12. A null space is a vector space.

A) True B) False

13. Col(A) is the set of all solutions to the equation $A\mathbf{x} = \mathbf{b}$.

A) True B) False

14. If $S = \{v_1, v_2, v_3, v_4, v_5, v_6\}$ is a linearly independent subset of $\mathbb{R}^6$, then S is a basis for $\mathbb{R}^6$.

A) True B) False

15. The number of variables in the equation $A\mathbf{x} = \mathbf{b}$ equals the dimension Nul(A).

A) True B) False

16. The vectors $\begin{bmatrix} 1 \\ 10 \\ -1 \\ 7 \end{bmatrix}$, $\begin{bmatrix} 5 \\ 0 \\ 3 \\ 2 \end{bmatrix}$, and $\begin{bmatrix} 1 \\ 1 \\ 1 \\ 1 \end{bmatrix}$ span $\mathbb{R}^4$.

A) True B) False