

Answers to Homework Problems Not Found In
Text

Chapter 7

6. Two strong acids: HCl(aq) & H_2SO_4

Two weak acids: $\text{H}_2\text{CO}_3(\text{aq})$ & H_3PO_4

8. Strong acids completely dissociate into $\text{H}^+(\text{aq})$ and their anions, while weak acids partially dissociate. So, in a weak acid solution, you will find mostly the intact weak acid molecules and some $\text{H}^+(\text{aq})$ and its anion.

10. An acidic anhydride is a non-metal oxide while a basic anhydride is a metal oxide.

12. Mg(OH)_2 is nearly insoluble in water, while NaOH is completely soluble in water.

20. hydroxide ion, OH^-

30. a. Lithium hydroxide, LiOH

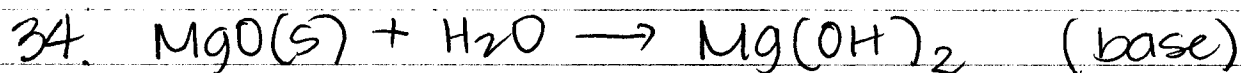
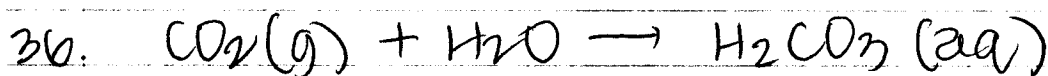
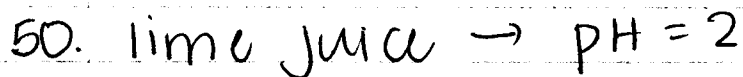
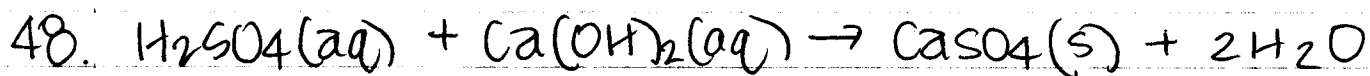
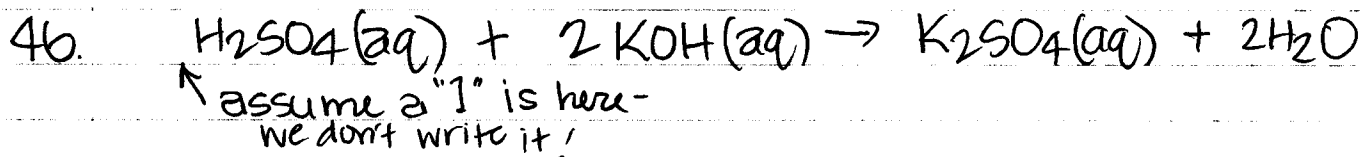
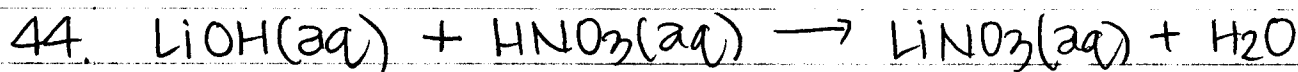
b. sulfurous acid, H_2SO_3 or $(\text{HO})_2\text{SO}$

c. phosphoric acid, H_3PO_4 or $(\text{HO})_3\text{PO}$

d. calcium hydroxide, Ca(OH)_2

Ch. 7 (continued)

32.

a. $\text{Mg}(\text{OH})_2$, magnesium hydroxide, (base)b. NH_3 , ammonia, (base)c. H_2S , hydrogen sulfide, (acid)remember: metal oxide + $\text{H}_2\text{O} \rightarrow$ baseremember: non-metal oxide + $\text{H}_2\text{O} \rightarrow$ acid

52. $[\text{H}^+] = 1.0 \times 10^{-10}$; $\text{pH} = -\log[\text{H}^+] = 10$

54. $[\text{H}^+] = 1.0 \times 10^{-11}$

60. (a) $\text{pH} = 11$ (14-3) (b) $\text{pOH} = 2$ (0.01M NaOH)
 $\text{pH} = 12$ (14-2)