Electrons in Atoms:

c= 3.0 E8 m/s h=6.63 E-34 J·s

1. What is the frequency of light with a wavelength (λ) of 1.87 E-14 m?

2. What is the wavelength of light with a frequency (υ) of 5.6 E14 Hz?

3. What is the abbreviation for Planck's equation?

4. The electron in a hydrogen atom undergoes an Energy transition. The photon that is released has an E of 4.09 E-19 J.

   a) Calculate the frequency (υ) of the photon.

   b) Calculate the wavelength (λ).

5. Is the photon in question 4 ultraviolet, visible, or infrared?

6. The electron in the hydrogen atom undergoes an Energy transition. The photon that is released has an E of 1.94 E-18 J.

   a) Calculate the frequency (λ) of the photon.

   b) Calculate the wavelength (λ) of the photon.

7. Is the photon in question 6 ultraviolet, visible, or infrared?