1. For a certain chemical reaction, ΔH°= -156 kJ. Assuming the reaction is at equilibrium, classify each of the following actions by whether it causes a leftward shift, a rightward shift, or no shift in the direction of the net reaction.
2. a decrease in temperature R L no shift
3. an increase in temperature R L no shift
4. The K of the reaction:

NO2(g) + NO3(g) ⬄N2O5(g)

is K = 2.1 \* 10-20. What can be said about this reaction?

1. at equilibrium the concentration of products and reactants is about the same
2. at equilibrium the concentration of products is much greater than the concentration of reactants
3. at equilibrium the concentration of reactants is much greater than that of the products
4. there are no reactants left over once the reaction reaches equilibrium
5. For the reaction HCONH2(g)⬄NH3(g) +CO(g); K = 4.84 at 400K What can be said about this reaction at this temperature?
6. The equilibrium lies far to the right (Guessed this and was wrong)
7. The reactions will proceed very slowly
8. the reaction contains significant amounts of products and reactants at equilibrium
9. the equilibrium is far to the left
10. The industrial production of lime (CaO) from calcium carbonate is accomplished via the following reaction: CaCO3(s) ⬄CaO(s) + CO2(g)

Given the following data:

|  |  |
| --- | --- |
| Temperature (K) | K |
| 298 | 1.93\*10-23 |
| 1200 | 1.01 |

What can be said about this reaction?

1. lower temperatures result in more lime formation
2. the reaction makes more lime at higher temperature
3. the reaction goes to completion at 1200 K
4. the equilibrium lies far to the right at room temperature