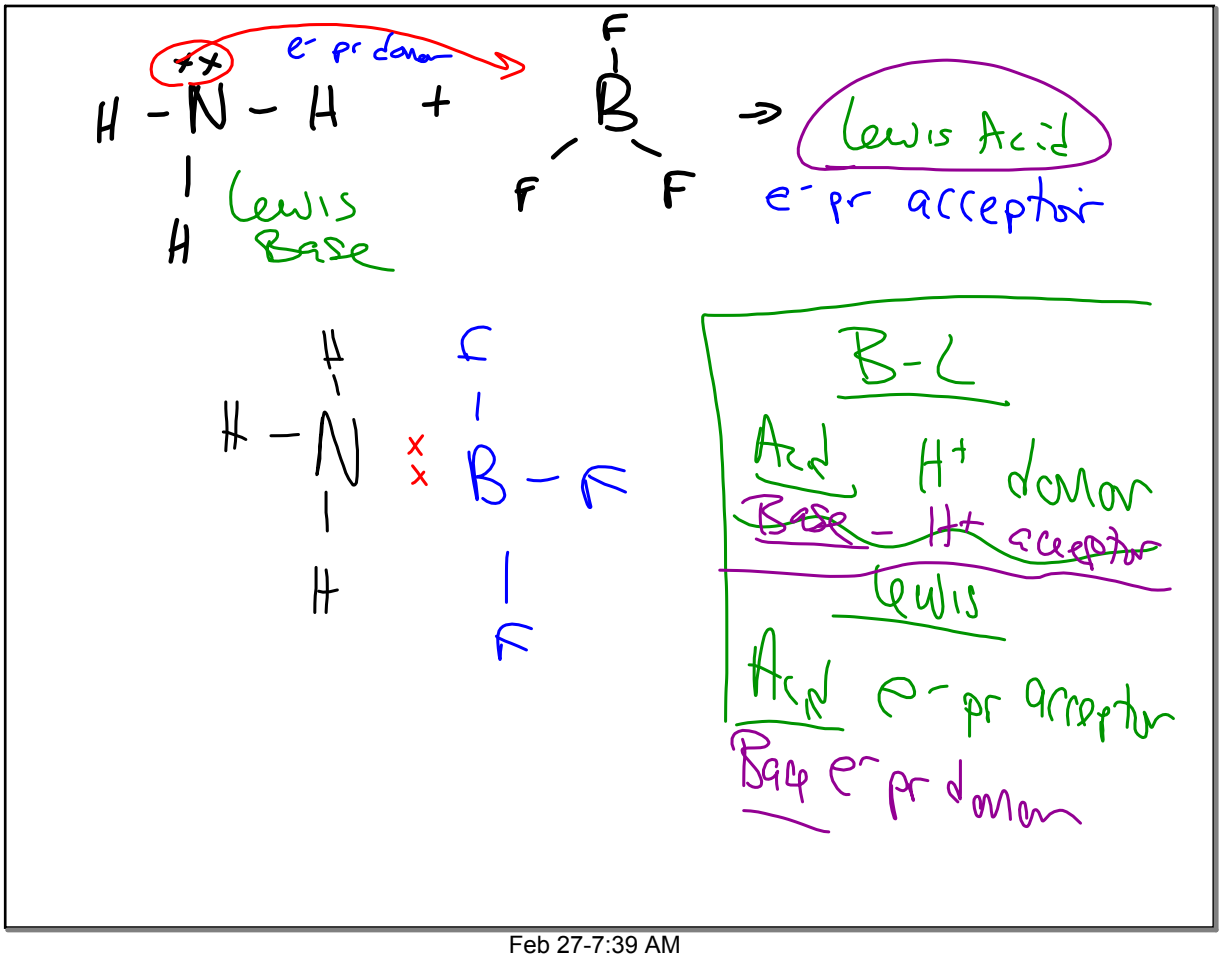
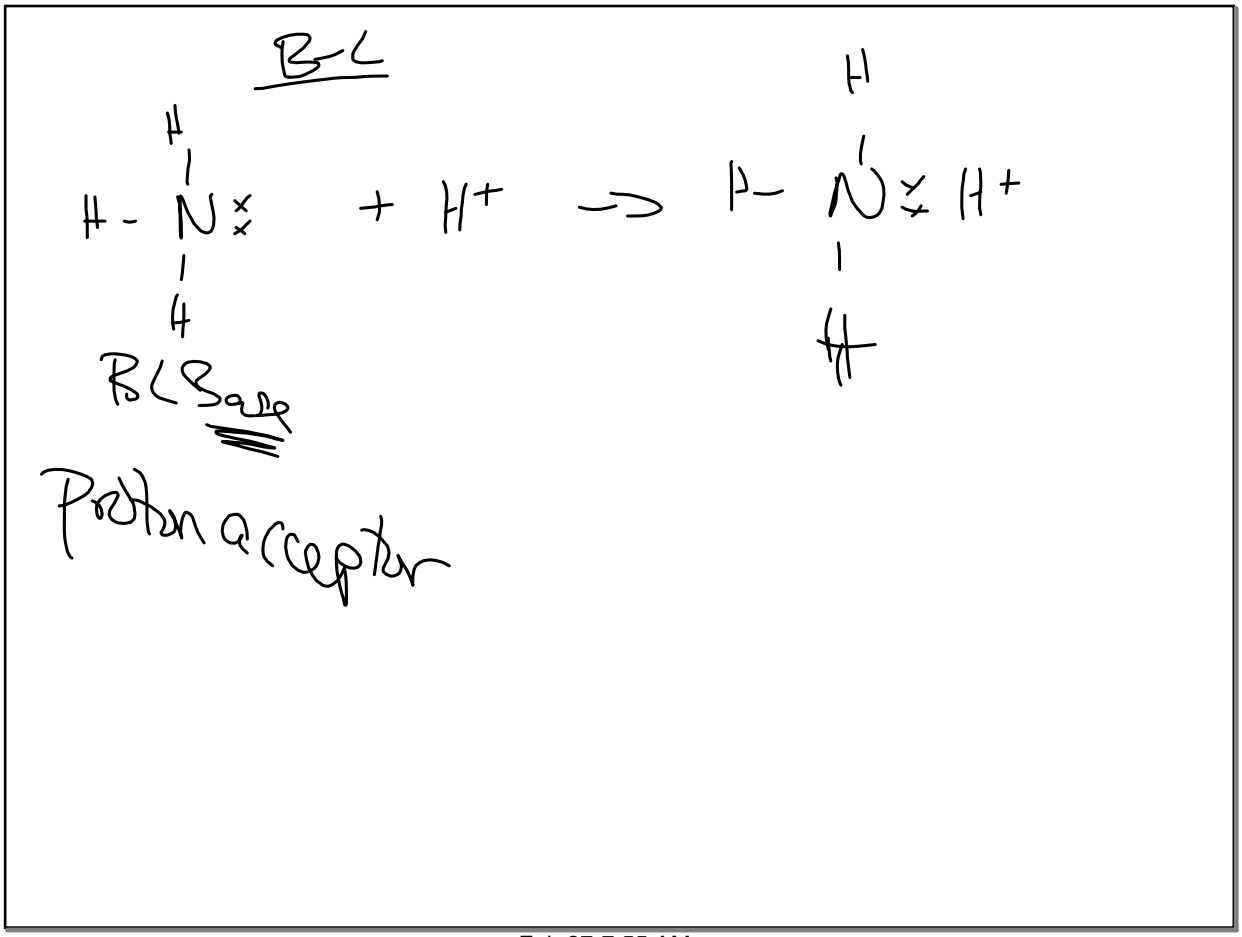


