Chemical equilibrium 2

1. Carbonyl fluoride, COF 2 , is an important intermediate used in the production of fluorine-containing compounds. For instance, it is used to make the refrigerant carbon tetrafluoride, CF 4 via the reaction

2COF 2 (g)⇌CO 2 (g)+CF 4 (g), K c =5.60 

If only COF 2 is present initially at a concentration of 2.00 M , what concentration of COF 2 remains at equilibrium?

1. Consider the reaction

CO(g)+NH 3 (g)⇌HCONH 2 (g), K c =0.730 

If a reaction vessel initially contains only CO and NH 3 at concentrations of 1.00 M and 2.00 M , respectively, what will the concentration of HCONH 2 be at equilibrium?

Express your answer with the appropriate units

![K_{\rm c}=\frac{\rm [C][D]}{\rm [A][B]}=5.0    ]()

1. The following reaction was carried out in a 2.50L reaction vessel at 1100 K :

C(s)+H 2 O(g)⇌CO(g)+H 2 (g) 

If during the course of the reaction, the vessel is found to contain 5.25mol of C , 13.8mol of H 2 O , 3.20mol of CO , and 8.60mol of H 2 , what is the reaction quotient Q ?

Enter the reaction quotient numerically.