Greek Orthodox Patriarchate School
International - Fuhies

GRADE 8

CHEMISTRY

REVISION PAST PAPER BOOKLET

2025-2026

NAME:_____

Meray Kopty

Question one

Pierre reacts metal compounds and acids to make three different salts.

The table shows the metal compounds and the acids Pierre uses.

(a) Complete the table to show the salts the reactions make.

metal compound	acid	salt made
calcium carbonate	nitric acid	.....
sodium hydroxide	sulfuric acid	.....
potassium hydroxide	hydrochloric acid	.....

(b) When calcium carbonate reacts with nitric acid a gas is made.

Write down the name of this gas.

.....

Question two

Pierre reacts metal compounds with acids to make three different salts.

The table shows the metal compounds and the salts he makes.

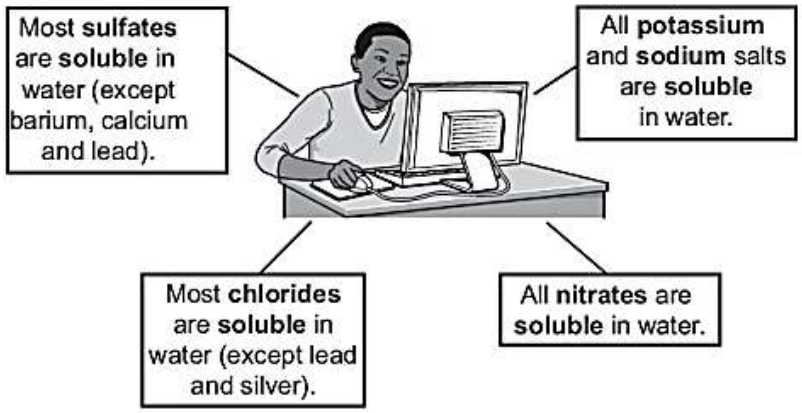
Complete the table to show the acids he uses in each reaction.

metal compound	acid	salt formed
calcium carbonate	.....	calcium nitrate
sodium hydroxide	.....	sodium sulfate
potassium hydroxide	.....	potassium chloride

Question three

Carlos researches the solubility of different salts.

He finds this information on the internet.



Use the information to answer these questions.

(a) Write down the name of one **insoluble** sulfate.

..... [

(b) Look at the chemical formula of a salt.

KCl

Is the salt soluble?

Yes ☐ No ☐

Question four

Complete these sentences about making salts.

Salts can be made by reacting metals or metal carbonates with acid.

When metals react with acid, the products are a salt and .....

When metal carbonates react with acid, the products are a salt, ...

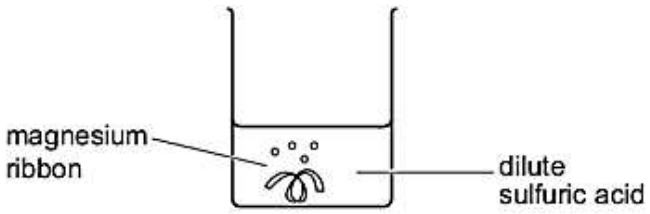
and .....

Meray Kopty

Question five

Mike makes a salt called magnesium sulfate.

He adds magnesium to dilute sulfuric acid.



He keeps adding magnesium to the dilute sulfuric acid until no more hydrogen gas is given off.

Some unreacted magnesium is left in the magnesium sulfate solution.

(a) Describe how Mike separates the unreacted magnesium from the magnesium sulfate solution.

.....

.....

(b) Describe how Mike makes a dry sample of magnesium sulfate from magnesium sulfate solution.

.....

.....

(c) Write a **word equation** for the reaction between magnesium and sulfuric acid.

..... + ... → ..... + ...

Question six

The table shows information about elements.

atomic symbol	number of electrons in	
	one atom of the element	one ion of the element
Li	3	2
Mg	12	10
Al	13	10
Cl	17	18
K	19	18
Ca	20	18

(a) (i) Which atom loses three electrons to form an ion?

Circle the correct answer.

Li **Mg** **Al** **Cl** **K** **Ca**

(ii) Which atom forms a negative ion?

.....

Explain your answer.

.....

.....

(iii) Two elements in the table are in Group 1.

Write down the atomic symbols of these two elements.

