CALCULATIONS (A)

1 In what molar ratio do the following substances react?

   a hydrochloric acid with calcium hydroxide .... (1)

   b nitric acid with ammonia .... (1)

2 Write an ionic equation, including state symbols, for each of the following reactions.

   a precipitation of silver(I) chloride when aqueous silver(I) nitrate is mixed with aqueous sodium chloride

     .... (2)

   b reaction of aqueous potassium carbonate with sulfuric acid

     .... (2)

3 What mass of aluminium reacts with 258 mg of chlorine? $2Al + 3Cl_2 \rightarrow 2AlCl_3$

    ....

    ....

    ....

    ....

    .... (3)

4 Find the mass of one mole of $^{7}_{3}Li$ atoms given the following data.

    mass of proton = 1.6726×10^{-24} g   mass of electron = 9.1094×10^{-28} g

    mass of neutron = 1.6749×10^{-24} g   Avogadro constant = 6.022×10^{23} mol^{-1}

    ....

    ....

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    ....

    .... (3)