

Homework #3

Due: Tue Feb 9th

Name: _____

Student ID: _____

Chem 192 – Spring 2010

Cañada College

Total Possible Points: 10

Suggested exercises (pg 62-64): 2, 4, 6, 10, 12, 14, 16, 18, 34

1. (4 points) Each row in the table below corresponds to an element. Fill in the blanks to indicate name of that element, its chemical symbol, atomic number, and whether that element is a metal, metalloid, or non-metal (write M for a metal, X for a non-metal, and O for a metalloid).

| Name | Symbol | Atomic Number | Metal, Non-metal or Metalloid |
|----------|--------|---------------|-------------------------------|
| Aluminum | | | |
| | | 33 | |
| | Cs | | |
| | | 1 | X |
| Oxygen | | | |
| | Co | | |
| | Xe | | |

2. (1 ½ point) Write the name of the element indicated below:

(a) The second most abundant element in the universe. _____

(b) Which is more ductile Sulfur or Seaborgium? _____

(c) Which conducts heat better, Co or Cl? _____

(d) Which forms diatomic molecules with itself, helium, neon, fluorine or carbon? _____

(e) Which is the cation in sodium chloride? _____

(f) Which is more likely to react with iron: is it cobalt, carbon or chromium? _____

3. (1 point) For each item below, write a D if it is a diatomic molecule and an X otherwise.

(a) Nitrogen Gas _____ (b) CO _____

(c) Br₂ _____ (d) CO₂ _____

(e) NaCl _____ (f) Pure Hydrogen _____

(g) Water Gas _____ (h) Gold _____

4. (1 ½ points) Write the name of the first element (the element with the smallest atomic number) for each of the following:

(a) Noble Gasses _____ (d) Transition Metals _____

(b) Metalloids _____ (e) Alkali Metals _____

(c) Halogens _____ (f) Alkali Earth Metals _____

5. (1 point) The symbol for one crystalline form of sulfur is S₈. This symbol indicates (circle one):

- A. One molecule composed of eight atoms
- B. Eight molecules
- C. One atom composed of eight molecules
- D. One ion containing eight electrical charges

6. (1 point) Write the number of carbon atoms in each formula below:

(a) CO _____ (b) CrCH₃Br _____

(c) CaCl₂ _____ (d) C₆H₂(CO₂H)₄ _____