

Non Sibi High School

Andover's Chem 250: Introductory/Basic Chemistry

Chapter 7, Review Quiz 1

1

Determine the number of protons, neutrons, and electrons in:

- a neutral platinum-198 atom
- $^{126}\text{Te}^{2-}$
- $^{54}\text{Cr}^{3+}$

2

Write a symbol that includes atomic number, mass number, and charge for the species with 51 protons, 72 neutrons, and 54 electrons.

3

Copper has two naturally occurring isotopes, copper-63 and copper-65. Calculate the average atomic mass of copper using the information in the table below:

isotope	mass	% natural abundance
^{63}Cu	62.930	69.12%
^{65}Cu	64.928	30.88%

4

Write the complete electron configuration and specify the number of valence electrons for iodine.

5

Write the shorthand noble gas electron configuration and specify the number of valence electrons for zirconium.

6

Write the shorthand noble gas electron configuration for:

- As³⁻
- Sn²⁺ and Sn⁴⁺

7

For each of the following, write the orbital diagram, determine the number of unpaired electrons, and state whether the atom or ion is paramagnetic or diamagnetic:

- Te
- V³⁺



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Contact: kcardozo@andover.edu