Equations and Constants for Exam 1

The following equations and constants will be given on the last page of Exam 1. If you don't see something here that you have used, you should commit it to memory. Keep in mind that you may or may not use some of the equations/constants on the exam.

Equations:

$$\Delta H^{\circ}_{rxn} = \sum n_P \Delta H^{\circ}_f(\text{products}) - \sum n_R \Delta H^{\circ}_f(\text{reactants})$$

$$\Delta S^{\circ}_{rxn} = \sum n_P S^{\circ}_m(\text{products}) - \sum n_R S^{\circ}_m(\text{reactants})$$

$$S = k \ln W$$

Constants:

$$R = \frac{0.0821 \text{L} \cdot \text{atm}}{\text{mole} \cdot \text{K}}$$

$$k = 1.38 \times 10^{-23} \, \text{J/K}$$

$$1 \text{atm} = 760 \text{torr}$$

Any heat capacities needed except H_2O (l)
Any ΔH_{fus}, ΔH_{vap} values needed
Any ΔH_f° values needed except those for elements in their standard states (why aren't those given?)
Any S° values needed