

Problem Set 8
(due Friday, March 26)

1. Problem 6.36, page 246.
2. Problem 6.38, page 246. Please change variables to x as in the example at the top of the page, then use Mathematica (or a sufficiently fancy calculator) to evaluate the integral numerically.
3. Problem 6.41, page 247.
4. Problem 6.44, page 251.
5. Problem 6.48, page 255.
6. Problem 6.52, page 256.
7. Problem 7.3, page 260. To check your answer you can look up the Saha equation (equation 5.130) in Section 5.6, which we didn't cover in the course. In that section the equation is written in terms of partial pressures, but in an ideal gas the ratio of the partial pressures of two components is the same as the ratio of the numbers of the corresponding particles. As part of this problem, please also check the arithmetic in equation 5.131, which applies the Saha equation to hydrogen at the surface of the sun. This calculation will prepare you for the following problem.
8. Problem 6.8, page 227. This question is a follow-up on the previous problem.

Textbook Comments

Problem Set 8

With respect to the portion of your textbook that was covered by this problem set, including the problems themselves ...

Describe at least one thing that you liked about the book. Please be as specific as you can.

Describe at least one thing that you disliked about the book, or one way in which the book could be improved. Please be as specific as you can.