

example to show that one of the rules for vector space fails to hold.

9. Let $A = \begin{bmatrix} 1 & 4 & 2 \\ 0 & 2 & 1 \\ 3 & 5 & 3 \end{bmatrix}$ Find A^{-1} .

10. Let v_1, v_2, v_3 be non-zero vectors in \mathbb{R}^3 with $v_i^T v_j = 0$ for $i \neq j$. Prove that v_1, v_2, v_3 are linearly independent.