Feb 27-7:39 AM



Feb 27-7:55 AM

③ Conj acid of NH_3

NH_3 BASE H^+ Acceptor + H^+ → NH_4^+ conj Acid

Feb 27-7:58 AM

⑥ $pH = -\log[H^+]$

$8.11 = -\log(H^+)$

$-8.11 = \log(H^+)$

$10^{-8.11} = 10^{\log(H^+)}$

$= H^+$

Move ⊖ 1st

Feb 27-8:01 AM

(14) $HA \rightleftharpoons H^+ + Cl^-$

	HA	H^+	Cl^-
I	0.025 M	0	0
Δ	−x	+x	+x
E	0.025 − x	y	y

$$\frac{x^2}{0.025} = \frac{1.4 \times 10^{-3}}{1}$$

K_a

Feb 27-8:08 AM

(15) $HZ \rightleftharpoons H^+ + Z^-$

	HZ	H^+	Z^-
I	0.02	0	0
Δ	−x	+x	+x
E	0.02 − x	x	x

$[H^+] = 1.18 \times 10^{-5}$

$pH = 4.93$

$$K_a = \frac{(x)(x)}{0.02 - x}$$

Feb 27-8:10 AM

(20) ⓐ pH = 3 pOH = 4 $[OH^-] = 1 \times 10^{-11}$

ⓑ $[H^+] = 1 \times 10^{-4}$ $[OH^-] = 1 \times 10^{-14}$

ⓒ pOH = 12 $[OH^-] = 1 \times 10^{-12}$

ⓓ K_w $[OH^-] = 1 \times 10^{-7}$

ⓔ $[H^+] = 1 \times 10^{-9}$ $[OH^-] = 1 \times 10^{-5}$

Feb 27-8:14 AM

(23) $K_b = 1.8 \times 10^{-5}$ NH_3

pH 0.35M NH_4Cl

$NH_4Cl \rightarrow NH_4^+ + Cl^-$ (0.35 / 0.35 / 0.35)

Soluble Salt. (100% dissoc.)

