3.2 Assignment

Complete all questions below and submit them on Friday. This assignment will be marked! It’s an opportunity to bring up your course mark so don’t waste your time.

1. Find the point closest to the solution of the system below:

![Graph with two lines and a point of intersection](image)

POI =

2. For the lines below:
   a. Write the equation of each line
   b. Determine the POI

![Graph with two lines and a point of intersection](image)

Equation 1: 

Equation 2: 

POI =
3. Solve the following by graphing. Check each answer with the t-chart provided (remember, LS=RS if your solution is correct!)

a. ① \( y = -7x + 5 \)  
    ② \( y = 6x - 7 \)  
    POI = 

b. ① \( y = -2x + 1 \)  
    ② \( y = x - 5 \)  
    POI = 

c. ① \( y = -\frac{1}{2}x + 3 \)  
    ② \( y = -\frac{3}{2}x - 2 \)  
    POI = 

d. ① \( y = x + 3 \)  
    ② \( y = -\frac{1}{2}x \)  
    POI = 

4. Solve the following by graphing. You may need to rearrange the equation to isolate for y before solving!

e. \( 1 \) \(-2x + 2y = -4 \) \( 2 \) \(3x + 3y = -18 \) \( \text{POI} = \) 

\[
\begin{align*}
\text{Graph} & : \\
y & = \frac{1}{2}x - 2 \\
& \text{ or } x = 2y + 4 \\
& \text{ or } y = -\frac{1}{3}x - 6
\end{align*}
\]

\[
\text{Point of Intersection (POI): } (-2, 1)
\]

f. \( 1 \) \(-9x + 3y = 27 \) \( 2 \) \(8x + 8y = 40 \) \( \text{POI} = \) 

\[
\begin{align*}
\text{Graph} & : \\
y & = \frac{3}{4}x - 9 \\
& \text{ or } x = \frac{4}{3}y + 10 \\
& \text{ or } y = -\frac{1}{8}x + 5
\end{align*}
\]

\[
\text{Point of Intersection (POI): } (-1, 2)
\]
5. Sandra is going to have a 40th birthday bash. She wants to rent a party room in a restaurant for the evening. Da Giovanni charges $750 to rent the restaurant plus $75 per person. Marco’s charges $500 to rent the restaurant plus $100 per person. Let $C$ represent the total cost, and $n$ represent the number of guests.

a. Write an equation to represent the total cost for:
   Da Giovanni (2 marks)

b. Write an equation to represent the total cost for Marco’s (2 marks):

c. Find the number of guests for which the total cost is the same at both halls. (4 marks)

d. Graph the equations. (3 marks)

6. Sherwood Tennis Club charges a $150 initial fee to join the club, and then a $20 monthly fee. Coronation Tennis Club charges an initial fee of $100 and $30 per month.

a. Write an equation to represent cost to be a member.

b. Write an equation to represent the cost to be a member of the


c. Graph the equations from parts (a) and (b)

d. Find the point of intersection of the lines. What does this point represent?

e. If you were planning to join for a year, which club would you join and why?