**Quiz 10A**

# Directions: Answer each of the following questions. Be sure to use complete sentences where appropriate. For full credit be sure to show all of your work. Where appropriate answers should be boxed for clarity, written to the correct number of significant figures, and, include the proper units.

1. Is the melting of ice endothermic or exothermic? What is the sign of ∆H for the melting of ice? For the freezing of water (3 points)?

The melting of ice is endothermic. ∆H for melting is positive (+), whereas ∆H for freezing is negative (-).

1. Identify each solid as molecular, ionic, network covalent, or metallic (4 points).
	1. SiO2 (s) \_\_\_\_\_\_network covalent\_\_\_\_
	2. H2O (s) \_\_\_\_\_\_\_molecular\_\_\_\_
	3. K2O (s) \_\_\_\_\_\_\_ionic\_\_\_\_\_\_\_
	4. Fe (s) \_\_\_\_\_\_\_metallic\_\_\_\_\_\_\_
2. What kinds of intermolecular forces are present in each substance (6 points)?
	1. SiH4 (tetrahedral) \_\_London-dispersion force
	2. NH3 (trigonal pyramidal) \_\_London-dispersion, dipole forces, and hydrogen bonds
	3. NCl3 (trigonal pyramidal) \_\_\_London-dispersion, dipole forces
3. How many moles of sodium chloride are contained in 1.5 L of a 1.2 M NaCl solution (3 points)?

$$1.5 L×\frac{1.2 mol NaCl}{1 L}=1.8 mol NaCl $$

1. Determine the amount of sucrose in 48.0 g of a solution containing 3.71% sucrose by mass (4 points).

$$48.0 g soln×\frac{3.71 g sucrose}{100 g soln}=1.7808 g sucrose≈1.78 g sucrose$$