Homework 4

1. Let $A = [a_{ij}], B = [b_{ij}]$, and $C = [c_{ij}]$ be 3×3 matrices. Prove that $(AB)C = A(BC)$.

2. Solve the following system of linear equations;

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

$x_1 + x_2 + x_3 = 3.$

$x_1 + 2x_2 + x_3 - x_4 = 2.$

3. Solve the following system of linear equations;

$x_1 + x_2 + 3x_4 = 4$

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

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

$-x_1 + 2x_2 + 3x_3 - x_4 = 4$