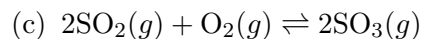
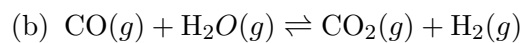
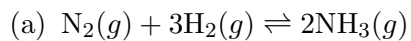


Name and Block: _____

Answer each of the following in the space provided.

1. For the following reactions, write the equilibrium constant expression (K_c) in terms of concentrations:



2. For the reaction $\text{H}_2(g) + \text{I}_2(g) \rightleftharpoons 2\text{HI}(g)$, the following equilibrium concentrations are measured:

$$[\text{H}_2] = 0.200 \text{ M}, \quad [\text{I}_2] = 0.150 \text{ M}, \quad [\text{HI}] = 0.600 \text{ M}.$$

Calculate the equilibrium constant K_c for the reaction.

3. For the reaction $2\text{SO}_2(g) + \text{O}_2(g) \rightleftharpoons 2\text{SO}_3(g)$, the equilibrium constant K_c is very large ($K_c \approx 1 \times 10^5$) at 298 K.

(a) Is the forward or reverse reaction favored at equilibrium? Explain briefly.

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(b) Sketch a particle diagram representing the reaction container at equilibrium.