MERRYLAND HIGH SCHOOLS ENTEBBE

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S3 TERM ONE 2020 CHEMISTRY HOLIDAY WORK

1 a) A hydrocarbon Z contains 85.7% carbon. Calculate its simplest formula (C=12 , H=1)

b) 0.224g of Z occupied 96cm^3 at room temperature. (1 mole of a gas occupies 24dm^3 at room temperature)

 i) Calculate its molecular mass

 ii) Hence its molecular formula

c) Write the structural formula of Z

2 a) 20.0 cm^3 of sodium hydroxide solution reacted completely with 30.0 cm^3 of 1.0 M sulphuric acid

i) Write equation for the reaction that took place

 ii) Calculate the molarity of the sodium hydroxide solution

b) A sample of 1.06g of pure sodium carbonate was dissolved in water to make 100 cm^3 solution.

Calculate;

i) The mass of sodium carbonate needed to dissolve in one litre of water

ii) The molarity of the solution.

3. When excess zinc powder was added to 0.1M hydrochloric acid in a flask , 120 cm^3 of a gas were produced

a) Write equation for the reaction that took place

b) Calculate the;

i) Volume of 1.0M hydrochloric acid required to produce 120 cm^3 of the gas.

ii) Mass of zinc powder that reacted.

END