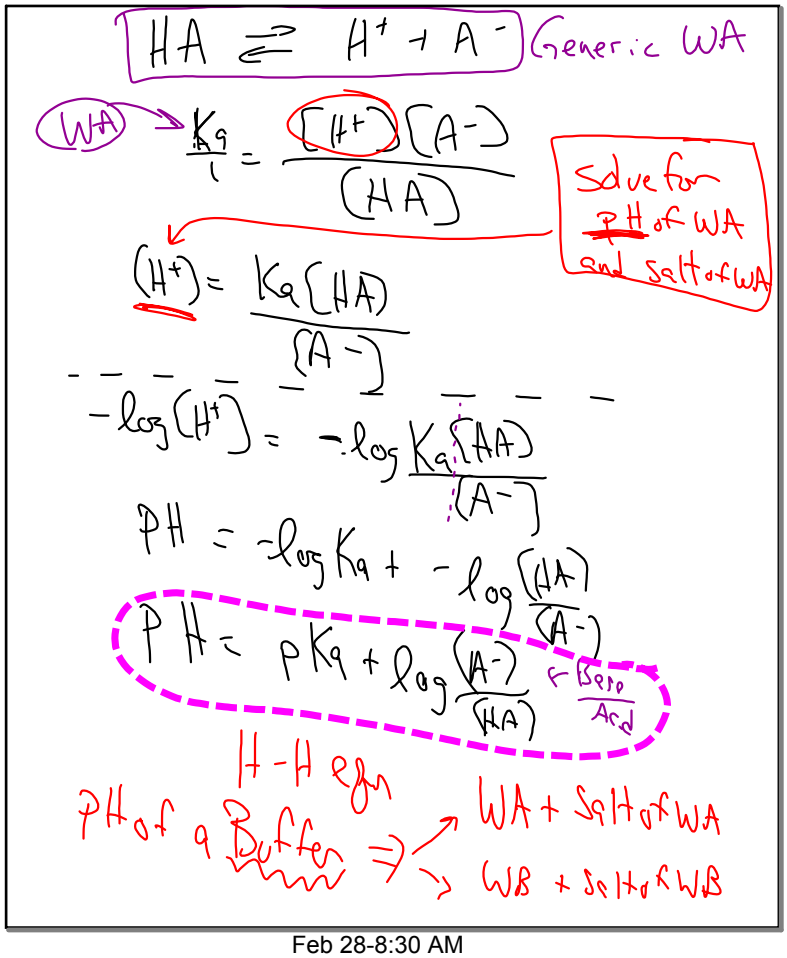
