

Physics A410: Thermal Physics

Problem Set 5

Assigned 2004 February 10
Due 2004 February 17

Show your work on all problems! Be sure to give credit to any collaborators, or outside sources used in solving the problems.

1 Schroeder 2.24

2 Schroeder 2.27

3 Schroeder 2.28

“Neglecting the factor of k ” is nonsensical on dimensional grounds. What Schroeder means is that you should calculate S/k (a dimensionless number) and also express S in SI units. Include in your answer a quantitative estimate of the entropy associated with the thermal energy of the cards. (This need not be precise, but should be reasonably explained.)

4 Schroeder 2.34