Physics III
Homework Seven
Due Friday 11 May, 2007

1. What is the wavelength of 620 kHz radio waves?
2. What is the frequency of blue light with a wavelength of 425 nm?
3. The flux of sunlight per unit area facing the Sun is 1.37×10^3 Watts per square meter. (This is at the top of the atmosphere, not on the surface of the earth.) Assuming that the earth radiates like a blackbody, what is the equilibrium temperature of Earth? (Based on problem 6, p. 135, H. Ohanian, *Modern Physics*. Prentice Hall. 1987.)
4. Suppose the temperature of my woodstove increases from 400 to 600 degrees Fahrenheit. By what factor does the total energy radiated by the woodstove increase?
5. Krane, problem 3.5
6. **Optional:** Krane problem 3.4