

## Quiz 15.1 – Equilibrium Constants

Name: \_\_\_\_\_

For questions 1–4, consider the reaction:  $\text{N}_2(\text{g}) + 2 \text{O}_2(\text{g}) \rightleftharpoons 2 \text{NO}_2(\text{g})$ **Question 1**Give the equilibrium expression  $K_c$ **Problem 2**Give the equilibrium expression  $K_p$ **Problem 3**Give the relation between  $K_c$  and  $K_p$  for this reaction**Problem 4**If  $K_c = 6.4 \times 10^9$ , would you expect to find more reactant or product at equilibrium?**Problem 5**Give the equilibrium expression  $K_c$  for the solvation of  $\text{Ca}(\text{NO}_3)_2(\text{s})$ **Problem 6**Give the equilibrium expression  $K_c$  for the reaction of HCl with water

## *Still I Rise*

By Maya Angelou

You may write me down in history  
With your bitter, twisted lies,  
You may trod me in the very dirt  
But still, like dust, I'll rise.

Does my sassiness upset you?  
Why are you beset with gloom?  
'Cause I walk like I've got oil wells  
Pumping in my living room.

Just like moons and like suns,  
With the certainty of tides,  
Just like hopes springing high,  
Still I'll rise.

Did you want to see me broken?  
Bowed head and lowered eyes?  
Shoulders falling down like teardrops,  
Weakened by my soulful cries?

Does my haughtiness offend you?  
Don't you take it awful hard  
'Cause I laugh like I've got gold mines  
Diggin' in my own backyard.

You may shoot me with your words,  
You may cut me with your eyes,  
You may kill me with your hatefulness,  
But still, like air, I'll rise.

Does my sexiness upset you?  
Does it come as a surprise  
That I dance like I've got diamonds  
At the meeting of my thighs?

Out of the huts of history's shame  
I rise  
Up from a past that's rooted in pain  
I rise

I'm a black ocean, leaping and wide,  
Welling and swelling I bear in the tide.

Leaving behind nights of terror and fear  
I rise  
Into a daybreak that's wondrously clear  
I rise  
Bringing the gifts that my ancestors gave,  
I am the dream and the hope of the slave.

I rise  
I rise  
I rise.