(GEN) Final exam review #3

1. Divide grams by molar mass. 34 grams/181.63 g = 0.19 mol
2. Multiply moles by molar mass. 56 grams X 18 moles = 1008 grams
3. PV=nRT (Note: Temperature must be in Kelvin – add 273 to degrees C)

(8 atm) V = (77 mol)(0.08206 Latm/mol K)(298)

V = 235 L

1. Set up PV = nRT as above, except put 10 L for volume and solve for P

P (10 L) = (77 mol)(0.08206 Latm/molK)(298)

P = 188 atm

1. We assume gas molecules have no volume because they are very small and far apart from one another. Compared to the final volume of the gas, the volume of the molecules is negligible.
2. m = mol/kg

moles = grams/molar mass = 30 grams/58.5 grams = 0.51 moles

m = mol/kg = 0.51 mol/4.5 kg = 0.113 m

1. ΔTf = (0.113 m)(0.512 oC/m) = 0.059o C

Since this is how much the freezing point changes, the overall freezing point is -0.059 degrees C.