**Name: Period: Seat#:**

**Worksheet #1**

**Directions:** Indicate the # of **VALENCE** electrons for each species. Write the correct Lewis electron-dot structure for each. Note the shape of the molecule (for compounds only). Don’t forget to adjust the number of electrons for ions and to include square brackets and charges for ions.

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| --- | --- | --- | --- |
| **F**  # of valence e–‘s = \_\_\_\_ | **O**  # of valence e–‘s = \_\_\_\_ | **K**  # of valence e–‘s = \_\_\_\_ | **Al**  # of valence e–‘s = \_\_\_\_ |
| **F—**  # of valence e–‘s = \_\_\_\_ | **O2—**  # of valence e–‘s = \_\_\_\_ | **K+**  # of valence e–‘s = \_\_\_\_ | **Al3+**  # of valence e–‘s = \_\_\_\_ |
| **F2**  # of valence e–‘s = \_\_\_\_  Shape: | **H2**  # of valence e–‘s = \_\_\_\_  Shape: | **HF**  # of valence e–‘s = \_\_\_\_  Shape: | **NH3**  # of valence e–‘s = \_\_\_\_  Shape: |
| **CH4**  # of valence e–‘s = \_\_\_\_  Shape: | **NF3**  # of valence e–‘s = \_\_\_\_  Shape: | **SiF4**  # of valence e–‘s = \_\_\_\_  Shape: | **C2H6 \***  # of valence e–‘s = \_\_\_\_  \*Shape: |
| **MgH2**  *(ionic)\*\**  # of valence e–‘s = \_\_\_\_ | **LiH** *(ionic)\*\**  # of valence e–‘s = \_\_\_\_ | **AlH3** *(covalent)*  # of valence e–‘s = \_\_\_\_  Shape: | **BH3** *(covalent)*  # of valence e–‘s = \_\_\_\_  Shape: |

\*Just pick one of the carbons to be “center” and then figure out the geometry based on that one.   
\*\*These are weird, they exhibit both ionic and covalent character. Just draw them as ionic for some extra ionic practice.

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| **C2H4 \***  # of valence e–‘s = \_\_\_\_  Shape: | **C2F4 \***  # of valence e–‘s = \_\_\_\_  Shape: | **CO**  # of valence e–‘s = \_\_\_\_  Shape: | **O2**  # of valence e–‘s = \_\_\_\_  Shape: |
| **CO2**  # of valence e–‘s = \_\_\_\_  Shape: | **C2H2 \***  # of valence e–‘s = \_\_\_\_  Shape: | **N2**  # of valence e–‘s = \_\_\_\_  Shape: | **HCN**  # of valence e–‘s = \_\_\_\_  Shape: |
| **CN—**  # of valence e–‘s = \_\_\_\_  Shape: | **SO42—**  # of valence e–‘s = \_\_\_\_  Shape: | **PO43—**  # of valence e–‘s = \_\_\_\_  Shape: | **ClO3—**  # of valence e–‘s = \_\_\_\_  Shape: |
| **CO32—**  # of valence e–‘s = \_\_\_\_  Shape: | **NO3—**  # of valence e–‘s = \_\_\_\_  Shape: | **SO2**  # of valence e–‘s = \_\_\_\_  Shape: | **O3**  # of valence e–‘s = \_\_\_\_  Shape: |
| **SF6**  # of valence e–‘s = \_\_\_\_  Shape: | **XeF4**  # of valence e–‘s = \_\_\_\_  Shape: | **PCl5**  # of valence e–‘s = \_\_\_\_  Shape: | **SeF4**  # of valence e–‘s = \_\_\_\_  Shape: |