## Name:\_\_\_\_\_

- 1. Prove Theorem 4.1.1
- 2. Show that  $W = \{(a, b, a + 2b) | a, b \in \mathbb{R}\}$  is a subspace of  $\mathbb{R}^3$ .
- 3. Show that  $W = \{(a + 1, 3a, a + b) | a, b \in \mathbb{R}\}$  is **not** a subspace of  $\mathbb{R}^3$ .