

Chapter 6 Worksheet
MAC1105 College Algebra

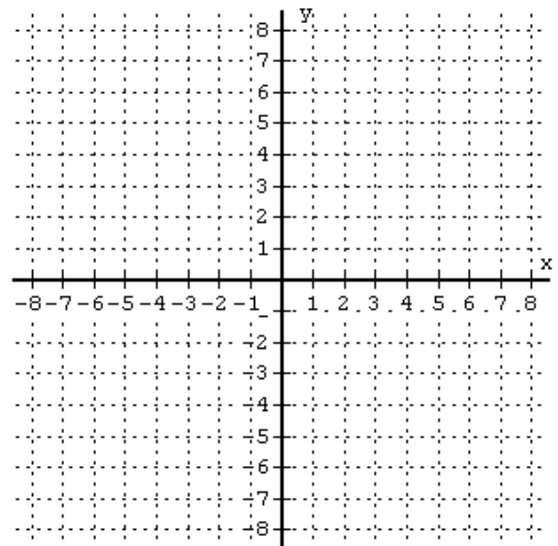
Name _____
Class _____

Section 6.1

- 1) Solve Graphically (by hand)

$$y = 3x - 5$$

$$y = 2x - 1$$



- 2) Solve using the Substitution Method. Show your work

$$3x - 2y = 17$$

$$y = x - 6$$

- 3) Solve using the Elimination Method (Addition/Elimination Method). Show your work.

$$5x + 2y = -3$$

$$4x + 3y = 6$$

Section 6.2

- 4) Solve by hand (use Back-Substitution). Show your work.

$$3x - 2y + z = -4$$

$$5y - 2z = 4$$

$$2z = 6$$

Section 6.3

- 5) Solve the following system of equations:

First, write the corresponding Augmented Matrix.

Next, use your calculator to convert the matrix to reduced row echelon form (rref).

Write down the converted matrix in reduced row echelon form.

Finally, state the solution to the system of equations.

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

$$x + 4y - z = 9$$

$$-3x + y - 5z = 5$$

- 6) Solve the following system of equations:

First, write the corresponding Augmented Matrix.

Next, use your calculator to convert the matrix to reduced row echelon form (rref).

Write down the converted matrix in reduced row echelon form.

Finally, state the solution to the system of equations.

$$-w + 2x - 3y + z = -8$$

$$-w + x + y - z = -4$$

$$w + x + y + z = 22$$

$$-w + x - y - z = -14$$

Section 6.4

Let Matrix $A = \begin{bmatrix} 3 & 2 \\ 5 & 7 \end{bmatrix}$ and let Matrix $B = \begin{bmatrix} 2 & 1 \\ -3 & 4 \end{bmatrix}$

- 7) Calculate $2A + 3B$. Show your work.
- 8) Calculate the product AB . Show your work.

Section 6.6

- 9) Find the following determinant. You may use the pitchfork method, evaluate by cofactors, or use Cramer's Rule.

$$\begin{vmatrix} 2 & x & y \\ 3 & -1 & 2 \\ 1 & -2 & 4 \end{vmatrix}$$

Section 6.7

- 10) Graph (& Shade) the System of Inequalities

$$x + y \leq 10$$

$$y \geq x + 1$$

$$x \geq 2$$

$$y \leq 7$$

