

Math 320 Linear Algebra Assignment # 2

1. For each of the following find all solutions to the system of equations do the following: i) write down the coefficient matrix for the system, ii) write down the augmented matrix for the system, iii) do Gaussian elimination on the augmented matrix, iv) use the previous part to write down a solution set for the system of equations

(a)

$$3x + 6y - 3z = 9$$

$$2x - 2y - 2z = 1$$

(b)

$$2x_1 + 2x_4 = 6$$

$$x_1 + x_2 + x_3 + x_4 = 7$$

$$3x_3 + 3x_4 = 1$$

(c)

$$3x_1 + 2x_2 + 3x_3 - x_4 = 1$$

$$3x_1 + x_3 + 4x_4 = 20$$

$$3x_1 + x_3 - 3x_4 = 11$$

$$2x_1 - 2x_2 + x_3 + 4x_4 = 14$$