Physics 410 - 2002

Thermal Physics

Problem Set 10

The solutions are due on **April 10**

1. For low temeperatures, find the heat capacity of an ultra-relativistic Fermi gas of N particles with spin 1/2 and energy $\varepsilon = pc$ (5 pt)

2. Chapter 7, p. 219, problem 5 (5 pt)

3. Chapter 7, p. 222, problem 11 (3 pt)

4. Chapter 7, p. 222, problem 12 (3 pt)

5. Chapter 8, p. 257, problem 1 (a),(b) (6 pt)

6. Chapter 8, p. 258, problem 4 (5 pt)

You need to have 24 points out of 27 (5 points are extra credit).

The problems are from Kittel & Kroemer, *Thermal Physics*, 2nd edition, (Freeman, NY 1980).