Physics 3180 (Thermal Physics)
spring 2010

Problem Set 10

(due Friday, April 9)

1. Problem 7.43, page 295. I actually suggest using a computer for the "sketch" as well as for the numerical integral. For both, it's easiest to change to the dimensionless variable x used in the text.
2. Problem 7.44, page 297. This problem will give you a chance to review several of the steps in the derivation of the formula for the photon spectrum. Be sure to include enough English to make the reasoning clear.
3. Problem 7.51, pages 303–304. In part (f), an approximate graphical estimate is sufficient.
4. Problem 7.52, page 304. For part (c), be sure to calculate the power per unit mass for both objects and make a quantitative comparison.
5. Problem 7.58, page 313.
6. Problem 7.63, page 313. This is yet another "flatland" problem that allows you to review the steps in the derivation and think about what changes in two dimensions. The results are relevant to a variety of materials that are effectively two-dimensional.

Textbook Comments

Problem Set 11

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.