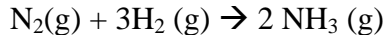1.   **ICE without x**:   For the reaction given, set up the ICE table for a reaction in which the reactant gases are mixed in a constant volume of an inert solvent with no products present initially: (1 pt each blank, 9 pts total)

$N_2(g) + 3H_2 (g) \rightarrow 2 NH_3 (g)$

If the initial concentration of the N_2 (g) is 0.985 M, and the intial concentration of H_2 (g) is 0.996 M.   If at equilibrium, the concentration of the NH_3 is 0.057 M.   Show the initial, change and equilibrium concentrations for all 3 reagents .

	[N_2]	[H_2]	[NH_3]
Initial	0.985 M	0.996 M	0.000
Change	- 0.057 /2	- (0.057 /2)*3	+ 0.057 M (if you start with zero and you end with 0.057, then you must have added 0.057
Equilibrium	0.985 – 0.057/2	0.996 – (0.057/2)*3	0.057 M

2.   **ICE with unknown variable x**: For the reaction given, set up the ICE table for a reaction in which the reactant gases are mixed in a constant volume of an inert solvent with no products present initially: (1 pt each blank, 9 pts total)

$N_2(g) + 3H_2 (g) \rightarrow 2 NH_3 (g)$
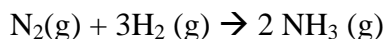
If the initial concentration of the N_2 (g) is 0.985 M, and the intial concentration of H_2 (g) is 0.996 M.   Given K (the equilibrium constant) = 2.78 x 10^{-4} Show the initial, change and equilibrium concentrations for all 3 reagents .

	[N_2]	[H_2]	[NH_3]
Initial	0.985 M	0.996 M	0.000
Change	- x (set x to the molecule with the smallest coefficient)	- 3x	+ 2x
Equilibrium	0.985 - x	0.996 – 3x	2x