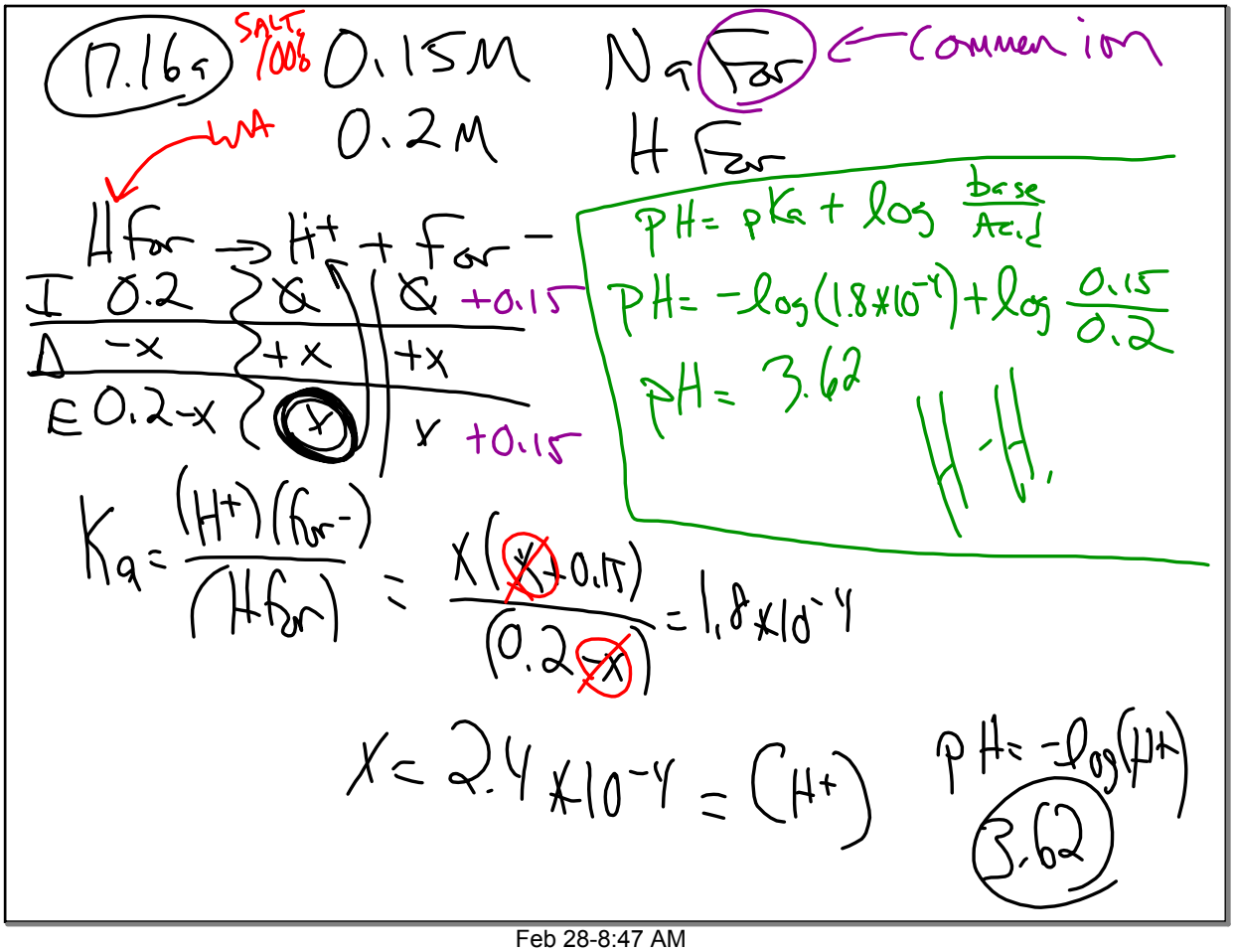