Use the Periodic Table on page 18 to help you.

..... and .....

Question seven

Angelique and Mike decide to make copper chloride.

(a) They mix copper carbonate with an acid.

Write the name of the acid they use.

.....

(b) The sentences **A – E** describe the method they use.

The sentences are in the wrong order.

A The solution (filtrate) is left for the crystals to grow.

B The solution (filtrate) is put into an evaporating dish.

C The solution (filtrate) is heated until the first crystals appear.

D Excess copper carbonate is added to the acid until there is no more fizzing.

E The excess copper carbonate is removed by filtering.

Complete the boxes to show the correct order.

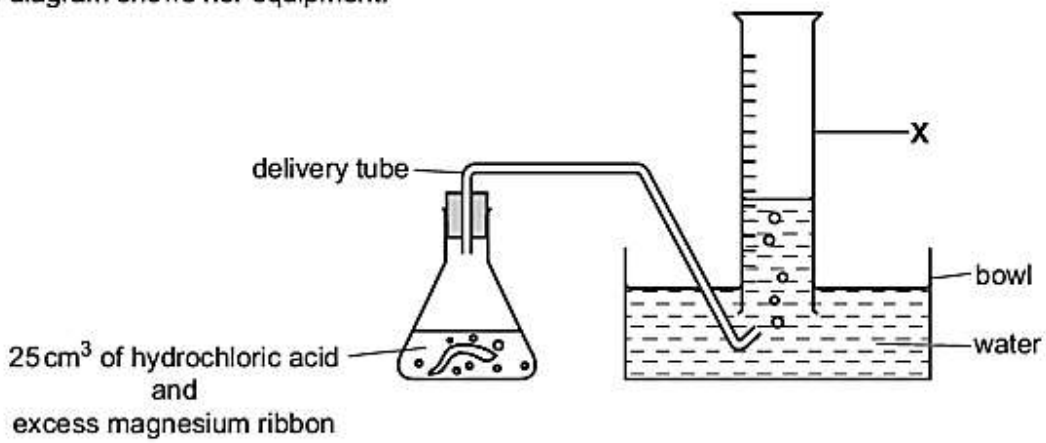
One box has been done for you.

D				

Question eight

Aiko investigates the reaction of magnesium with hydrochloric acid.

The diagram shows her equipment.



(a) Aiko uses the equipment labelled **X** to measure the volume of gas made in the reaction.

Write down the name of equipment **X**.

.....

(b) Aiko collects 35 cm^3 of gas in 5 minutes.

Aiko wants to find out what happens when the concentration of acid is increased.

Aiko **doubles** the concentration of acid she uses and repeats the experiment.

(i) Predict the volume of gas she collects in 5 minutes.

..... cm^3

Explain your answer.

.....

.....

(ii) Write down **two** variables she controls.

1 .....

2 .....

(c) Aiko wants to do a similar investigation with sodium and hydrochloric acid.

Explain why it would **not** be safe to use sodium.

.....

.....

Question nine

a Some elements make compounds with ionic bonds.

Describe what is meant by the words **ionic bond**.

.....

.....

.....

b Water molecules are made in this reaction.

Name and describe the type of bond present in a water molecule.

name .....

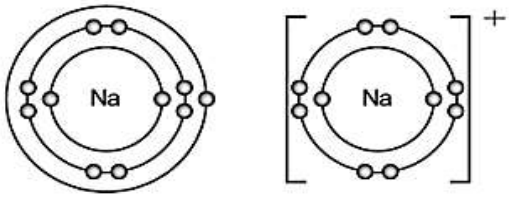
description .....

.....

Question ten

Look at the diagrams.

They show the electronic structures of a sodium atom and of a sodium ion.



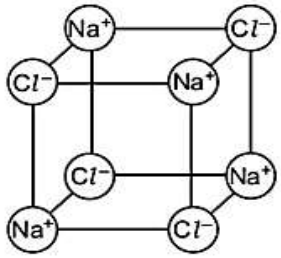
sodium atom sodium ion

(a) Describe how a sodium ion is made from a sodium atom.

.....

(b) Look at the diagram.

It shows the structure of sodium chloride.



(i) Write down the name of the **type of bonding** in sodium chloride.

.....

