

## *Equilibrium Practice Problems*

1. The following reaction reaches equilibrium at 600 C

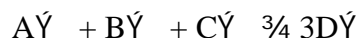


The equilibrium constant,  $K_p$ , for the reaction is 23.5. If 100.0 g of Magnesium Carbonate is placed into a 2.50 L container at 600 C and allowed to come to equilibrium:

- a. What is the partial pressure of carbon dioxide at equilibrium?

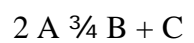
- b. What mass of Magnesium Carbonate remains at equilibrium?

2. The following reaction has an equilibrium constant,  $K_c$ , of 0.56:



If the reaction starts with  $[A] = [B] = [C] = 0.100 \text{ M}$  and  $[D] = 0.0012 \text{ M}$ , what are the equilibrium concentrations of all substances?

3. The following reaction has an equilibrium constant of 647:



If the reaction begins with  $[A] = 2.50 \text{ M}$ , what are the equilibrium concentrations of all substances?