Physics 410 - 2002

Thermal Physics

Problem Set 10

1. Chapter 6, p. 178, problem 6 (5 pt)

2. Chapter 6, p. 179, problem 9 (5 pt)

3. Chapter 7, p. 218 problem 1 (5 pt)

4. Chapter 7, p. 218, problem 2 (5 pt)

5. Chapter 7, p. 219, problem 3 (5 pt)

6. 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)

You need to have 30 points.

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