

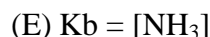
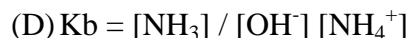
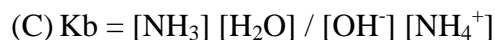
## Primary Topics of Equilibrium Part 2 Assignment

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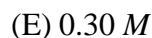
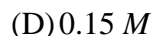
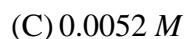
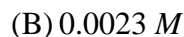
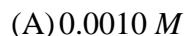
Watch the following video podcasts and answer each question below:

Primary Topics of Equilibrium Part 2: <https://www.youtube.com/watch?v=IQ4ZGYWU2zE>

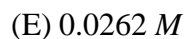
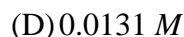
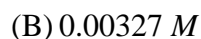
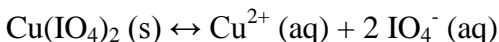
- 1) Determine the expression for the equilibrium constant,  $K_b$ , for a weak acid like  $\text{NH}_3$ .



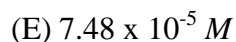
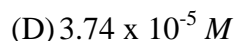
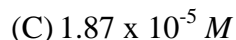
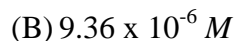
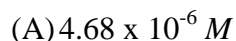
- 2) Calculate the molar concentration of a 0.30  $M$  solution of acetic acid,  $\text{HC}_2\text{H}_3\text{O}_2$ , given the chemical reaction below.  $K_a$  for acetic acid is  $1.8 \times 10^{-5}$ .



- 3) Calculate the concentration, in  $\text{mol L}^{-1}$ , of  $\text{IO}_4^- (\text{aq})$  in a saturated solution of  $\text{Cu}(\text{IO}_4)_2$  given the  $K_{sp} = 1.40 \times 10^{-7}$  according to the following reaction.



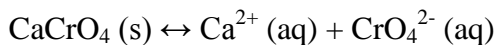
- 4) Given 0.10  $M$   $\text{COCl}_2$ , what is the equilibrium concentration of  $\text{CO}$  given  $K_c = 2.19 \times 10^{-10}$  according to the following chemical reaction.



## Primary Topics of Equilibrium Part 2 Assignment

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- 5) The reaction below has an equilibrium constant  $K_{sp} = 7.1 \times 10^{-4}$ . Calculate the equilibrium concentration of  $\text{Ca}^{2+}(\text{aq})$ .



(A) 0.00036 *M*

(B) 0.00071 *M*

(C) 0.013 *M*

(D) 0.027 *M*

(E) 0.054 *M*