CHM 1046 Fall, 2010

Quiz 2

Name (print)_____

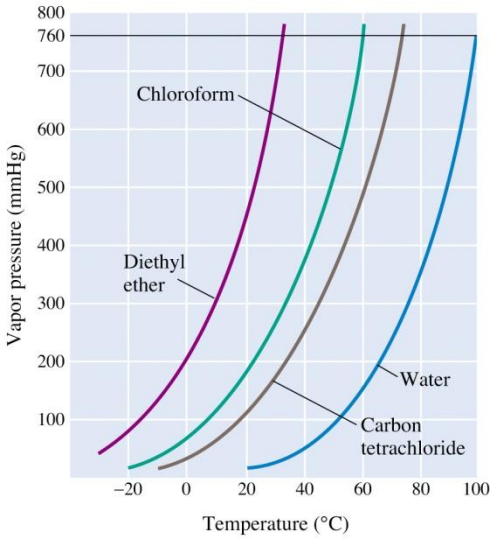
1. How much energy would it take to raise the temperature of 32.0g of $H_2O(s)$ from -13.00 ºC to 0.00 ºC, and melt the ice?

Compound	Water, H_2O
Molar mass	18.015g/mol
$H_2O(s)$ specific heat	2.05 $Jg^{-1}{}^{o}C^{-1}$
$H_2O(l)$ specific heat	4.184$Jg^{-1}{}^{o}C^{-1}$
ΔH^{o}_{fus}	6.01kJ/mol
ΔH^{o}_{vap}	40.7kJ/mol
Normal melting point	0.00 ºC
Normal boiling point	100.00 ºC

2. What is the strongest intermolecular force present in each of the following two compounds?
   a) CH_4, methane b) CH_3CH_2OH, ethanol

3. Draw a picture of any two molecules except water hydrogen bonding. Use Lewis dot structures for the molecules and a dashed line for the hydrogen bond.

4. a) Estimate the normal boiling point of carbon tetrachloride
   b) Estimate the boiling point of chloroform under an applied pressure of 600mm Hg.



5. Indicate which compound in each pair of two would have greater dipole-dipole forces.
   a) CO_2 or CO b) CH_3Cl or CH_3Br