

MATH 335 Quiz 1

Name: _____

Show all work. 10 points each.

1. Describe the solutions of the following system in parametric form. Give a geometric description of the solution set.

$$\begin{aligned}2x_1 + 2x_2 + 4x_3 &= 8 \\-3x_2 - 3x_3 &= 8\end{aligned}$$

2. Let $A = \begin{bmatrix} 3 & -1 \\ -9 & 3 \end{bmatrix}$ and $\mathbf{b} = \begin{bmatrix} b_1 \\ b_2 \end{bmatrix}$. Show the equation $A\mathbf{x} = \mathbf{b}$ does not have a solution for all possible \mathbf{b} and describe the set of all \mathbf{b} where it does have a solution.