## 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 $\mu^{\prime}$ 's $=\mu_{0}$. It will be convenient to express your answer in terms of the reflection coefficients at the two interfaces,

$$
\begin{equation*}
r_{12}=\frac{n_{2}-n_{1}}{n_{2}+n_{1}} \tag{1}
\end{equation*}
$$

and

$$
\begin{equation*}
r_{23}=\frac{n_{3}-n_{2}}{n_{3}+n_{2}} \tag{2}
\end{equation*}
$$

(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.

