☞ Quiz: Section 4.3 | Linear Algebra MATH 310 | October 11, 2018

Name: _____ | R. Hammack | Score: _____

1. Let $V = C(-\infty, \infty)$ be the vector space of all continuous functions $f : \mathbb{R} \to \mathbb{R}$. Let $W = \{f \in V \ : \ f(0) = 1\} \subseteq V$. That is, W is the set of all functions in V that equal 1 when you plug 0 into them.
   Is W is a subspace of V? Why or why not?

2. Let A be a fixed $m \times n$ matrix. Is the set $W = \{\mathbf{x} \in \mathbb{R}^n \ : \ A\mathbf{x} = \mathbf{0}\}$ a subspace of $\mathbb{R}^n$? Why or why not?