

Handwritten HW 20

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10. Find bases for the null space of the matrix below. Refer to the remarks that follow Example 3 in Section 4.2.

$$\begin{bmatrix} 1 & 0 & -5 & 1 & 4 \\ -2 & 1 & 6 & -2 & -2 \\ 0 & 2 & -8 & 1 & 9 \end{bmatrix}$$

Solution:

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44. Consider the polynomials $\mathbf{p}_1(t) = 1 + t$, $\mathbf{p}_2(t) = 1 - t$, and $\mathbf{p}_3(t) = 2$ (for all t). By inspection, write a linear dependence relation among \mathbf{p}_1 , \mathbf{p}_2 , and \mathbf{p}_3 . Then find a basis for $\text{Span}\{\mathbf{p}_1, \mathbf{p}_2, \mathbf{p}_3\}$.

Solution: