P8.1 Band curvature and effective masses Many measured transport properties such as the specific heat and the cyclotron frequency have the same form as for free electrons, provided the electron mass is replaced by an effective mass m^*. This problem shows that the value of m^* for a given crystal depends on the quantity measured. A&M Problem 12.2 shows how the different m^*'s are related for the important and tractable case of a semiconductor. Please do this problem.

P8.2 Band magnetoresistance and Hall coefficient A&M prob. 12.4.