Dougherty Valley HS AP Chemistry
Equilibrium Review

QUICK CHECK #2a

Name: **Date:** **Period:** **Seat #:**

Check off each item if you can do the question. Write down a question to ask if you cannot do the question.

☐ K_p & K_c

$2\ NO(g) + Br_2(g) \leftrightarrows 2\ NOBr(g)$
$K_c = 1.2 \times 10^{-10}$ at 25 °C

Write the K_p expression for this reaction and calculate its value. [R = 0.0821 L·atm/mol·K]

☐ ICE Box Problem

A solution is prepared by dissolving 0.050 mol of diiodocyclohexane, $C_6H_{10}I_2$, in the solvent CCl_4. The total solution volume is 1.00 L. When the reaction, $C_6H_{10}I_2 \leftrightarrows C_6H_{10} + I_2$, comes to equilibrium, the concentration of I_2 is 0.035 mol/L. What is are the concentrations of $C_6H_{10}I_2$ and C_6H_{10} at equilibrium?

$C_6H_{10}I_2$ ⇆	C_6H_{10} +	I_2

☐ Le Châtelier's' Principle Demo

$Co(H_2O)_6^{2+}(aq) + 4\ Cl^-(aq) \rightleftharpoons CoCl_4^{2-}(aq) + 6\ H_2O(l)$
pink blue

a) add HCl(aq)	____	____	____	____
b) add $H_2O(l)$	____	____	____	____
c) increase the temperature	____	____	____	____
d) decrease the temperature	____	____	____	____
e) add $AgNO_3(aq)$	____	____	____	____

Note:
Predict (a) and (b) before the demonstration.
Watch (c) and determine whether the reaction is endo- or exo-thermic.
Predict (e) before the demonstration.