KFUPM/ Department of Mathematics & Statistics/ 153/ MATH 260-01/ Quiz 2

Name: **ID #:** **Serial #:**

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1. Determine whether the vectors $v_1 = (5, 1, 2, 3)$, $v_2 = (1, -1, 0, 1)$, $v_3 = (1, 2, 1, 0)$ are linearly dependent or independent.

2. Find a basis and the dimension of the solution space of the system:

$$\begin{aligned} x_1 - 3x_2 + 2x_3 - 4x_4 &= 0 \\ 2x_1 - 5x_2 + 7x_3 - 3x_4 &= 0 \end{aligned}$$