MA 442 - Quiz

February 11

Name: _____ **BUID:** _____

Question 1. Suppose that $\{u, v, w\}$ form a basis for some vector space V. Show that $\{u, u + v, u + v + w\}$ is also a basis for V.

Question 2. Let W_1, W_2 be subspaces of a vector space V. Prove that

$$\dim(W_1 + W_2) \leq \dim W_1 + \dim W_2. \tag{1}$$