

MTH 329 Quiz 8

Sunday, March 31, 2024 4:50 PM

$$A = \begin{bmatrix} 4 & 2 & 0 \\ 1 & 6 & 7 \\ 9 & 1 & 8 \end{bmatrix} \xrightarrow{\text{rref}} \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

\Rightarrow row(A) has basis $\left\{ \begin{bmatrix} 4 \\ 2 \\ 0 \end{bmatrix}^T, \begin{bmatrix} 1 \\ 6 \\ 7 \end{bmatrix}^T, \begin{bmatrix} 9 \\ 1 \\ 8 \end{bmatrix}^T \right\}$

col(A) has basis $\left\{ \begin{bmatrix} 4 \\ 1 \\ 9 \end{bmatrix}, \begin{bmatrix} 2 \\ 6 \\ 1 \end{bmatrix}, \begin{bmatrix} 0 \\ 7 \\ 8 \end{bmatrix} \right\}$

$$\text{rank}(A) = 3$$