CHEM 161: POLYATOMIC IONS AND NAMING ACIDS

POLYATOMIC IONS
– Know the formulas and names of the following polyatomic ions:

- $NH_4^+$ = ammonium ion
- $Hg_2^{2+}$ = mercury (I) ion
- $MnO_4^-$ = permanganate ion
- $C_2H_3O_2^-$ = acetate ion
- $CN^-$ = cyanide ion
- $SCN^-$ = thiocyanate ion

- $CrO_4^{2-}$ = chromate ion
- $Cr_2O_7^{2-}$ = dichromate ion
- $SO_4^{2-}$ = sulfate ion
- $HCO_3^-$ = hydrogen carbonate ion
- $SO_3^{2-}$ = sulfite ion
- $NO_2^-$ = nitrite ion
- $OH^-$ = hydroxide ion
- $O_2^{2-}$ = peroxide ion

- $CO_3^{2-}$ = carbonate ion
- $HCO_3^-$ = hydrogen carbonate ion
- $SO_3^{2-}$ = sulfite ion
- $ClO^-$ = hypochlorite ion
- $SO_3^{2-}$ = sulfite ion
- $ClO_3^-$ = chlorate ion
- $PO_4^{3-}$ = phosphate ion
- $NO_3^-$ = nitrate ion
- $ClO_4^-$ = perchlorate ion

ACIDS: Aqueous solutions of a compound that releases $H^+$ ions
– usually have H in front, physical state indicated as aqueous (aq)
– naming depends on the ion from which the acid forms

- $F^-$ = fluoride ion
  - add # of H's equal to negative charge
  - $HF(aq)$ = hydrofluoric acid

- $NO_2^-$ = nitrite ion
  - add # of H's equal to negative charge
  - $HNO_2(aq)$ = nitrous acid

- $NO_3^-$ = nitrate ion
  - add # of H's equal to negative charge
  - $HNO_3(aq)$ = nitric acid

For some acids, the stem name changes:

- $PO_4^{3-}$ = phosphate ion
  - add # of H's equal to negative charge
  - $H_3PO_4(aq)$ = phosphoric acid