Physics 116A **Homework Set #8** **Winter 2011**

DUE: TUESDAY MARCH 1, 2011

To receive full credit for the following problems, you must exhibit the intermediate steps that lead you to your final results.

1. Boas, p. 136, problem 3.8–14.

2. Boas, p. 141, problem 3.9–5.

3. Boas, p. 142, problem 3.9–17.

4. Boas, p. 142, problem 3.9–19(c).

5. Boas, p. 147, problem 3.10–5(a).

6. Boas, p. 147, problem 3.10–7.

HINT: Given $n+1$ vectors, where each vector has n components, write out the equations that determine whether these vectors are linearly dependent or not. Show that these equations constitute a system of n linear homogeneous equations with $n+1$ unknowns. What do you know about the possible solutions to such a system of equations?

7. Boas, p. 184, problem 3.14–15.