

1. Write the complete electron configuration for Ni and Sn.

Ni

Sn

2. Write the electron configurations for the following elements, using the noble gas abbreviation.

Ni

Al

Sn

U

Bi

Pb

Br

Eu

Xe

Rb

Mn

Cf

3. Valence electrons are the electrons in the outermost shell (n-level) of the atom.

They are generally the electrons involved bonding: In covalent bonds, elements share valence electrons.

In ionic bonding, elements gain or lose electrons in the valence shell.

For each element in #2, underline the valence electrons, and then write the number of valence electrons it has.

4. Write the electron configurations for the following elements. OK to use the noble gas abbreviation.

V

As

I

Pt

Pu

B

Po

Am

Cs

Se

5. For each element in #4, underline the valence electrons, and then write the number of valence electrons it has.

I A

Hydrogen

II A

1s
 2s 2p
 3s 3p 3d
 4s 4p 4d 4f
 5s 5p 5d 5f
 6s 6p 6d 6f
 7s 7p 7d 7f

Lithium	Beryllium	Scandium	Titanium	Vanadium	Chromium	Manganese	Iron	Cobalt	Nickel	Copper	Zinc	Gallium	Germanium	Antimony	Selenium	Bromine	Hallium
Sodium	Magnesium	Yttrium	Zirconium	Niobium	Molybdenum	Technetium	Ruthenium	Rhodium	Palladium	Silver	Cadmium	Indium	Tin	Lead	Tellurium	Iodine	Neon
Potassium	Calcium	Lanthanum	Hafnium	Tantalum	Tungsten	Rhenium	Osmium	Iridium	Platinum	Gold	Mercury	Thallium	Lead	Bismuth	Polonium	Astatine	Xenon
Rubidium	Strontium	Lutetium	Hahnium	Tantalum	Tungsten	Rhenium	Osmium	Iridium	Platinum	Gold	Mercury	Thallium	Lead	Bismuth	Polonium	Astatine	Radon
Cesium	Barium	Lutetium	Hahnium	Tantalum	Tungsten	Rhenium	Osmium	Iridium	Platinum	Gold	Mercury	Thallium	Lead	Bismuth	Polonium	Astatine	Radon
Francium	Radium	Lanthanum	Rutherfordium	Dubnium	Seaborgium	Berkelium	Hassium	Mendelevium	Ununquadium	Ununpentium	Ununhexium	Ununseptium	Ununoktium	Ununnonium	Ununnilium	Ununnilium	Radon
87	88	103	104									113	114	115	116	117	118

Darmstadtium (Ds)

Copernicium (Cn)

III A
 IV A
 V A
 VI A
 VII A
 VIII A

VIII A

Lanthanum	Cerium	Praseodymium	Neodymium	Promethium	Samarium	Eurpium	Gadolinium	Terbium	Dysprosium	Holmium	Erbium	Thulium	Ytterbium
Actinium	Thorium	Protactinium	Uranium	Neptunium	Plutonium	Americium	Curium	Berkelium	Californium	Einsteinium	Fermium	Mendelevium	Nobelium
89	90												102

