PHY2010 HW9 – Modes

1. (1 point) Describe the *gist* of the "small room problem."

2. (2 points) Name and describe the four frequency regions associated with modes in a room.

3. (2 points) What is meant by these three terms: axial, tangential, oblique? Which of these three types of modes tends to be the loudest?

4. (1 point) Two modes of a room exist at 500 Hz and 1000 Hz. If the Q value for the lower mode is 4, and for the higher mode is 3, find the bandwidth of each mode.

5. (2 points) Find the reverb times associated with the two modes in the previous problem.

6. (2 points) A room has dimensions 8m x 15m x 5m. Hint: *That was in meters*. Find the five lowest modes in the room and their associated mode numbers (e.g. 1,1,0).