Quiz10

1. What's the nullity of A with

$$\text{ref}(A)=\begin{bmatrix}1 & 0 & -1 & 0\\ 0 & 1 & 1 & 0\\ 0 & 0 & 0 & 1\\ 0 & 0 & 0 & 0\end{bmatrix}$$

(a)1 (b) 2 (c) 3 (d) 4

(a)

2. If $A\mathbf{x}=\mathbf{o}$,with

$$\text{rref}(A)=\begin{bmatrix}1 & -3 & 0 & 1\\ 0 & 0 & 1 & 2\\ 0 & 0 & 0 & 0\end{bmatrix}$$

Null (A) is spanned by

(a) $\begin{pmatrix}-3\\1\\0\\0\end{pmatrix}\begin{pmatrix}1\\2\\0\\1\end{pmatrix}$ (b) $\begin{pmatrix}3\\1\\0\\0\end{pmatrix}\begin{pmatrix}-1\\-2\\0\\1\end{pmatrix}$ (c) $\begin{pmatrix}3\\1\\0\\0\end{pmatrix}\begin{pmatrix}-1\\0\\-2\\1\end{pmatrix}$ (d) $\begin{pmatrix}-3\\1\\0\\0\end{pmatrix}\begin{pmatrix}1\\0\\2\\1\end{pmatrix}$

(c)

3. If A is 3x4 matrix ,then rank(A) is at most_____.

(a)1 (b) 2 (c) 3 (d) 4

(c)

4. True or False

If $\mathbf{u_1},\mathbf{u_2},\ldots,\mathbf{u_n} \in R^n$ are linear independent ,then $M\mathbf{u_1},M\mathbf{u_2},\ldots\ldots,M\mathbf{u_n}$ are also linearly independent.

False

5. True or False

If A is mxn matrix , then $\text{Rank}(A^T)+\text{Nullity}(A^T)=m$.

True