There are four long-answer questions. They are not all worth the same. There are also 4 shorter questions at the end!

You will be graded on the quality of your explanations (particularly on the long answer questions). Please be *brief* but *clear!* (A correct answer with *no* explanation or indication of how you got it will not be worth any points.)

You may use the purple crib sheet provided in class, the small "plasma data handbook" given out in class, and one page/one side of your own handwritten notes. Calculators are allowed but I suspect will not be useful.

If you need more room, use the back of the pages (or staple extra pages to the exam). Just BE SURE TO INDICATE CLEARLY that your work is *continued*, *(and where)* if you need more room than the problem page itself.

If you feel you are stuck with an integral you cannot do, ask me. (But I have tried to make integrals come out fairly elementary, at worst with some basic u-substitution.)

"On my honor, as a University of Colorado at Boulder student, I have neither given nor received unauthorized assistance on this work."