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Quiz V General Chemistry	II Lecture I Summer 13	Dr. Hahn 25 pts 6/19 W	quiz #	
Name Key	Nan	ne		
(print name)		n name) Please show all	work for full credit.	
1. For the following re the normal format.	action, give the equilibrium (5 pts)	constant expression as conc		
+	$H_2CO_3$ (aq) + OH (aq)	1	reactions,	
Kon=	[4coz] Cos		1	
	(HCO3-)	$\mathcal{Y}_{i}$	on always leave Off	
			Solids +	
			liquids	
2 For the reaction I <sub>2</sub> (g)	+ Cl <sub>2</sub> (g) → 2 I Cl (g	), Keq = $4.2 \times 10^{-7}$ (I m	nade up these numbers.)	
Initially you have $[I_2(g)] = 0.125$ M and $[Cl_2(g)] = 0.250$ M. What is the equilibrium concentration of the I Cl (g) in molarity? (I am not looking for the final answer. Just set up the problem because you do not have enough time to actually complete the algebra.) I have started filling out the ICE table so that you can complete the problem. (8.5 pts total, one ½ point can be wrong with no penalty be quiz has too many				
pts)	•	antis	116	
		Turi	of I, ICh+	
	hown below. ( ½ pt per tab	ole block)	Sa afile /	
Laton 1	olank _		04-00	
2		Cb >	21C1 (set)	
(A) Pts of	f 15 51ap		(X = ( owest	
	[ I <sub>2</sub> ]	[Cl <sub>2</sub> ]	[ I Cl]	
initial				
·	0.125 m	0,250m	<i>O</i>	
change	-×	-X	+ 2×	
equilibrium	0.125 -X	0.250-10	2 %	
	<del></del>			

b. Write out the equilibrium constant expression for the equation using your equilibrium values (2 pts)
$([ICI]^2) (2x)^2 (2x)^2$
Keg = (II) [C1] (0.125-x)(0,250-x)
(0.125-x)(0,250-x)
Total Line Like
c. Write out the equilibrium constant expression for the reaction using your equilibrium values with your simplifying approximation. (2 pts)
write out the equinorium constant expression for a simplifying approximation. (2 pts) $ \begin{array}{c} (2x)^2 \\ (0.125)(0.250) \end{array} $ Simplifying approximation. (2 pts)
(Kell= X) Broximotion
(0.125)(0.250) (0) X << 0.125
4x2= (4,2+107)(0.125)(0.250)
$\begin{array}{cccccccccccccccccccccccccccccccccccc$
(2 pts, 1 pt per blank)
Strong acid HCl, HBV, HZ, HNO3, H250g
Weak acid HF, CH3 COH, HCN, H3 PO4
Weak delig 117 Co. S. C.
·
4. If I make up a 0.073 M solution of a strong base NaOH, what is the pH of this solution? Method
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Name		Name		
(print name)		(sign name)	Please show all	work for full credit.
For the following re the normal format.		rium constant exp	oression as conc	entration in molarities in
$HCO_3^-(aq) + H_2O(l) \rightarrow$	$H_2CO_3$ (aq) + OH	(aq)		
	·			
2 For the reaction I <sub>2</sub> (g)	+ Cl <sub>2</sub> (g) → 2 I C	Cl(g), $Keq = 4$	4.2 x 10 <sup>-7</sup> (I m	ade up these numbers.)
Initially you have [I <sub>2</sub> (g)] the I Cl (g) in molarity? not have enough time to accan complete the problem. pts)	(I am not looking for the tually complete the alge	e final answer. 3 bra.) I have star	Just set up the parted filling out to	roblem because you do he ICE table so that you
a. Fill out the table sh	own below. ( ½ pt per	r table block)		
	$I_2$	Cl₂ →		2 I Cl
-	F T. 1	T C1. 1		[ I Cl]
	[ I <sub>2</sub> ]	[ Cl <sub>2</sub> ]	1100 1100 1100 1100 1100 1100 1100 110	[TOI]
initial				
		Table 1		
change			3	
equilibrium				

b.	Write out the equilibrium constant expression for the equation using your equilibrium values. (2 pts)
C.	Write out the equilibrium constant expression for the reaction using your equilibrium values with your simplifying approximation. (2 pts)
	Give at least one strong acid and one weak acid. I would like the molecular formulas for the acids.  1 pt per blank)
Strong	acid
Weak	acid
4. If (pH =	I make up a 0.073 M solution of a <u>strong base</u> NaOH, what is the pH of this solution? $-\log [H^+]$ , pH + pOH = 14, $[H^+][OH^-] = 1.0 \times 10^{-14}$ ) (6 pts)