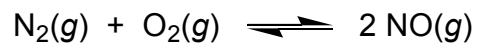


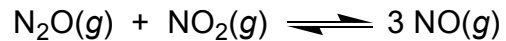
**General Chemistry II**  
**Chapter 9: Example Problems on Chemical Equilibrium**

1. In air, the following equilibrium exists:



Knowing that the partial pressures of nitrogen and oxygen in air are  $P(\text{N}_2) = 0.78$  atm and  $P(\text{O}_2) = 0.21$  atm, compute the partial pressure of NO in equilibrium with  $\text{N}_2$  and  $\text{O}_2$ . (Note that  $K = 1.0 \times 10^{-24}$  at 298 K.)

2. For the reaction



$K = 1.4 \times 10^{-10}$ . In a reaction vessel, the initial concentrations of the three species are  $[\text{N}_2\text{O}]_0 = 0.0750 \text{ M}$ ,  $[\text{NO}_2]_0 = 0.0500 \text{ M}$ , and  $[\text{NO}]_0 = 0$ . Find the equilibrium concentration of NO.