

Phys 404
Spring 2011
Homework 10, CHAPTER 8
Due Thursday, April 28, 2011 @ 12:30 PM

Chapter 8 assignment:

Read chapter 8, then do

1. K+K, Chapter 8, Problem 5
2. K+K, Chapter 8, Problem 6
3. K+K, Chapter 8, Problem 7
4. K+K, Chapter 8, Problem 10

Notes:

Problem 7 is confusing as stated. I would assume that 100 W of work is being done on the refrigerator, and that 100 W of heat is being dumped into the lower temperature reservoir by the light bulb. It is interesting to consider the more general case, where W work is being done per unit time in the refrigerator, and αW heat is being dumped into the lower temperature reservoir per unit time; what is the ratio of the upper temperature to the lower temperature in this case, as a function of α ?