**HomeWork 15**

**Due Friday 11/13/15**

**Your name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_/6**

1) Imagine that the atomic nucleus is represented by a ping pong

 ball which has a radius of 20 mm.

a) What is the ~ radius of the electronic cloud given the above in

 miles ?

 \_\_\_\_\_\_\_\_\_\_\_\_\_ miles

b) Suggest a sensible metaphor for the distance you calculated for

 the electronic cloud radius given that the nucleus is the ping

 pong ball.

 2) Given that c= 3\*108 m/s:

a) what is the wavelength of light λ in meters associated with 6

 Hz ?

 λ= \_\_\_\_\_\_\_\_\_ m

b) what is the frequency of light, f, in Hz associated with a

 wavelength of 10-5 m.

 f= \_\_\_\_\_\_\_\_\_\_\_\_ Hz

3) According to the photoelectric effect, which part of the light `wave’ below determines the real energy of the light ?? Amplitude or wavelength (=c/f)

Which light wave to the left is most likely to cause electrons to `jump’ in the Photoelectric effect ?

**High Medium Low**

