

Hybridization Practice WS 1

HINT: 1-4 are exceptions to the octet rule. The rest are not.

1. Draw the Lewis structure for BH_3 in the space on the right.
 - a. State the electron geometry: _____
 - b. State the hybridization on the central atom: _____
 - c. How many total sigma bonds are in the molecule? ____
 - d. How many total pi bonds are in the molecule? _____
2. Draw the Lewis structure for XeF_4 in the space on the right.
 - a. State the electron geometry: _____
 - b. State the hybridization on the central atom: _____
 - c. How many total sigma bonds are in the molecule? ____
 - d. How many total pi bonds are in the molecule? _____
3. Draw the Lewis structure for PF_5 in the space on the right.
 - a. State the electron geometry: _____
 - b. State the hybridization on the central atom: _____
 - c. How many total sigma bonds are in the molecule? ____
 - d. How many total pi bonds are in the molecule? _____
4. Draw the Lewis structure for SCl_6 in the space on the right.
 - a. State the electron geometry: _____
 - b. State the hybridization on the central atom: _____
 - c. How many total sigma bonds are in the molecule? ____
 - d. How many total pi bonds are in the molecule? _____

5. Draw the Lewis structure for CO_2 in the space on the right.
- State the electron geometry: _____
 - State the hybridization on the central atom: _____
 - How many total sigma bonds are in the molecule? _____
 - How many total pi bonds are in the molecule? _____
6. Draw the Lewis structure for NI_3 in the space on the right.
- State the electron geometry: _____
 - State the hybridization on the central atom: _____
 - How many total sigma bonds are in the molecule? _____
 - How many total pi bonds are in the molecule? _____
7. Draw the Lewis structure for HCN in the space on the right.
- State the electron geometry: _____
 - State the hybridization on the central atom: _____
 - How many total sigma bonds are in the molecule? _____
 - How many total pi bonds are in the molecule? _____
8. Draw the Lewis structure for H_2O in the space on the right.
- State the electron geometry: _____
 - State the hybridization on the central atom: _____
 - How many total sigma bonds are in the molecule? _____
 - How many total pi bonds are in the molecule? _____
9. Draw the Lewis structure for CH_4 in the space on the right.
- State the electron geometry: _____
 - State the hybridization on the central atom: _____
 - How many total sigma bonds are in the molecule? _____
 - How many total pi bonds are in the molecule? _____