solving Linear Systems by Graphs and Tables

Homework

Name KEY

Date _____ Period _____

1. Complete the following tables to find the solution to the system.

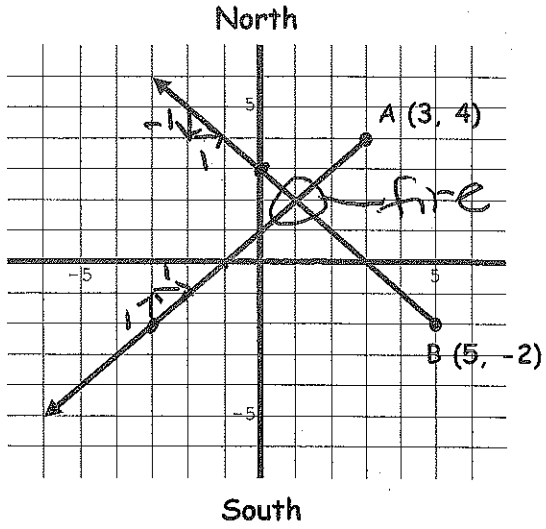
a. (1, -1)

x	$y = x - 2$	$y = -2x + 1$
-2	-4	5
-1	-3	3
0	-2	1
1	-1	-1
2	0	-3

b. (-2, 1)

x	$y = \frac{1}{2}x + 2$	$y = -x - 1$
-2	1	1
-1	1.5	0
0	2	-1
1	2.5	-2
2	3	-3

2. Fire tower A spots a thread of smoke due southwest from its location at (3, 4) on a giant coordinate system. Fire tower B spots that same thread of smoke on a line due northwest for (5, -2).



a. What is the equation of the line of sight from A in slope intercept form?

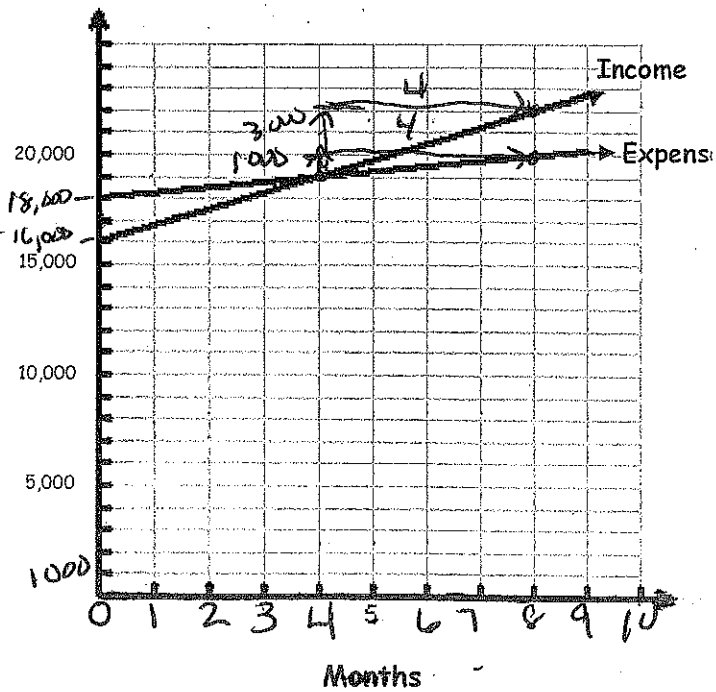
$b = 1$, $m = 1$ $\quad y = x + 1$

b. What is the equation of the line of sight from B in slope intercept form?

$b = 3$, $m = -1$ $\quad y = -x + 3$

c. Where is the fire? (1, 2)

3. The graph shows the income and expenses for Karl's car rental company. Remember the profit is the income minus the expenses. $P = I - E$



a. After how many months will Karl begin to make a profit? After 4 months he will make a profit.

b. What does the point of intersection represent? This point is where he will break even as Income = Expenses at this point

c. Write an equation to represent the expenses. $E = 250m + 18000$

$b = 18{,}000$, $m = \frac{1000}{4} = \$250$ per month

d. Write an equation to represent the income. $I = 750m + 16000$

$b = 16{,}000$, $m = \frac{3000}{4} = \$750$ per month