## Set 11 – due 17 November

"It is not enough to be wrong. One must also be polite."-N. Bohr

1) [10 points) Jackson 6.15 (a)–5, (b)–5.

2) [20 points] Jackson 7.2 (a)–17 (b)–3. Set all  $\mu$ 's=  $\mu_0$ . It will be convenient to express your answer in terms of the reflection coefficients at the two interfaces,

$$r_{12} = \frac{n_2 - n_1}{n_2 + n_1} \tag{1}$$

and

$$r_{23} = \frac{n_3 - n_2}{n_3 + n_2} \tag{2}$$

(although it will still not be very compact). Keep a copy of your solution; we will revisit this problem next week.

3) Jackson 7.16 [20 points] (a)–3, (b)–12, (c)–5. Yet another set of Fresnel equations! The materials which are the subject of this problem are called "birefringent." This was a given as a problem back when we had written comprehensive exams.