ESO 208A; ESO 218

Computational methods in engineering

Assignment #3

Due date: September 5, 2013

Q1. Use Gauss elimination to solve:

$$4x_1 + x_2 - x_3 = -2$$
$$5x_1 + x_2 + 2x_3 = 4$$
$$6x_1 + x_2 + x_3 = 6$$

Employ partial pivoting and check your answers by substituting them into the original equations.

Q2. Given the equations:

$$2x_1 - 6x_2 - x_3 = -38$$
$$-3x_1 - x_2 + 7x_3 = -34$$
$$-8x_1 + x_2 - 2x_3 = -20$$

(a) Solve by Gauss-Jordan method.
(b) Substitute your results into the original equations to check your answers.