Section 4.3: True/False

1. A single vector by itself is linearly dependent.
2. If $H = \text{span}\{\mathbf{b}_1, \mathbf{b}_2, \ldots, \mathbf{b}_p\}$ then $\text{span}\{\mathbf{b}_1, \mathbf{b}_2, \ldots, \mathbf{b}_p\}$ is a basis for H.
3. The columns of an invertible $n \times n$ matrix form a basis for $\mathbb{R}^n$.
4. The linear dependence relation among the columns of a matrix can be affected by certain elementary row operations on the matrix.
5. A basis is a linearly independent set that is as large as possible.
6. A basis is a span that is as small as possible.