

March 3, 2014

Mock Exam II Ans

1. C

2. C

3. A

4. A

5. D

6. B note K_b given was supposed to be K_a

7. A

8. D

9. C

10. D

11. $\frac{2.5 \text{ torr}}{760} = 0.00329 \text{ atm}$

$\Pi = cRT$

$0.00329 = c(0.0821)(25+273)(1)$

$c = 0.0001345 \text{ M}$

$\frac{\text{moles}}{\text{Liters}} = \text{Molarity} \rightarrow \frac{\text{moles}}{.125 \text{ L}} = 0.0001345$

moles = 0.0000168

$\frac{\text{grams}}{\text{molar mass}} = \text{moles}$

$\frac{.1}{x} = 0.0000168$

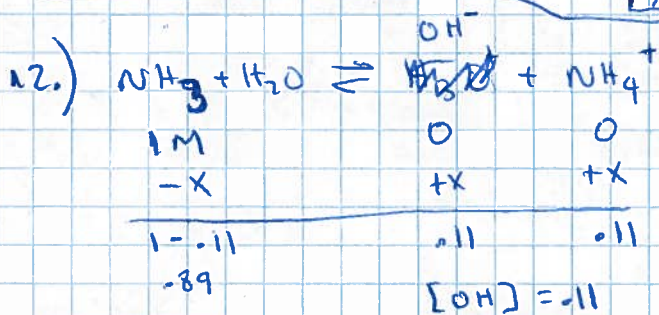
$x = 5950.08$

$K_b = \frac{(0.11)(0.11)}{(0.89)}$

$K_w = K_b \cdot K_a$

$K_b = 0.0136$

$K_a = 1.35 \times 10^{-13}$



$(0.11)(0.11) = .11$

$\text{pOH} = -\log[\text{OH}]$

$= -\log(.11)$

$\text{pH} = 13.04$

$0.959 \rightarrow \text{pH} + \text{pOH} = 14$

$\text{pH} = 13.04$