Question 1 *True/False: Let A be any $m \times n$ matrix, then $\vec{0}$ is in $NulA$.*

Multiple Choice:

(a) *True* ✓

(b) *False*

Question 2 *True/False: Let A be any $m \times n$ matrix, then $\vec{0}$ is in $ColA$.*

Multiple Choice:

(a) *True* ✓

(b) *False*

Question 3 *True/False: Let A be any $m \times n$ matrix, then $ColA = Span\{\vec{a}_1, \ldots, \vec{a}_n\}$ where $A = [\vec{a}_1, \ldots, \vec{a}_n]$.*

Multiple Choice:

(a) *True* ✓

(b) *False*

Question 4 *True/False: Let A be any $m \times n$ matrix, then Col A is a subspace of* $\mathbf{R^n}$

Multiple Choice:

(a) *True*

(b) *False* ✓

Question 5 *True/False: Let A be any $m \times n$ matrix, then $ColA$ is a subspace of* $\mathbf{R^m}$

Multiple Choice:

(a) *True* ✓

(b) *False*

Question 6 *True/False: Let A be any $m \times n$ matrix, then $NulA$ is a subspace of* $\mathbf{R^m}$

Multiple Choice:

(a) *True*

(b) *False* ✓

Question 7 *True/False: Let A be any $m \times n$ matrix, then $NulA$ is a subspace of* $\mathbf{R^n}$

Multiple Choice:

(a) *True* ✓

(b) *False*

Question 8 *True/False: Let A be any $m \times n$ matrix, then A is* $\mathbf{R^m}$

Multiple Choice:

(a) *True*

(b) *False* ✓

Question 9 *Suppose* $\begin{bmatrix}1\\2\end{bmatrix}$ *is a solution to $A\vec{x} = \vec{0}$ where A is a 5×2 matrix. Is* $\begin{bmatrix}1\\2\end{bmatrix}$ *in Nul A?*

Multiple Choice:

(a) *Yes* ✓

(b) *No*

(c) *Not enough information given to determine*

Question 10 *Suppose* $A\begin{bmatrix}1\\4\end{bmatrix} = \begin{bmatrix}5\\6\\7\end{bmatrix}$. *Which of the following statements is true?*

Multiple Choice:

(a) $\begin{bmatrix}1\\4\end{bmatrix} \in ColA$

(b) $\begin{bmatrix}5\\6\\7\end{bmatrix} \in NulA$

(c) $\begin{bmatrix}5\\6\\7\end{bmatrix} \in ColA$ ✓
