#1	N ₂ O _{4 (g)} <> 2NO _{2(g)}		ΔH = + 92 KJ	
The Stress	Right or Left	[N ₂ O ₄]	[NO ₂]	Temperature
[N ₂ O ₄] is increased	R	skip	INCR	DECR
[NO ₂] is increased	L	INCR	skip	INCR
Temp is increased	R	DECR	INCR	skip
[N ₂ O ₄] is decreased	L	skip	DECR	INCR
[H ₂] is decreased	NO AFFECT	NO AFFECT	NO AFFECT	NO AFFECT
[NO ₂] is decreased	R	DECR	skip	DECR
Temp is decreased	L	INCR	DECR	skip
#2 4HCl (g) + O _{2 (g)} <> 2H ₂ O _(g) + 2Cl _{2 (g)} + 98 KJ				

Right or Left [HCI] [O₂] [H₂O] Temperature **The Stress** R **DECR INCR** [HCI] is increased skip **INCR** L **INCR INCR** [H₂O] is increased skip **DECR** [O₂] is increased R **DECR** skip **INCR INCR** Temp is increased L **INCR DECR INCR** skip

#3

 $CaCO_{3 (s)}$ + 170 KJ <-----> $CaO_{(s)}$ + $CO_{2 (g)}$

Reminder: Adding solids or liquids and removing solids or liquids does not shift the equilibrium. This is because you cannot change the concentration of a pure liquid or solid as they are 100% pure. It is only a concentration change that will change the # of collisions and hence shift the equilibrium.

The Stress	Right or Left	[CO ₂]	Temperature
CaCO₃ is added	NO CHANGE	NO CHANGE	NO CHANGE
CaO is added	NO CHANGE	NO CHANGE	NO CHANGE
CO ₂ is added	L	skip	INCR
Temp is decreased	L	DECR	skip
A catalyst is added	NO CHANGE	NO CHANGE	NO CHANGE
[CO ₂] is decreased	R	skip	DECR
Temp is increased	R	INCR	skip
CaO is removed	NO CHANGE	NO CHANGE	NO CHANGE