HW# 16 p353 #13-17, 23-25, 34, 35

(13) (a) H_2O @ 80°C = 350 TORR

(b) ~~375~~ 500 TORR

(c) 375 TORR

(14) Solid → GAS

(B) CO_2 & I_2

(15) Temperature of freezing at 1 ATM

(16) STRONGER IMF → lower Equilibrium VAPOR Pressure

Weaker IMF → higher " "

(17) HIGH ATM. pressure, higher the boiling point

(23) Bent, 2 bonding, 2 non-bonding, polar

(24) look these up....

(25) Use density 1mL = 1cm³

liquid H_2O 1.0g/mL

Ice .917g/cmL

liquid: $D = m/V$

$1.0\,g/mL = \frac{x\,g}{5\,cm^3}$

$5g = H_2O$

solid: $.917\,g/mL = \frac{m}{5\,cm^3}$

$4.59g = m$

liquid has more molecules.

$5g \times \frac{1mol}{18.02g} \times \frac{6.02\times10^{23}\ molecules}{1mol} = 1.67\times10^{23}$ molecules liquid

> ABOUT 1.4×10^{22} molecules more

$4.59g \times \frac{1mol}{18.02g} \times \frac{6.02\times10^{23}\ molecules}{1mol} = 1.53\times10^{23}$ molecules solid

ABOUT 1.10:1 ratio liquid to solid.

(34) (A) More solid would sublimate

(B) More gas/vapor would deposit

(C) More vapor would deposit

(D) More solid would sublimate

(35) Solid would melt → liquid would vaporize.