

Math 20P:

Unit 1 Assignment 1

Due: Tuesday September 9th Period 5

SHOW ALL WORK AT ALL TIMES

You will receive marks for showing your work.

1. For the following system:

$$6x + 2y = 14$$

$$4x + 3y = 5$$

- a. Rewrite the equations in terms of y (i.e. $y=...$).
- b. Draw the equations on a graph.
- c. Enter the two lines into a calculator, find an appropriate window and record it in the form $[x : x : x]$ & $[y : y : y]$.
- d. Use the graph to find the solution.
- e. Solve the system using substitution.
- f. Solve the system using elimination.

2. For the following system:

$$3x + 9y = 18$$

$$2x + 6y = 11$$

- a. Find how many solutions the system has?
- b. Show this graphically

3. For the following system:

$$\begin{aligned}3x + ry &= -3 \\ -9x - 18y &= 9\end{aligned}$$

- a. Show that $r=6$ for the system to have infinite solutions

4. Use substitution to solve this system of equations.

$$\begin{aligned}4(3x - 2) - (4y - 5) &= 1 \\ -7(2x + 4) - 3(3 - 3y) &= 19\end{aligned}$$

5. Use substitution to solve this system of equations.

$$\begin{aligned}3x - 6z &= 6 \\ 2y - 2z &= -4 \\ x + -3y &= 9\end{aligned}$$

6. Solve the system of equations using elimination.

$$\begin{aligned}\frac{1}{2}(2x - 4) - \frac{5}{6}(y - 2) &= \frac{1}{6} \\ \frac{x + 2}{4} - \frac{y - 4}{2} &= \frac{1}{6}\end{aligned}$$