(ii) The bonding between sodium ions and chloride ions is strong.

Explain why.

.....

.....

(iii) Sodium chloride has a giant structure.

Circle the melting point of sodium chloride.

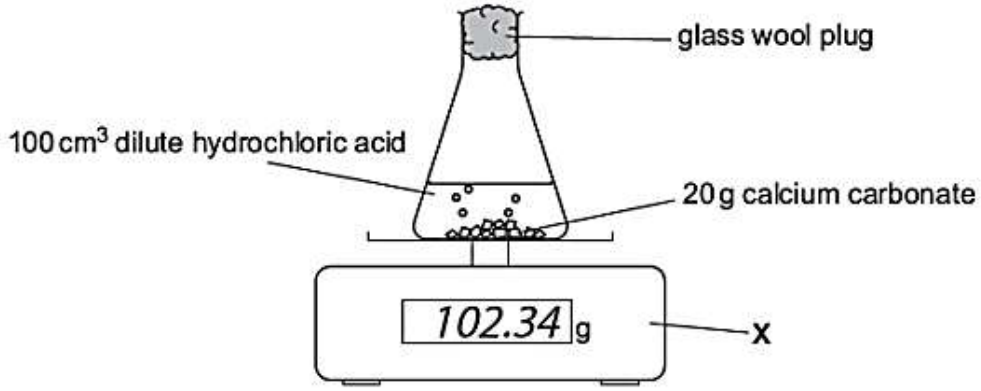
–50 °C **0 °C** **52 °C** **801 °C**

Question eleven

Pierre investigates the reaction between calcium carbonate and dilute hydrochloric acid.

The reaction gives off carbon dioxide gas.

Look at the equipment he uses.

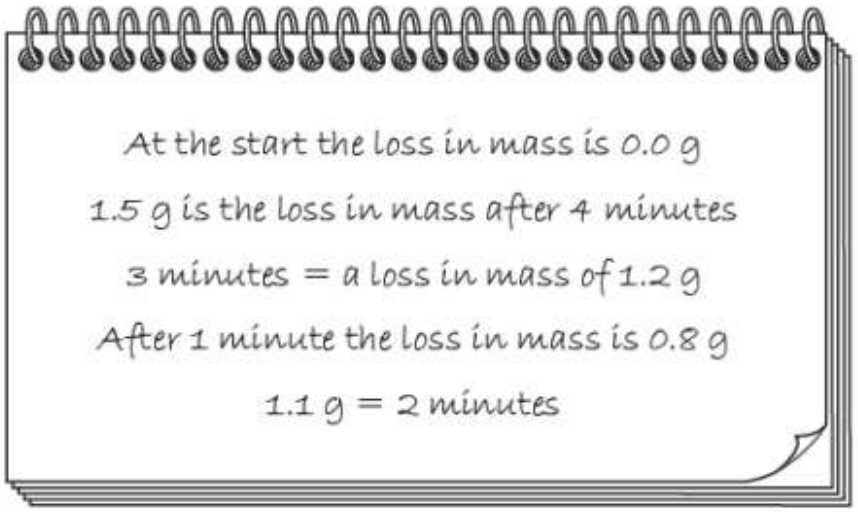


(a) Write down the name of equipment **X**.

.....

(b) Pierre measures the loss in mass every minute for 4 minutes.

Here are his results.



Complete his results table.

.....	**loss in mass in g**
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....

Question twelve

Aiko wants to increase the rate of reaction between sodium carbonate and dilute nitric acid.

(a) Match the **way** that she can do this to **why it works**.

Draw only **two** straight lines.

way	why it works
increase the temperature of nitric acid	more crowded particles so more collisions
	particles have less energy so more collisions
increase the concentration of nitric acid	particles move faster so more collisions
	has bigger particles so that there are more collisions

Question thirteen

Magnesium reacts with dilute sulfuric acid to make magnesium sulfate solution and hydrogen gas

(a) Complete these sentences about the rate of this reaction.

The rate of this reaction is increased by increasing the concentration **or**

the ..... of the dilute sulfuric acid.

One other way of increasing the rate of this reaction is to increase

the ..... of the magnesium.

(b) Describe how solid magnesium sulfate is made from magnesium sulfate solution.

.....

The End

Meray Kopty