QUIZ 3 FOR MATH 304-08, 2/13/2023 YOUR NAME _____

Fully explain why your answer is correct, in every question.

(1) (10 points) The solution set to this linear system is a subset of $\mathbb{R}^3$. Is it a subspace of $\mathbb{R}^3$?

$$2x_1 + x_3 = 0$$
$$x_2 + x_3 = 4$$

(2) (10 points) The solution set to this linear system is a subset of $\mathbb{R}^3$. Is it a subspace of $\mathbb{R}^3$?

$$2x_1 + x_3 = 0$$
$$x_2 + x_3 = 0$$

TURN OVER FOR MORE QUESTION(S)

(3) (10 points) Invert this matrix: $A = \begin{bmatrix} 1 & 0 & 2 \\ 0 & 1 & 0 \\ 0 & 1 & 1 \end{bmatrix}$.