Name_____ **Date**_____

Review Problems: Unit 2 Test

1) A red light has a wavelength of 7.28×10^{-7} m. What is the frequency of the light?

2) A purple light has a frequency of 7.42×10^{14} Hz. What is its wavelength?

3) Hospital x-rays use waves that have a length 2.19×10^{10} m. What is the frequency of the x ray?

4) What is the wavelength of the quantum of light with a frequency of 7.39×10^{14} Hz?

5) Calculate the energy possessed by a single photon of each of the following types of electromagnetic radiation.

a) 6.32×10^{20} Hz

b) 9.50×10^{13} Hz

c) 1.05×10^{16} Hz

6) A light has a wavelength of 4.50×10^{-9} meters. How much energy does one photon of this light carry? (NOTE: You need to calculate the frequency first).

Write the orbital diagrams, electron configurations, and Lewis Dot Structures for the following elements:

7) Calcium (Ca)

Orbital Diagram	Electron Configuration	Lewis Dot Structure

8) Bromine (Br)

Orbital Diagram	Electron Configuration	Lewis Dot Structure

9) Strontium (Sr)

Orbital Diagram	Electron Configuration	Lewis Dot Structure

10) Who developed the Plum Pudding Model of the atom?

11) Which variable is the one that the researcher changes during an experiment?