

MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
Department of Physics

Physics 8.01X

Fall Term 2002

## PROBLEM SET 1

**Handed out: September 6**

**Due: September 13 at 4 pm**

Please write your name, subject, **recitation number**, and the name of the recitation instructor on the top right corner of the first page of your homework solutions. The solutions should be placed in the appropriate box

Note that sometimes you will be able to check your answer at the back of the book. You must always show your work for credit.

**Problem 1:** Young and Freedman 1-53.

**Problem 2: Fermi Estimation Problems**

To solve these problems, you will have to make some assumptions. State your assumptions as carefully as you can. If numbers are not given, just guess something reasonable that will give you an answer within an order of magnitude.

- a. Young and Freedman 1-20 (substitute “Fenway Park” for “Houston Astrodome”).
- b. Young and Freedman 1-26.
- c. Create and solve your own Fermi problem.

**Problem 3:** Young and Freedman 2-48.

**Problem 4:** Young and Freedman 2-60.