pH, pOH, and Kw Extra Practice – Supplemental Worksheet

1. Fill in the table

[H$_3$O$^+$]	[OH$^-$]	pH	pOH
1x10^{-3} M			
		2	
			9
	1x10^{-5} M		
2.8x10^{-4} M			
		6.7	
			2.84
1.8 M			
	3.1x10^{-9}		

2. At body temperature, 37°C, K$_w$ = 2.5 x 10^{-14}. What is the pH of neutral water at 37°C?

3. K$_a$ for acetic acid is 1.8 x 10^{-5}, what is K$_b$ for the acetate ion?

4. The pK$_b$ for methylamine is 3.36. What is K$_a$ for the methylammonium ion?

5. The pK$_a$ for lactic acid is 3.08 at 373K. At this temperature, K$_w$ = 5.13 x 10^{-13}. What is the K$_b$ for the lactate ion at the same temperature?

6. What is the pH of a 0.3M solution of HI?

7. What is the pH of a 0.3M solution of Ba(OH)$_2$? Hint: Write a balanced reaction for this substance dissociating.