

Physics 335—Thermal Physics
Homework Assignment #4
Due Wednesday, September 25, 2024, 11:40 a.m.

Ch 2: Problems 2.34 and 2.42.

Hints: For problem 2.42 part (a), you merely need to show that the suggested combination has the correct units. In part (d), you might find it interesting to note that in Problem 2.36, the entropy of the sun is estimated to be on the order of 1×10^{35} J/K. Your result here for a black hole ought to be much larger than that.

Ch 3: Problems 3.7, 3.8, 3.10, and 3.14.

Hints: For Problem 3.14, you may assume that the entropy is 0 at $T = 0$ K.

(All problems count for 20 pts. each).