Acid nomenclature

Acids - formulas start with H; names end with the word "acid"

I. Binary acids - H with a nonmetal

a. naming compounds: hydro_____ic acid; fill in blank with "root" of nonmetal name

example: HF = hydrofluoric acid

b. writing formulas: balance nonmetal negative charge with the hydrogen 1+ charge

II. Oxyacids - H with a polyatomic ion containing oxygen

a. naming compounds: "ate" ions become _____ic acid

"ite" ions become _____ous acid

example: H_3PO_4 contains PO_4^{2-} (phosphate); therefore the acid is phosphoric acid

$HClO_2$ contains ClO_2^- (chlorite): therefore, the acid is chlorous acid

b. writing formulas: balance polyatomic anion negative charge with the H^+ charge

Name these:

HCl _____

$HBrO_3$_____

HNO3_____

H_2SO_3_____

H_3PO_4_____

$HC_2H_3O_2$_____

H_2S_____

H_2CO_3_____

HF_____

HIO_3_____

Write these formulas:

sulfuric acid_____

acetic acid_____

nitrous acid_____

hydrosulfuric acid_____

phosphoric acid_____

perchloric acid_____

hydroiodic acid_____

hydrochloric acid_____

permanganic acid_____

hydrobromic acid_____

thiosulfuric acid _____

arsenic acid _____

sulfurous acid _____

chromic acid _____

cyanic acid_____

hydroiodic acid _____

iodic acid _____

oxalic acid _____

Some polyatomic ions

nitrite	NO_2^-	cyanide	CN^-
arsenate	AsO_4^{3-}	silicate	SiO_3^{2-}
thiosulfate	$S_2O_3^{2-}$	sulfite	SO_3^{2-}
tartarate	$C_4H_4O_6^{2-}$	dichromate	$Cr_2O_7^{2-}$
chromate	CrO_4^{2-}	oxalate	$C_2O_4^{2-}$
peroxide	O_2^{2-}	thiocyanate	SCN^-
hypochlorite	ClO^-		
chlorite	ClO_2^-		
chlorate	ClO_3^-		
perchlorate	ClO_4^-		
bromate	BrO_3^-		
iodate	IO_3^-		
bisulfate	HSO_4^-		