Quiz 8A

Question 1. Is this week’s lab a wet lab or a dry lab (2 points)? \_\_\_Dry lab\_\_\_\_\_

Question 2. Determine the total number of valence electrons in each of the following (4 points):

1. CaBr2 \_\_\_\_\_16\_\_\_\_\_
2. SBr2 \_\_\_\_\_20\_\_\_\_\_
3. NO2- \_\_\_\_\_18\_\_\_\_\_
4. CH3OH \_\_\_\_\_14\_\_\_\_\_

Question 3. Identify the major type of attractive force between particles of each of the following substances as a hydrogen bond, dipole-dipole attraction, London-dispersion force, or ionic bond (4 points).

1. HCl \_\_\_\_\_\_\_\_\_\_\_dipole-dipole attraction\_\_\_\_\_\_\_\_\_
2. CaO \_\_\_\_\_\_\_\_\_\_\_ionic bond\_\_\_\_\_\_\_\_\_\_
3. NH3 \_\_\_\_\_\_\_\_\_\_hydrogen bond\_\_\_\_\_\_\_\_\_\_
4. Br2 \_\_\_\_\_\_\_\_\_\_\_London-dispersion force\_\_\_\_\_\_\_\_\_\_

Question 4. Using the periodic table arrange the following atoms in order of increasing electronegativity: Cl, F, Br (3 points):

Br < Cl < F

Question 5. Answer the following questions about CH2CH2 (7 points):

1. Draw the Lewis Structure



1. Identify the electron pair geometry around the carbon atoms: trigonal planar
2. Identify the molecular geometry around the carbon atoms: trigonal planar
3. What is the H-C-H bond angle? 120°
4. What type of hydrocarbon is ethene, CH2CH2? Alkene

Quiz 8B

Question 1. Answer the following questions about CH3CH3 (7 points):

1. Draw the Lewis Structure



1. Identify the electron pair geometry around the carbon atoms: tetrahedral
2. Identify the molecular geometry around the carbon atoms: tetrahedral
3. What is the H-C-H bond angle? 109.5°
4. What type of hydrocarbon is ethane, CH3CH3? Alkane

Question 2. Identify the major type of attractive force between particles of each of the following substances as a hydrogen bond, dipole-dipole attraction, London-dispersion force, or ionic bond (4 points).

1. MgF2 \_\_\_\_\_\_\_\_\_\_\_ionic bond\_\_\_\_\_\_\_\_\_\_\_
2. PBr3 \_\_\_\_\_\_\_\_\_\_\_dipole-dipole attraction\_\_\_\_\_\_\_\_\_\_
3. H2O \_\_\_\_\_\_\_\_\_\_hydrogen bond
4. N2 \_\_\_\_\_\_\_\_\_\_London-dispersion force

Question 3. Determine the total number of valence electrons in each of the following (4 points):

1. MgCl2 \_\_\_\_\_16\_\_\_\_\_
2. CH3CO2H \_\_\_\_\_24\_\_\_\_\_
3. H3O+ \_\_\_\_\_8\_\_\_\_\_\_
4. ICl3 \_\_\_\_\_28\_\_\_\_\_

Question 4. Using the periodic table arrange the following atoms in order of increasing electronegativity: B, O, N (3 points):

B < N < O

Question 5. Is this week’s lab a wet lab or a dry lab (2 points)? \_\_\_Dry lab\_\_\_\_\_