Assignment #3

Due in lecture on **Wednesday, April 22.**

Problems to do but not hand in:

§4.3, p. 214: Ex. 11, 18;

§4.4, p. 231: Exs. 3, 5, 6, 7, 8;

Problem E-2 below.

Problems to hand in:

§4.3, p. 214: Exs. 12, 14;

§4.4, p. 231: Exs. 1, 2, 4, 12, 18;

Problem E-1 below.

Problem E-1. In a vector space V, suppose that $\mathbf{u}, \mathbf{v}, \mathbf{w}$ are linearly independent. Prove that $\mathbf{u}+\mathbf{v}, \mathbf{u}+\mathbf{w}, \mathbf{v}+\mathbf{w}$ are also linearly independent.

Problem E-2. In a vector space V, suppose that $\mathbf{u}, \mathbf{v}, \mathbf{w}$ are linearly independent. What about $\mathbf{u}-\mathbf{v}, \mathbf{u}-\mathbf{w}, \mathbf{v}-\mathbf{w}$?