**SI WORKSHEET 17**

**BEFORE WE START: ARE THERE ANY QUESTIONS ON THE TEST MATERIAL?**

1. An X-ray of a wavelength of .5 nm (nanometers) has how much energy? Compare this with the energy of a 5 meter radio wave….which has more energy?
2. An electron on the Hydrogen atom goes from the third energy level to the ground state. Is this an exo or endothermic process and how much energy is absorbed/released?
3. The principal quantum number determines \_\_\_\_\_\_\_\_\_\_. The subsidiary quantum number determines \_\_\_\_\_\_\_. The magnetic quantum number determines \_\_\_\_\_\_\_\_ and the spin quantum number determines ­­\_\_\_\_\_.
4. What are the Aufbau principle, the Pauli Exclusion Principle, and Hund’s Rule?
5. What is the condensed electron configuration for Silver?
6. What is the noble gas notation for Mercury?
7. Quantum numbers are used to tell where an electron is on an atom in a similar fashion to how a housing address tells where you are located. An electron has the quantum numbers: 5,2, 0, +1/2, which electron is this?

Challenge: an electron on the hydrogen atom moves from the n=2 🡪ground (n=1) state. How fast does the electron move (its velocity)?