

Participation Assignment

CHEM 1100-General Chemistry II

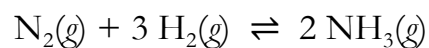
Name:

#20

Section: 31, MWF

Due Date: Friday 9/8/2017

1. Calculate the free energy of reaction for the following chemical reaction at 25 °C under the listed conditions:

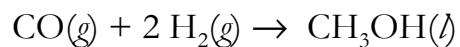


$$P(\text{N}_2) = 100.0 \text{ atm}$$

$$P(\text{H}_2) = 40.0 \text{ atm}$$

$$P(\text{NH}_3) = 60.0 \text{ atm}$$

2. Calculate the equilibrium constant for the following chemical reaction at 25 °C:



3. Draw a pressure versus temperature phase diagram for bromine using the following information:

$$P_t = 0.007 \text{ atm}$$

$$T_t = -33 \text{ }^\circ\text{C}$$

$$P_c = 102 \text{ atm}$$

$$T_c = 315 \text{ }^\circ\text{C}$$

normal boiling point = $59 \text{ }^\circ\text{C}$

$$\rho_{\text{solid}} > \rho_{\text{liquid}}$$

Do not draw it to scale. Label the axes, the single phase regions, and all the given points.