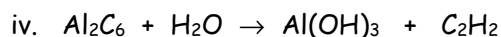50. Name the following compounds: Li_2SO_3, $CoSO_4$, CF_4, N_2O_5, $HCl_{(aq)}$, $Al_2(SO_4)_3$, $FePO_4 \bullet 5H_2O$, $Hg(HCO_3)$, CO, CH_4
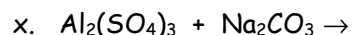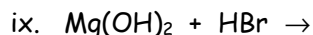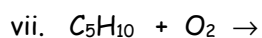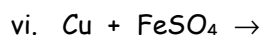
51. Write the formulas for the following compounds: ammonia, manganese(IV) oxide, Cobalt(II) chloride hexahydrate, Hydrochloric acid, nitric acid, sulphur trioxide, mercury(II) phosphate, zinc dihydrogen phosphate, hydrogen peroxide, aluminium carbide

52. Equations

    a.) Balance the following equations

        i. $CaC_2 + O_2 \rightarrow Ca + CO_2$

        ii. $C + SO_2 \rightarrow CS_2 + CO$

        iii. $BN + F_2 \rightarrow BF_2 + N_2$

        iv. $Al_2C_6 + H_2O \rightarrow Al(OH)_3 + C_2H_2$

        v. $NO_2 + H_2O \rightarrow HNO_3 + NO$
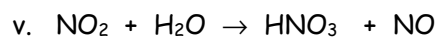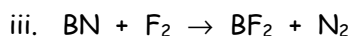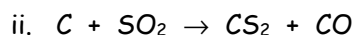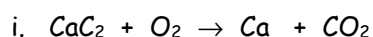
    b.) Write the products for the following reactions and balance them.

        vi. $Cu + FeSO_4 \rightarrow$

        vii. $C_5H_{10} + O_2 \rightarrow$

        viii. $Al + I_2 \rightarrow$

        ix. $Mg(OH)_2 + HBr \rightarrow$

        x. $Al_2(SO_4)_3 + Na_2CO_3 \rightarrow$

    c.) Write the ionic and net ionic equation for iv. & x. in 52.b) above.

53. Explain the difference between exothermic and endothermic reactions. Draw and label energy diagrams.

54. What is the molar mass of $Ni_2(SO_3)_3$?

55. What is the mass of $3.65 \ mol$ of CO_2?

56. How many moles of SO_2 are there in $12.6 \ g \ SO_2$?

57. How many moles of O are there in $2.45 \times 10^{24} \ molec$ of H_2O?

58. How many molecules of Ca are there in $1.34 \ mol$ of Ca?

59. How many mol of $N_{2 \ (g)}$ are there in $46.1 \ L$ of N_2 @ STP?

60. What is the mass of $16.9 \ L \ CH_{4 \ (g)}$ at STP?

61. What volume of $F_{2 \ (g)}$ at STP would 6.19×10^{22} molecules of F_2 have?

62. How many molecules of NO_2 are there in $4.87 \ g \ NO_2$?

63. What is the mass in grams of $1 \ atom$ of K?

64. A certain amount of P_2O_3 has $3.98 \ g$ P. How many grams of O are there?

65. How many molecules of NO_2 are there in $68.2 \ g \ NO_2$?

66. What is the density of $NH_{3 \ (g)}$ at STP?

67. The density of $CCl_4 \ (l) = 1.59 \frac{g}{mL}$. How many mol of CCl_4 are there in $87.1 \ mL$ of CCl_4?