The standard Gibbs free energy of formation of NH3(g) is given by $∆G$fo=-16.5 kj/mol-1 at T=298K.

What is the Gibbs free energy ($∆$G) for the reaction: N2(g) + 3H2 $\leftrightarrow $ 2NH3(g) when the partial pressures are: PN2=3.0 bar; PH2=1.0 bar; and PNH3=4.0 bar?