Key.

Acid #5

1. Complete the table by filling in the blank spaces.

Acid	Base	Salt 0.10 M	Ion hydrolyzing	Relative acidity	pH
HCl	NaOH	NaCl	neither	neutral	7.000
HBr	KOH	KBr	neither	neutral	7.000
HNO_3	$Ca(OH)_2$	$Ca(NO_3)_2$	neither	neutral	7.000
HCl	NH_3	NH_4Cl	NH_4^+	acidic	5.13
H_2SO_4	KOH	$KHSO_4$	HSO_4^-	acidic	omit
H_2CO_3	NaOH	Na_2CO_3	CO_3^{2-}	basic	11.63
H_2CO_3	NaOH	$NaHCO_3$	HCO_3^-	basic	omit
HF	KOH	KF	F^-	basic	8.23
HCl	$Al(OH)_3$	$AlCl_3$	$Al(H_2O)_6^{3+}$	acidic	omit
HCl	$Fe(OH)_3$	$FeCl_3$	$Fe(H_2O)_6^{3+}$	acidic	omit
HCOOH	KOH	HCOOK	$HCOO^-$	basic	8.37
HCN	$Ca(OH)_2$	$Ca(CN)_2$	CN^-	basic	11.31

2. Predict the relative acidity of each salt

$AlCl_3$ acidic

$Fe(NO_3)_3$ acidic

Na_3PO_4 basic

NH_4CH_3COO neutral

K_2HPO_4 basic

$NaHCO_3$ basic

$NaHSO_3$ acidic

AlI_3 acidic

NH_4Br acidic

$Ca(NO_3)_2$ neutral

Na_2CO_3 basic

K_2SO_4 basic

$(NH_4)_2C_2O_4$ acidic

$(NH_4)_2CO_3$ basic

KH_2PO_4 acidic

$KHSO_4$ acidic