PHYS 211 F 2013 Study Guide For Final

Format will be similar to Tests #1, #2, and #3; consists of regular questions, derivations, and problems.

1. Materials from Test #1, #2, #3: Go over these tests.
2. The equations will be provided, but you should be able to manipulate the equations to get what needed for a particular problem.
3. Chapters 13, 15, 16, & 17: Practice Wiley Plus assignments.
4. Solving problems using the law of gravitation () including finding the acceleration due to gravity outside a spherical planet.
5. Given the law of gravitation () and the centripetal force () finding the orbital speed of a satellite.
6. Solving problems using the gravitational potential energy: $U=-\frac{GMm}{r}$
7. For a simple harmonic motion, given the displacement as a function of time, finding the velocity and acceleration, and plotting them.
8. Given the wave speed in general ($v=λf$) and on a stretched string () finding the wavelengths of resonant modes and resonant frequencies.
9. Given the wave speed in general ($v=λf$) and the speed of sound in air, 344 m/s, finding the wavelengths of resonant modes and resonant frequencies for vibrating air columns.
10. Solving Doppler Effect problems, using the equation: 