

This quiz is take-home and open book, and it is intended that all members of the group contribute to completing it. It is a violation of the Academic Honor Code to sign a quiz that you did not work on. **The quiz is due at the beginning of class on Thursday, October 5.**

**List names in alphabetical order, and give social security numbers!**

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Points

- (8) 1. For each of the following elements, draw the **Lewis Dot Structure** for the neutral atom (showing only the **valence electrons** in the structure). Then give the charge and Lewis dot structure for the most common ion formed by that element. (0.5 pts each)

Element	Neutral Atom	Ion	Element	Neutral Atom	Ion
potassium	$K\cdot$	$K^{+1}$	sulfur	$\begin{array}{c} \cdot\cdot \\ \cdot S \cdot \\ \cdot\cdot \end{array}$	$\begin{array}{c} \cdot\cdot \\ \cdot S \cdot \\ \cdot\cdot \end{array}^{-2}$
magnesium	$\cdot Mg \cdot$	$Mg^{+2}$	iodine	$\begin{array}{c} \cdot\cdot \\ \cdot I \cdot \\ \cdot\cdot \end{array}$	$\begin{array}{c} \cdot\cdot \\ \cdot I \cdot \\ \cdot\cdot \end{array}^{-1}$
bromine	$\begin{array}{c} \cdot\cdot \\ \cdot Br \cdot \\ \cdot\cdot \end{array}$	$\begin{array}{c} \cdot\cdot \\ \cdot Br \cdot \\ \cdot\cdot \end{array}^{-1}$	strontium	$\cdot Sr \cdot$	$Sr^{+2}$
selenium	$\begin{array}{c} \cdot\cdot \\ \cdot Se \cdot \\ \cdot\cdot \end{array}$	$\begin{array}{c} \cdot\cdot \\ \cdot Se \cdot \\ \cdot\cdot \end{array}^{-2}$	lithium	$Li\cdot$	$Li^{+1}$

- (6) 2. Give the proper **empirical formula** for the following ionic compounds. (An **empirical formula** expresses the relative numbers of atoms in the compound).

(1 pt each: 0.5 pt symbols, 0.5 pt formula numbers)

sodium sulfide



potassium iodide



magnesium oxide



calcium chloride



iron (II) bromide



aluminum chloride



- (1) 3. A pair of electrons shared between two atoms is called what?

a covalent bond