PHYSICS 201
2ⁿᵈ HOMEWORK
Dr. V. Lempesis

Hand in: Tuesday 29ᵗʰ of October 2013

Student Name : _____

Student ID: _____

1. Use the method of augmented matrix to solve the following system:

$$5x + 11y - 21z = -22$$
$$x + 2y - 4z = -4$$
$$3x - 2y + 3z = 11.$$

2. Solve the following system

$$3x + 2y = 7$$
$$-4x + 5y = -40$$

3. Show that the numbers a, b are roots of the equation

$$\begin{vmatrix} 1 & x & x^2 \\ 1 & a & a^2 \\ 1 & b & b^2 \end{vmatrix} = 0.$$

4. If the following system has a unique solution then calculate a.

$$x + y + az = 6$$
$$2x + 3y + 4z = 0$$
$$3x + 4y + 5z = 1$$