Name: **Math 308-L**

Student ID #: **Quiz 4**

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1. **[4 points]** Let $A = \begin{bmatrix} 3 & 9 \\ 1 & 4 \end{bmatrix}$. Compute A^{-1}.

2. **[3 points]** Let $T(\mathbf{x}) = \begin{bmatrix} -7 & 3 & 2 \\ -2 & -2 & -3 \end{bmatrix} \mathbf{x}$. Which of these vectors are in the kernel of T?

   (No credit for just circling the right answer. Show some justification!)

$$\begin{bmatrix} 0 \\ 0 \\ 0 \end{bmatrix} \qquad \begin{bmatrix} -7 \\ 3 \\ 2 \end{bmatrix} \qquad \begin{bmatrix} 1 \\ 5 \\ -4 \end{bmatrix}$$

3. **[3 points]** Let S be the set of vectors $\begin{bmatrix} a \\ b \end{bmatrix}$ where $a^2 = b^2$. Is S a subspace of $\mathbb{R}^2$? Explain.