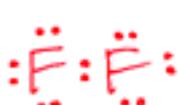
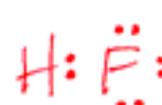
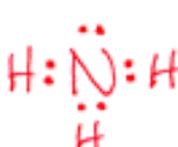
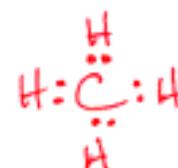
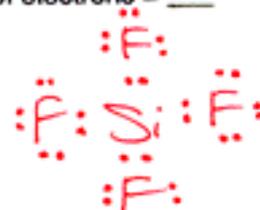
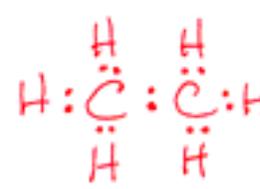
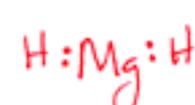
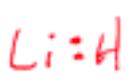
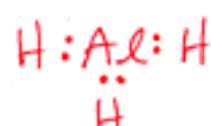
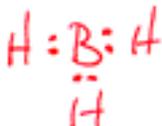


5 • Chemical Bonding**LEWIS STRUCTURES**Indicate the # of **VALENCE** electrons for each species. Write the correct Lewis electron dot structure for each.

| | | | |
|---|---|--|---|
| F # of electrons = <u>7</u>  | O # of electrons = <u>6</u>  or  | K # of electrons = <u>1</u>  | Al # of electrons = <u>3</u>  |
| F⁻ <u>7+1</u> # of electrons = <u>8</u>  | O²⁻ <u>6+2</u> # of electrons = <u>8</u>  | K⁺ <u>1-1</u> # of electrons = <u>0</u>  | Al³⁺ <u>3-3</u> # of electrons = <u>0</u>  |
| F₂ <u>7+7</u> # of electrons = <u>14</u>  | H₂ <u>1+1</u> # of electrons = <u>2</u>  | HF <u>1+7</u> # of electrons = <u>8</u>  | NH₃ <u>5+3</u> # of electrons = <u>8</u>  |
| CH₄ <u>4+4</u> # of electrons = <u>8</u>  | NF₃ <u>5+21</u> # of electrons = <u>26</u>  | SiF₄ <u>4+28</u> # of electrons = <u>32</u>  | C₂H₆ <u>8+6</u> # of electrons = <u>14</u>  |
| MgH₂ <u>2+2</u> # of electrons = <u>4</u>  | LiH <u>1+1</u> # of electrons = <u>2</u>  | AlH₃ <u>3+3</u> # of electrons = <u>6</u>  | BH₃ <u>3+3</u> # of electrons = <u>6</u>  |

| | | | |
|---|--|---|---|
| C_2H_4 $8+4$ # of electrons = <u>12</u> <pre> H H H : C : : C : H H H </pre> | C_2F_4 $8+28$ # of electrons = <u>36</u> <pre> :F: :F: C : : C :F: :F: </pre> | CO $4+6$ # of electrons = <u>10</u> <pre> :C : : O: </pre> | O_2 $6+6$ # of electrons = <u>12</u> <pre> :O : : O: </pre> |
| CO_2 $4+6+6$ # of electrons = <u>16</u> <pre> :O : : C : : O: </pre> | C_2H_2 (H C C H) $8+2$ # of electrons = <u>10</u> <pre> H : C : : C : H </pre> | N_2 $5+5$ # of electrons = <u>10</u> <pre> :N : : N: </pre> | HCN $1+4+5$ # of electrons = <u>10</u> <pre> H : C : : N: </pre> |
| CN^- $4+5+1$ # of electrons = <u>10</u> <pre> [:C : : N:]^- </pre> | SO_4^{2-} $6+24+2$ # of electrons = <u>32</u> <pre> [:O: :O:]^{2-} :O: S :O: :O: :O: </pre> | PO_4^{3-} $5+24+3$ # of electrons = <u>32</u> <pre> [:O: :O:]^{3-} :O: P :O: :O: :O: </pre> | ClO_3^- $7+18+1$ # of electrons = <u>26</u> <pre> [:O: :O:]^- :O: Cl :O: </pre> |
| CO_3^{2-} $4+18+2$ # of electrons = <u>24</u> <pre> [:O: :O:]^{2-} :O: C :O: </pre> <p>Resonance structures shown with arrows and formal charges:</p> <pre> [:O: :O:]^{2-} :O: C :O: :O: C :O: :O: C :O: </pre> | NO_3^- $5+18+1$ # of electrons = <u>24</u> <pre> [:O: :O:]^- :O: N :O: </pre> <p>Resonance structures shown with arrows and formal charges:</p> <pre> [:O: :O:]^- :O: N :O: :O: N :O: :O: N :O: </pre> | SO_2 $6+12$ # of electrons = <u>18</u> <pre> :O: S :O: :O: S :O: </pre> | O_3 (O O O) # of electrons = <u>18</u> <pre> :O: :O: :O: :O: :O: :O: </pre> |
| SF_6 $6+42$ # of electrons = <u>48</u> <pre> :F: :F: :F: S :F: :F: :F: </pre> | XeF_4 $8+28$ # of electrons = <u>36</u> <pre> :F: :F: Xe :F: :F: </pre> | PCl_5 $5+35$ # of electrons = <u>40</u> <pre> :Cl: :Cl: P :Cl: :Cl: :Cl: </pre> | SeF_4 $6+28$ # of electrons = <u>34</u> <pre> :F: :F: Se :F: :F: </pre> |