

PHYS 2111 Homework Grading Rubric:

For full credit, a homework problem solution must contain the following components:

(A) Diagram(s) and given information:

- Large, clear, with important quantities illustrated and labeled;
- Variables invented and equated to numerical values given in problem;
- Meaning of symbols clear from diagram or defined in words

(B) Fundamental equations and principles

- Key principles and/or equations relevant to solving problems identified from *chapter summary*;
- Principles and/or equations identified by name, concept, or topic

(C) Algebraic derivations

- Correct method, clearly presented in a step by step fashion working down the page, begins from the basic equations/principles identified; reasoning explained; unknowns correctly solved for and given in algebraic/symbolic form.
- Common errors:
  - probably correct in idea but work is unclear to the grader, due to too few details presented;
  - little or no effort to work in symbolic terms;
  - little connection to the diagram.

(D) Numerical results

- Numerical values plugged into algebraic solutions with units displayed, reduction of units to final result clear and correct.
- Common errors:
  - units merely appended at the end or omitted entirely;
  - little regard for a reasonable number of significant figures and appropriate use of scientific notation