

**Physics 318, Spring 2008**

Problem set # 4, Feb 4 – Feb 8

10. Prob. 5.22 (due Feb 8)

11. Find the magnetic vector potential both *inside* and *outside* an infinite straight wire carrying a current  $I$ , if the wire has radius  $R$  and the current is uniformly distributed. [Note: use Ampere's law to find  $\vec{B}$  first;  $\vec{A}$  should be continuous across the boundary.] (due on Feb 11).