Linear Algebra

Instructions   Please write your name in the upper right-hand corner of the page. Use complete sentences, along with any necessary supporting calculations, to answer the following questions.

1. Find a spanning set for the null space of the matrix $\begin{pmatrix} 1 & 2 & 3 & 4 \\ 2 & 1 & 0 & 8 \end{pmatrix}$.

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2. In the vector space $C[0,1]$ of continuous functions on the interval $[0,1]$, consider the set of functions f such that $\int_0^1 f(x)\,dx = 1$. Is this sub*set* of $C[0,1]$ a sub*space*? Explain why or why not.