Acid $NH_4^+ \rightarrow NH_3 + H^+$

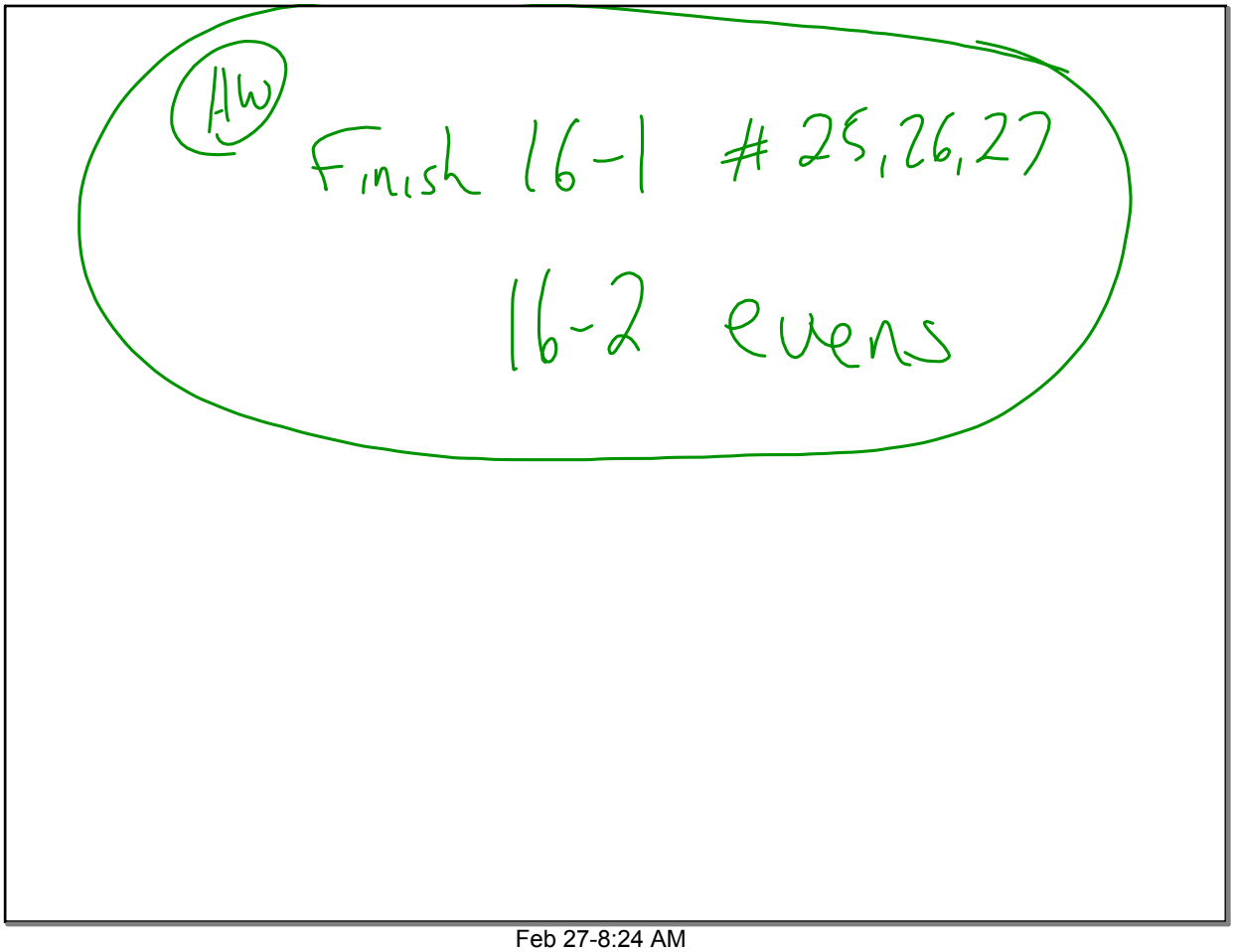
	NH_4^+	NH_3	H^+
I	0.35	0	0
D	−x	+x	+x
E	0.35 − x	x	x

$K_a = \frac{x^2}{0.35} = \frac{5.56 \times 10^{-11}}{1}$

$K_a \times K_b = K_w$

$K_a = \frac{1 \times 10^{-14}}{1.8 \times 10^{-5}}$

Feb 27-8:18 AM



Feb 27-8:24 AM