

PHY 201 Final Exam Preparation

Fall semester, 2003

The purpose of this assignment is to help you prepare for the final exam. Fill in the appropriate laws or definitions; all variables must be defined somewhere in review sheet; draw a picture when appropriate (♣). Bring the completed assignment with you for use during the exam, and hand it in with your exam: it will count as part of your exam grade. Do not include any “extra” information on this assignment.

- Central limit theorem:

- Kepler's three laws

- Work
 - Define work done by object (vector form)♣

 - Potential energy:

 - Force given potential energy:

 - Conservative force:

- Parallel axis theorem:

- Center of mass: ♣

- Wave equation

v for a rope:

Superposition principle:

- Newton's law of gravitation: ♣

- Pascal's principle:

- Buoyancy force: ♣

- Thermodynamics
 - **Zeroth law of thermodynamics**

 - Thermal expansion ♣
 - * linear:

 - * volume:

 - Ideal gas law
 - * first form:

 - * second form:

 - Internal energy of ideal gas

 - Define triple point and Critical point ♣

 - First law of thermodynamics ♣

 - Heat capacity, give value for ideal gas

- * Constant volume

n degrees of freedom:

- * Constant pressure

n degrees of freedom:

- Define, give quantity that is constant for an ideal gas

- * isothermal

- * isobaric

- * isochoric

- * adiabatic

- Efficiency of an engine (2 forms): ♣

- Thermodynamic definition of entropy

- Define reversible & irreversible processes

- **Second law of thermodynamics**

- * First form

- * Second form

- * Third form

- * Fourth form

- Carnot's theorem

efficiency of Carnot cycle:

Fundamental laws are marked with bold face print.