

pH, acid/base Practice -- Chemistry 121A Hanson

1. Fill in the table below.

pH	pOH	[H ⁺]	[OH ⁻]
4.00			
	5.00		
		1.0 x 10 ⁻⁶	
			1.5 x 10 ⁻³

2. What are the principal acidic or basic species (possibly plural) in each of the following solutions? For each, write the net ionic equation for the reaction of that species with water. The first one is done for you.



b. KOH

c. HCl (write H₃O⁺, not H⁺; Cl⁻ is not basic)

d. NH₄I (what was the lesson in c?)

e. HF

3. Calculate the pH of each of the following solutions:

a. 10.0 mL of 0.030 M HCl

d. Solution (a) diluted to 100.0 mL

b. 15.0 mL of 0.050 M H₂SO₄

e. Solution (a) mixed with solution (b)

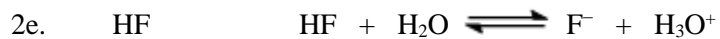
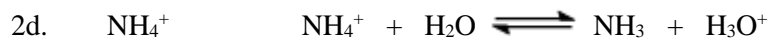
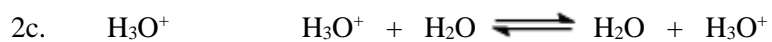
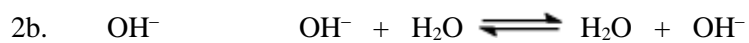
c. 10.0 mL of 0.015 M KOH

f. Solution (a) mixed with solution (c)

ANSWERS

1.

pH	pOH	[H ⁺]	[OH ⁻]
4.00	10.00	1.0 x 10 ⁻⁴	1.0 x 10 ⁻¹⁰
9.00	5.00	1.0 x 10 ⁻⁹	1.0 x 10 ⁻⁵
6.00	8.00	1.0 x 10 ⁻⁶	1.0 x 10 ⁻⁸
11.18	2.82	6.7 x 10 ⁻¹²	1.5 x 10 ⁻³



3. a. 1.52

b. 1.00

c. 12.18

d. 2.52

e. 1.14

f. 2.12