Ch. 4 Test Practice (and mole math review)…

For questions 1-3…

1) Sb (Z = 51)
2) Pa (Z = 91)
3) Og (Z = 118)

…complete the following:

a) Complete electron configuration, underlining the valence parts
b) Condensed electron configuration
c) Valence electron configuration
d) List of electrons in order by energy level
e) Total number of electrons
f) Number of valence electrons
g) Number of electrons in the fourth energy level (n= 4)
h) Valence orbital notation (Aufbau “boxes”)
i) Dot diagram (Lewis structure)

4) Calculate the frequency of a wave with wavelength of 1.70×10^{-11} m.

5) What is the energy of a wave moving at a frequency of 5.111×10^{15} Hz?

6) How many moles of calcium are equivalent to 4.08×10^{24} atoms of calcium?

7) How many grams of Ba are found in 2.6 moles of Ba?

8) Calculate the number of moles in 3880 L of oxygen gas at STP.