

Atmospheric Sciences 101
Homework 4
Due November 18, 2003

Name _____ Section _____

1. A blackbody warms from 250°K to 300°K and the amount of radiation it emits changes. What is the ratio of the amount of radiation emitted at these two temperatures? (radiation at 300K/radiation at 250K)

2. If the Jupiter's upper cloud deck has a temperature of 173°K and the temperature of Mercury's surface is 533°K, what is the wavelength of peak emission for each body? To what part of the electromagnetic spectrum does each of these two wavelengths belong?

3. An object of mass 2 kg is being accelerated from rest at an acceleration of 5 m s^{-2} . What is its new speed 30 minutes later if the acceleration is always along the direction of motion?

