Astronomy 801

Introduction to Astrophysics

Homework # 1, Due Thursday, Sep. 4, 1997

Show All Your Work

1. Problem 1.4
2. Problem 1.5
3. The diffraction pattern for a single slit (Figs. 6.7 and 6.8) is given by

$$I(\theta) = I_0 \left[\frac{sin(\beta/2)}{\beta/2)}\right]^2,$$

where $\beta = 2\pi D sin\theta/\lambda$. Calculate the ratio of the maximum of the first fringe to the central maximum.

4. Problem 3.7
5. Problem 3.11