Problems:

1. Which sample of sulfur at 25°C has the greatest entropy? (my answer S8)

 A) S2(g)   
 B) cannot be predicted   
 C) S8(g)   
 D) S(g)

2. What is the standard free energy change for the following reaction at 25°C: C(diamond) → C(graphite) (?)

 A) -2.90 kJ   
 B) +2.90 kJ   
 C) 0 kJ   
 D) -5.80 kJ

3. Which sample of H2O has the least entropy? (my answer ice)

 A) steam   
 B) liquid water   
 C) ice   
 D) cannot be predicted\\

4. Which substance at 25°C is more stable, diamond or graphite? (my answer: diamond)

 A) diamond   
 B) graphite   
 C) they have the same stability   
 D) cannot be predicted

5. Predict which of the following reactions has a positive entropy change. (my answer: first one only? I am confused)

(1) 2 N2(g) + O2(g) → 2 N2O(g)  
(2) CaCO3(s) → CaO(s) + CO2(g)  
(3) Zn(s) + 2 HCl(aq) → ZnCl2(aq) + H2(g)