8B 2

ADDITIONAL PAGE FOR ANSWERING QUESTION 8.

D) BECAUSE NH_4 has a K_b of 1.8×10^{-5} and the K_a for NH_4 would be $\frac{1 \times 10^{-14}}{1.8 \times 10^{-5}}$ which is a pretty small K_a

D) $K_b = 1.8 \times 10^{-5} = \frac{[OH][NH_4]}{[NH_3]}$ with equal concentrations of NH_3 and NH_4 they cancel leaving $1.8 \times 10^{-5} = [OH]$ take the log of that to be about $5 = pOH$ $14 - 5 = pH = 9$ slightly basic

END OF EXAMINATION

THE FOLLOWING INSTRUCTIONS APPLY TO THE BACK COVER OF THE SECTION II BOOKLET.

- **CIRCLE THE NUMBERS OF THE FREE-RESPONSE QUESTIONS YOU ANSWERED AS REQUESTED ON THE BOTTOM OF THE BACK PAGE.**
- **MAKE SURE YOU HAVE COMPLETED THE IDENTIFICATION INFORMATION AS REQUESTED ON THE BACK OF THE SECTION II BOOKLET.**
- **CHECK TO SEE THAT YOUR AP NUMBER APPEARS IN THE BOX(ES) ON THE BACK COVER.**
- **MAKE SURE YOU HAVE USED THE SAME SET OF AP NUMBER LABELS ON ALL AP EXAMINATIONS YOU HAVE TAKEN THIS YEAR.**