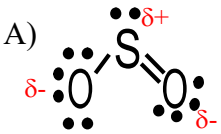
Skill Practice 24

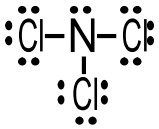
# IM Forces Practice

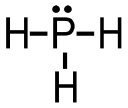
Name: _____

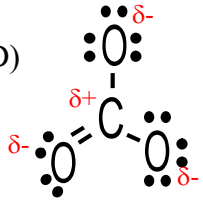
Date: _____

1. Label the partial positive and partial negative charges on the following molecules. Remember for an atom to be partially positive or negative, it must be involved in a polar bond.

A) 


B) 

C) 

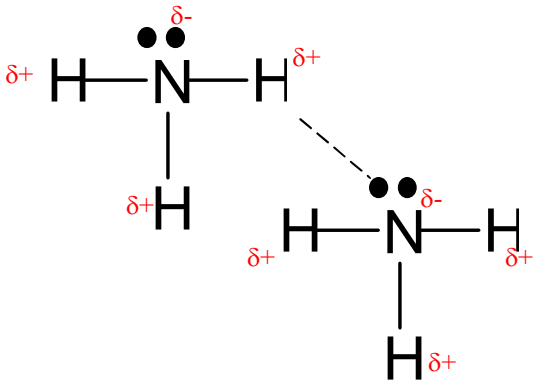
D) 


2. Which of the compounds in question 1 are polar? A

3. Name the type of intermolecular force between each of the compounds in question 1.

A) dipolar B) dispersion C) dispersion D) dispersion

4. Draw two $NH_3$ molecules along with the forces of attraction between them. Label the partial positive and negative charges.




5. Name the force that exists between two $NH_3$ molecules.

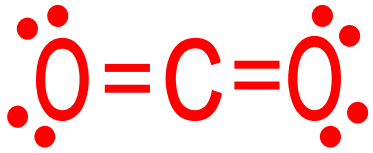
Dipolar or hydrogen bonds

6. Arrange the following from strongest to weakest: dispersion forces, covalent bond, dipole-dipole force.

Covalent, dipole-dipole, dispersion

7. Draw each of the following structures. Indicate whether each has polar or nonpolar bonds.

a) $CO_2$



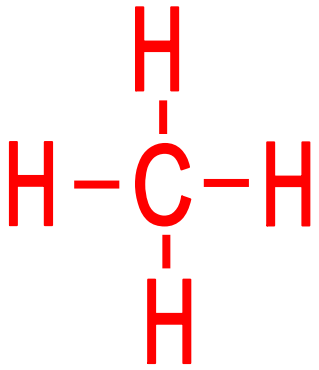
Polar bonds? Yes

Polar overall? No

Bond angle: 180°

Shape: Linear

c) $CH_4$



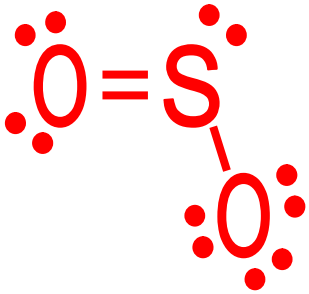
Polar bonds? No

Polar overall? No

Bond angle: 109°

Shape: Tetrahedral

b) $SO_2$



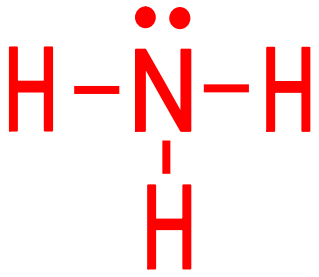
Polar bonds? Yes

Polar overall? Yes

Bond angle: 120°

Shape: Bent

d) $NH_3$



Polar bonds? Yes

Polar overall? Yes

Bond angle: 109°

Shape: Trigonal pyramidal