Feb 28-8:30 AM



Feb 28-8:47 AM

11.18 0.085 M HLAc $K_a = 1.4 \times 10^{-4}$

$HLac \rightarrow H^+ + Lac^-$

	HLac	H^+	Lac^-
I	0.085	≈ 0	0
Δ	−x	+x	+x
E	0.085−x	≈ x	x

% ionized = $\frac{x}{0.085}$

$$K_a = \frac{(H^+)(Lac^-)}{(HLac)} = \frac{(x)(x)}{0.085 - x} = 1.4 \times 10^{-4}$$

$x =$ ____

Feb 28-8:54 AM

11.16 125 mL 0.05 M HF + 50 mL 0.1 M NaF

pH = ? * Change in volume to 175 mL total

This changes the M of each!

Moles = M × L ① convert to moles

6.25×10^{-3} moles HF + 5×10^{-3} moles NaF

0.175 L ② Recalc new M ⇒ $M = \frac{\text{moles}}{L}$ 0.175 L total volume

3.57×10^{-2} M HF + 2.86×10^{-2} M NaF

WA Sol'n of WA

$pH = pK_a + \log \frac{b}{a}$

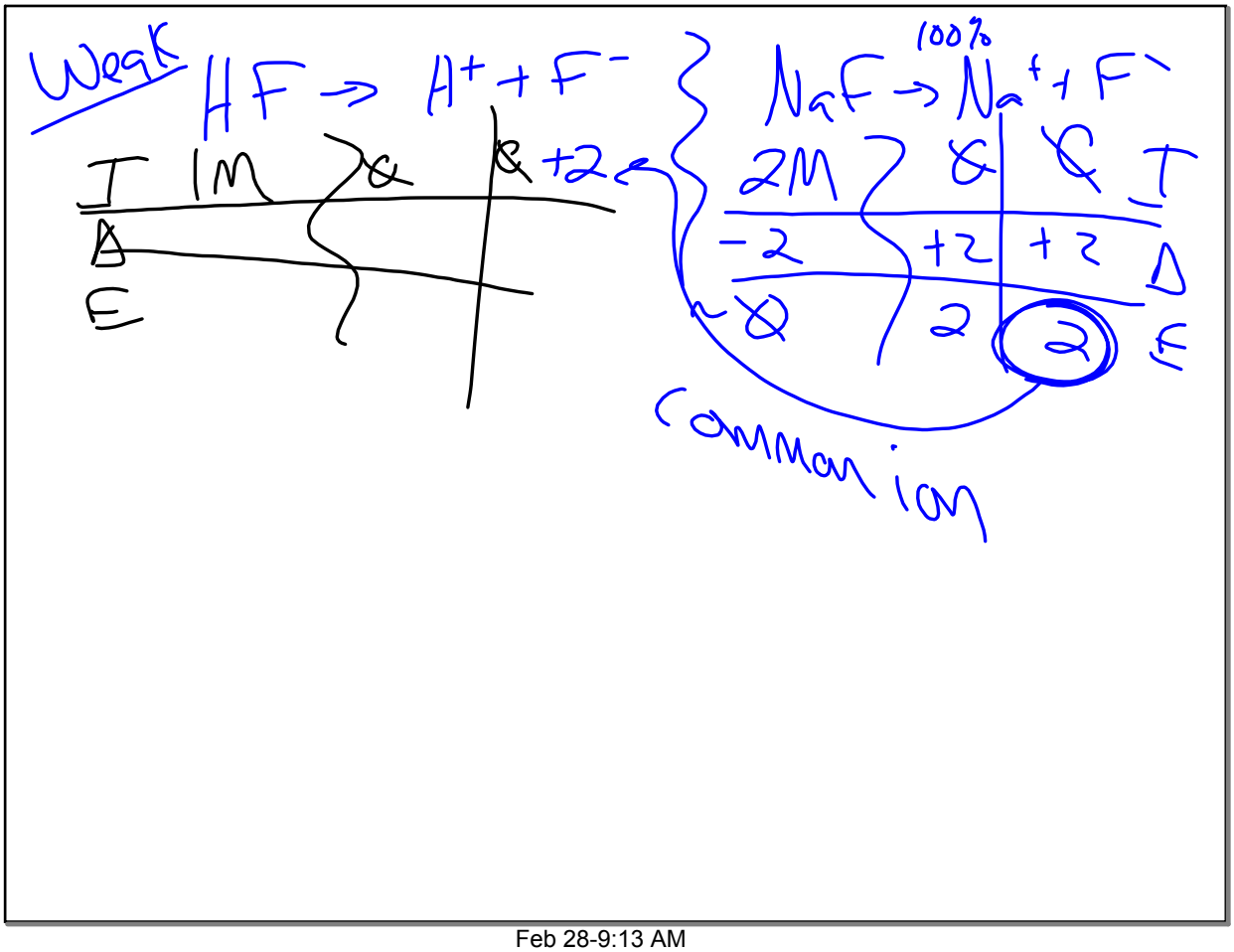
$pH = -\log(6.8 \times 10^{-4}) + \log \frac{2.86 \times 10^{-2}}{3.57 \times 10^{-2}}$

pH = 3.07

$HF \rightleftharpoons H^+ + F^-$

Δ pH ↑ b/c less acid & fewer H^+

Feb 28-8:58 AM



Feb 28-9:13 AM

HW: 17 / 21

Feb 28-9:15 AM