

Quiz (True/False)

Name: _____

Signature: _____

SHOW ALL YOUR WORK!

Mark each statement as **True** or **False**.

- () The equation $A\mathbf{x} = \mathbf{b}$ is consistent if the augmented matrix $[A \ \mathbf{b}]$ has a pivot position in every row.
- () If the augmented matrix $[A \ \mathbf{b}]$ is transformed into $[C \ \mathbf{d}]$ by elementary row operations, then the equations $A\mathbf{x} = \mathbf{b}$ and $C\mathbf{x} = \mathbf{d}$ have exactly the same solution sets.
- () if A is an $m \times n$ matrix and the equation $A\mathbf{x} = \mathbf{b}$ is consistent for some \mathbf{b} , then the columns of A span \mathbb{R}^m .
- () Every matrix is row equivalent to a unique echelon form.
- () The equation $A\mathbf{x} = \mathbf{0}$ has the trivial solution if and only if there are no free variables.
- () If an $n \times n$ matrix A has n pivot positions then the reduced echelon form of A is the $n \times n$ identity matrix.