1. Calculate the wavelength of light associated with the transition from *n* = 1 to *n* = 3 in the hydrogen atom.
   1. Ans) 103 nm
2. Calculate the frequency of light associated with the transition from *n* = 2 to *n* = 3 in the hydrogen atom.
   1. Ans.) 4.57 × 1014 s-1
3. Determine the end (final) value of n in a hydrogen atom transition, if the electron starts in *n* = 4 and the atom emits a photon of light with a wavelength of 486 nm.
   1. Ans) n=2
4. Determine the end (final) value of n in a hydrogen atom transition, if the electron starts in *n* = 2 and the atom absorbs a photon of light with a frequency of 4.57 × 1014 Hz.
   1. Ans.) n=3
5. Determine the end (final) value of n in a hydrogen atom transition, if the electron starts in n = 1 and the atom absorbs a photon of light with an energy of 2.044 × 10-18 J.
   1. Ans.) n=4
6. Calculate the wavelength in nm of a line in this series resulting from n = 6 and follows the Paschen series. Where would this line be found in the electromagnetic spectrum?
   1. Ans) *1090 nm Infrared region*
7. Calculate the wavelength of light emitted when an electron changes from n = 3 to n = 1 in the hydrogen atom. In what region of the spectrum is this radiation found?
   1. Ans.) *103 nm Ultraviolet region*