Equilibrium Practice Questions

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Equilibrium Questions**

1. At an unspecified temperature a 3.00 L flask contains 3.5 mol of Hl(g), 4.1 mol of H2(g) and 0.30 mol of I2(g). Calculate Kc for: H2(g) + I2(g) $⇌$ 2HI(g)
2. At 1200 °C, Kc = 2.51 x 104 (no units) for: H2(g) + I2(g) $⇌$ 2 HI(g). What concentration of HI(g) will be produced if 0.250 mol/L of each reactant comes to equilibrium?
3. At 460°C Kc for: SO2(g) + NO2(g) $⇌$ SO3(g) + NO(g) - is 85.0 (no units). Estimate the product equilibrium concentrations if 0.100 mol/L of each reactant is allowed to come to equilibrium?

1. At 1530 °C, the Kc of: N2(g) + O2(g) $⇌$ 2NO(g) - is 1.20 × 10–4 (no units). What are the equilibrium concentrations of all the reaction components, after 1.00 mol/L of each of the reactants is allowed to come to equilibrium?
2. At 25°C the Kc for: H2O(g) + C12O(g) $⇌$ 2 HOCl(g) - is 0.090 (no units) Predict all the equilibrium concentrations of the reaction components if
	1. 1.00 mol/L of HOCl(g) is placed in a 1.00 L reaction vessel?
	2. 5.00 mol/L each of H20(g) and Cl20(g) are placed in a 1.00 L reaction flask?