

Chem I

Name _____

Date _____ Per _____

Worksheet #C25: Lewis Dots I: Electrons and Single Bonds

1. What do the dots in electron dot structures represent? _____

2. Draw the electron dot notation for each of the following elements.

Hydrogen

Boron

Carbon

Phosphorus

Iodine

3. How many valence electrons does an atom need to be the most stable? _____

a. What is this rule called? _____

b. Are there any exceptions? Name the elements that are exceptions and the number of electrons that each needs to be stable.

i) _____ ii) _____ iii) _____

4. Why are valence electrons the only electrons likely to be involved in bonding with other atoms?

5. For each of the following covalently bonded molecules, first determine the number of valence electrons in the molecule and then draw the Lewis structure. Make sure you show all the valence electrons.

a) HCl _____ (# of valence e⁻s)

b) PH₃ _____

c) OF₂ _____

d) BeCl₂ _____

e) F₂ _____

f) CBr₄ _____

g) BH₃ _____

h) CH₃Br _____

i) NH₄⁺ _____

j) BrO₃⁻ _____