

### EXAMPLE

Solve the system of equations using the graphical method by using MS Excel.

Remember, all computer programs graph using sets of coordinate pairs.

Steps:

put all equations in function form [  $y = mx + b$  ]

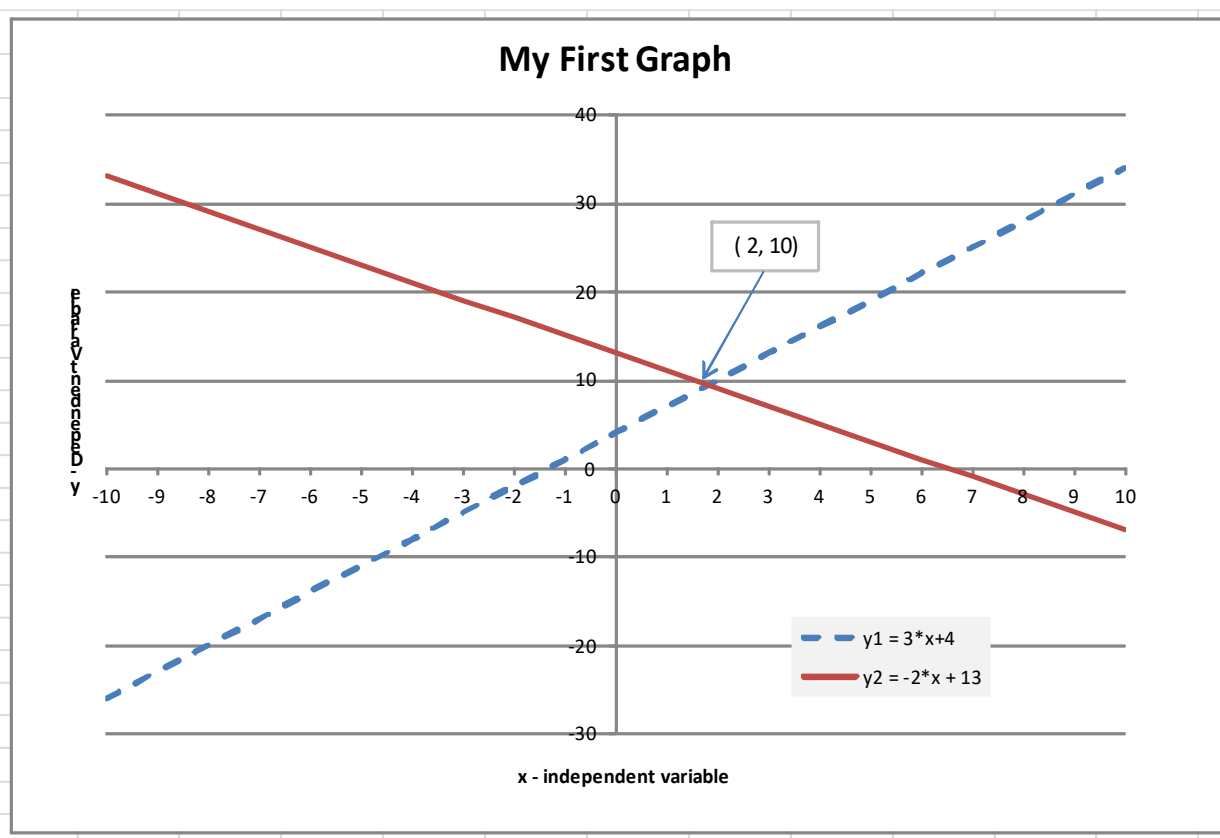
Create the DOMAIN - usually -10,-9, -8, ..., 10 in an Excel column

Write the function in an adjacent column

Use MS Excel line graph tool(s)

Graphically identify the line intersection.

Domain	Range	
	$y_1 = 3x + 4$	$y_2 = -2x + 13$
x		
-10	-26	33
-9	-23	31
-8	-20	29
-7	-17	27
-6	-14	25
-5	-11	23
-4	-8	21
-3	-5	19
-2	-2	17
-1	1	15
0	4	13
1	7	11
2	10	9
3	13	7
4	16	5
5	19	3
6	22	1
7	25	-1
8	28	-3
9	31	-5
10	34	-7



**Solve the three homework problems below using MS Excel and the graphical technique. Include a hand solution as well.**

**Problem 1:**                       $x - y = 20$                        $2x + y = 15$

**Problem 2:**                       $3x^2 - 20 - y = 0$                        $y = 2 \sin(x) - 4$

**Problem 3**                       $2x - 3y = 0$                        $\ln(4x) + y = 8$

**Problem 4:** You presently have \$300 and make \$8.50/hour while you friend Billy Bob presently has \$735 and makes \$7.00/hour. Assuming neither of you spend any money, how many hours will you have to work until you both have the same amount of money?

Define your variables:

let x be the number of hours you work

let y be the amount of money you make

Explicitly identify the answer.

**Send the Excel file to mheinen\_1@msn.com as an e-mail attachment no later than Feb 12, 2018.**

**Name the Excel file as follows: LastName-Comp\_Lab-1.xlsx (Excel will automatically add the ".xlsx" suffix)**