Name_____

ALGEBRA II JOURNAL
Systems of Equations

1. Complete the following table:

Situation	Slopes/Intercepts	Number of Solutions
Same line		
Intersecting lines		
Parallel lines		

2. The 5 methods for solving a system of linear equations are:
   a) c) e)
   b) d)

3. To solve a system of two equations with your calculator you must:
   a)
   b)

4. When using substitution to solve a system of equations, the best variable to isolate is the variable with _____ .

5. a) An equation with two variables to the first power represents _____ .
   b) An equation with 3 variables to the first power represents _____ .
   b) When you solve a system of equations with 2 variables and find the answer to be a single point (x,y), that point represents where _____
   c) When you solve a system of equations with 3 variables and find the answer to be a single point (x,y,z), that point represents where _____

5. a) The **<u>two</u>** *visual* differences between a determinant and a matrix are _____ _____ and _____ .
   b) The result of calculating a determinant is _____ .

6. The best method to use to solve a system of equations containing 4 or more equations with 4 or more variables is _____ .

7. The solutions to a system of **inequalities** are found by _____ _____ .

8. a) The purpose of linear programming is _____ _____ .
   b) In linear programming, the graph of the inequalities will form a _____ and the possible solutions will be located at _____ .

c) You can determine which information to use when writing the ***function*** of a linear programming problem by _____ .

d) The two inequalities which are automatically included in most linear programming word problems are _____

9. List the following rules, facts, or formulas.

a) Formula for finding the value of a 2 x 2 determinant

$$\begin{vmatrix} a & b \\ c & d \end{vmatrix} =$$

b) Set up the determinants for solving a 3-variable system of equations using Cramer's Rule. Show the setup for solving for x, y, and z.

$$x = \frac{\quad\quad}{\quad\quad} \qquad y = \frac{\quad\quad}{\quad\quad} \qquad z = \frac{\quad\quad}{\quad\quad}$$

c) Show the first line of how to find the value of the following 3 x 3 determinant by hand.

$$\begin{vmatrix} a & b & c \\ d & e & f \\ g & h & i \end{vmatrix}$$

d) Formula for finding an inverse matrix given $[A] = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$.