Assignment 2

Dear Students,

Follow the exact instructions described in Assignment 1.

Best of Luck

N.B. Word files are not acceptable.

Questions

1. Solve the following system of linear equations by the Jacobi iterative Method, correct up to three decimal places.

$$83x + 11y - 4z = 95$$
$$7x + 52y + 13z = 104$$
$$3x + 8y + 29z = 71$$

   Answer: Your solution will come to the following approximate values:
   x = 1.057, y = 1.367, z = 1.961.

2. Solve the following system of linear equations by Gauss Seidel elimination method.

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

   Answer: Your solution will come to following approximate or exact values:
   x = 1.00, y = 1.00, z = 1.00.

3. Solve the following system of linear equations by Gauss Seidel elimination method.

$$10x_1 - 2x_2 - x_3 - x_4 = 3$$
$$-2x_1 + 10x_2 - x_3 - x_4 = 15$$
$$-x_1 - x_2 + 10x_3 - 2x_4 = 27$$
$$-x_1 - x_2 - 2x_3 + 10x_4 = -9$$

Answer: Your solution will come to following approximate or exact values:
$x_1 = 1, x_2 = 2, x_3 = 3, and\ x_4 = 0$