```
Ch 5 Intro, to Solutions and Ag. Rxns
\frac{219}{2.78 \text{ L soln}} = 1.17M \qquad 236) \quad 0.150 \text{ M } \left( a(NO_3)_2 \times 2mol(NO_3)_1' \right) = 0.360 \text{ M} 
\frac{1}{2.78 \text{ L soln}} = 1.17M \qquad 236) \quad 0.150 \text{ M} \left( a(NO_3)_2 \times 2mol(NO_3)_1' \right) = 0.360 \text{ M} 
\frac{1}{2.78 \text{ L soln}} = 1.17M \qquad 236) \quad 0.150 \text{ M} \left( a(NO_3)_2 \times 2mol(NO_3)_1' \right) = 0.360 \text{ M}
27) 400.0 m L soln x 1 L 1.1 mol Na NO3 x 85.00 g Na NO3 = 375 Na NO3
29) (1.1M)(123 mL) = M2 (500.0mL) M2 = 0.27M
 31) (12M) (50.0mL) = V2 (0.100M) V2 = 6000mL 6.6 X10 or 6.0 L
 35) 25.03 H2 x Imol H2 x 3 mol H2504 x 1L G.O mol H2504 = 2,1 L H2504
 37) 25,0 mL KC1 x 1.20 mol KC1 x 1 mol Baclz = 0.0150 mol Baclz ER
      15.0ml Ba(NO3)2 × 0.900 mol Ba(12 × 1mol Ba(12) = 0.0135 mol Ba(12 × 208.233 Ba(12)
                      2.45s x 100 = 87,2 %
                                                                                 = 2.81, Back
39) a, c,d = SE b = NE 42 a) I b) I c) I d) S K+ and PO3-3
436) KC/(6g) + CaS(cg) → NR d) 3 NaOH(6) + FeC/3 (Eg) → 3 NaC/(6g) + Fe(6H)3 L
                                                                            476) NI
53c) H2504 (98) + 2NaOH(28) -> 2H20(2) + Na2504(28) 5-2+ Cu+2-> Cas(5)
 546) 2HC2H3O2A3) + Ca(6H)263) -> 2H2O(R) + Ca((2H3O2)268)
 59a) HBraq) + N:S(s) -> N: Brz (2) + H251
     b) NHy I(ag) + NaOH(ag) -> NHy OH(ag) + Na I(ag) -> NH3 T + H2O(e) + Na I(ag)
decomposes
     d) 2 HC1046g) + L12CO36g) -> H2CO36g) + L1 C1046g)
          2 HC104 (4) + Liz CO3 (4) -> H20 (4) + CO31 + Li C104 (4)
  62 e) (c_{12}c_{7}^{-2})^{2-} 64a) (c_{10}c_{7}^{-2})^{-2} 6) (c_{10}c_{3}c_{7}^{-2})^{-2} 6) (c_{10}c_{3}c_{7}^{-2})^{-2}
```

(656)
$$M_g(s) + Fe(g) \longrightarrow M_g(ag) + Fe(s)$$

$$KA \longrightarrow M_g^{+2} + 2e \longrightarrow Kg^{+2} + 2e \longrightarrow Fe^{\circ} red$$

$$OA = Sain$$

73)
$$\frac{20.0_{9} c_{2} H_{6} O_{2}}{100.0_{9} soln} \times \frac{1 mol c_{2} H_{6} O_{2}}{62.079} \times \frac{1.03_{9} Soln}{1.00 mL} \times \frac{1L}{1000 mL} = 3.32 M$$

76)
$$2HCl(\alpha_0) + CaCo_3(s) \rightarrow H_2O(e) + Co_2(s) + CaCl_2(s)$$

 $3.8gHCl \times \frac{ImolHcl}{36.46g} \times \frac{ImolCaCo_3}{2molHcl} \times \frac{IOO.09}{ImolCaCo_3} = 5.2gCaCo_3$

79)
$$3CaCl_{2}(R_{3}) + 2Na_{3}RO_{4}(R_{3}) \rightarrow Ca_{3}(RO_{4})_{2}\sqrt{+6NaCl_{R_{3}}}$$

 $3Mg(NO_{3})_{2}(R_{3}) + 2Na_{3}RO_{4}(R_{3}) \rightarrow M_{5}3(RO_{4})_{2}\sqrt{+6NaCl_{R_{3}}}$
 $1.5LCaCl_{2} \times 0.650 M^{0}CaCl_{2} = 0.075 mol_{CaCl_{2}}$ $1.5LMg(NO_{3})_{2} \times 0.085 mol_{2} = 0.1275$
 $0.2025 mol_{2}CaCl_{2} \times \frac{2mol_{2}Na_{3}RO_{4}}{3mol_{2}CaCl_{2}/mg(NO_{3})_{2}} \times \frac{163.975}{lmol_{2}}Na_{3}RO_{4}$ $mol_{2}Mg(NO_{3})_{2}$

45)
$$A_5^+$$
, C_a^{2+} , C_u^{+2} add $N_aCl \rightarrow NR$ so No A_5^+ present add $N_{a_2}So_4$ forms precip \Rightarrow $C_aSo_4 \downarrow$ filter + add $N_{a_2}Co_3^{-2}$ forms $C_uCo_3 \downarrow$ C_a^{-2} C_a C