**PRACTICAL PROBLEMS**

1. A laser emits light of frequency 4.74 x 1014 sec-1. What is the wavelength of the light in nm?
2. A certain electromagnetic wave has a wavelength of 625 nm. a) What is the frequency of the wave? b) What region of the electromagnetic spectrum is it found? c) What is the energy of the wave?
3. The blue color of the sky results from the scattering of sunlight by air molecules. The blue light has a frequency of about 7.5 x 1014 Hz. a) Calculate the wavelength, in nm, associated with this radiation. b) Calculate the energy, in joules, of a single photon associated with this frequency.
4. What is the E in joules for an atom that releases a photon with a wavelength of 3.2 x 10-7 meters?
5. The retina of a human eye can detect light when radiant energy incident on it is at least 4.0 x 10-17 J. For light of 600 nm wavelength, how many photons does this correspond to?