*DUE: WEDNESDAY JANUARY 16, 2008*

Textbook reading: Giancoli, Chapter 13, sections 1–9.

1. True/false questions: For each of the following statements, indicate whether the statement is true or false. Briefly explain your reasoning (for example, if false, provide a counter-example).
   (a) If one material has a higher density than another, the molecules of the first must be heavier than the molecules of the second.
   (b) A submerged can of Coca Cola will sink, but a can of Diet Coke will float.
   (c) A row boat floats in a swimming pool, and the level of the water at the edge of the pool is marked. If the boat is removed from the water, then the level of the water will fall.
   (d) A row boat floats in a swimming pool, and the level of the water at the edge of the pool is marked. An iron anchor, originally inside the boat, is removed and dropped into the pool. The level of the water will rise.
   (e) A tall Styrofoam cup is filled with water. Two holes are punched in the cup near the bottom, and water begins rushing out. If the cup is dropped so it falls freely, the water will continue to flow from the holes.
   (f) A gallon of crude oil weighs more than a gallon of water.
2. Giancoli, Chapter 13, problem 6
3. Giancoli, Chapter 13, problem 14
4. Giancoli, Chapter 13, problem 20
5. Giancoli, Chapter 13, problem 23
6. Giancoli, Chapter 13, problem 34
7. Giancoli, Chapter 13, problem 37
8. Giancoli, Chapter 13, problem 38
9. Giancoli, Chapter 13, problem 48
10. Giancoli, Chapter 13, problem 54