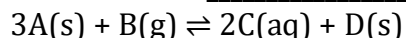


**CHE 120 W11 Equilibrium Assessment**

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

1. The exothermic reaction  
is at equilibrium.



Fill out the table below with how each quantity changes (I = Increases, D = Decreases, or U = Unchanged)

Event	How does $K$ change?	How does moles A present change?	Stress? (not graded)	Response to stress? (Left, Right, None)
The pressure is increased by decreasing the volume				
1 mol of C(aq) is added.				
The temperature is decreased.				
Water is added to the solution.				
1 mol of D(s) is added				

b) What is the reaction quotient  $Q$  for the reaction above?

2. Consider the reaction  $N_2(g) + 2O_2(g) \rightleftharpoons 2NO_2(g)$

a) Write the reaction quotient  $Q$  for the reaction.

b) Evaluate  $Q$  if 0.20 mol  $NO_2$ , 0.080 mol  $O_2$ , and 0.040 mol  $N_2$  are initially in a 2.0 L container at 500 K.

c) At 500 K, the concentration equilibrium constant  $K_c = 210$ . Which direction (right towards products, left towards reactants, or none-reaction already at equilibrium) does the reaction proceed to reach equilibrium?

**Check-in:** (Answer from 1 = Strongly disagree to 5 = strongly agree)

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 1. I was challenged intellectually by the content and activities the last weeks.           | 1 | 2 | 3 | 4 | 5 |
| 2. I had plenty of support from the professor, classmates, and the course tools last week. | 1 | 2 | 3 | 4 | 5 |
| 3. I am closer to mastering the ideas of the course now than I was last week.              | 1 | 2 | 3 | 4 | 5 |
| 4. I made progress in learning last week because of my own efforts and choices.            | 1 | 2 | 3 | 4 | 5 |
| 5. I felt I was part of a community of learners last week.                                 | 1 | 2 | 3 | 4 | 5 |

To help your learning in this class, is there anything we should...

1. Continue doing?
2. Start doing?
3. Stop doing?