Mathematics 22a Homework Problems 1

Problems 1-5 are due Monday, September 28.

1. Let V be a real vector space. Prove:
if $\{v_1, \ldots, v_n\}$ are linealry independent, so are $\{v_1 + av_2, v_2, v_3, \ldots, v_n\}$ for every real number a.
2. if $\{v_1, \ldots, v_n\}$ span V, so do $\{v_1 + av_2, v_2, v_3, \ldots, v_n\}$ for every real number a.
3. Bamberg & Sternberg p. 47, problem 1.4.
4. B & S p. 48, problem 1.5.
5. B & S p. 49, problem 1.13.