Find a basis for the column space, row space, null space and left null space of the four-by-five matrix A, where

$$A = \begin{pmatrix} 2 & 3 & -1 & 1 & 2 \\ -1 & -1 & 0 & -1 & 1 \\ 1 & 2 & -1 & 1 & 1 \\ 1 & -2 & 3 & -1 & -3 \end{pmatrix}.$$

Check to see that null space is the orthogonal complement of the row space, and the left null space is the orthogonal complement of the column space. Find $\text{rank}(A)$. Is this matrix of full rank?

Mark as completed