

PHYS 1211 *University Physics I*

Winter Quarter, 2007

Problem Set 1

Due: Monday, Jan. 8, 2007

INSTRUCTOR _____

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M&F 11am-12pm
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(or by appointment)

FERMI PROBLEMS _____

The following problems are **NOT** research problems (no google-ing), nor should they require detailed measurements or calculations. In the spirit of Enrico Fermi's famous estimate of the energy released in the world's first nuclear detonation, make an estimate for any **FOUR** of the following seven quantities. **EXPLAIN YOUR THOUGHT PROCESS**, and be sure to state your assumptions!! This is the most important part of your grade, more important than the actual number you determine. Each part below is worth 10 points.

1. How many bricks are in University Hall?
2. How many hockey pucks would it take to fill Magness Arena?
3. How many ski/snowboard tuners are there in the Denver metro area?
4. How many miles of Interstate highway are there in the continental United States?
5. How many gallons of gasoline are used in the United States each day?
6. How much money was Todd Helton (the first baseman for the Colorado Rockies) paid per swing last baseball season?
7. How many times has Britney Spears performed the song "Oops...I did it again" live?

HALLIDAY, RESNICK, AND WALKER (HRW) _____

Read Chapter 1.

Complete the following problems from HRW Chapter 1: 1, 5, 7, 9, 11, 12, 14, 16, 23, 49 (each is worth 6 points)