 <p>Y 3 G C I Bassaleg SCHOOL</p>	<p>Chemistry 1 Topic 1 Assessed homework</p> <p><u>Elements & The Periodic Table</u> <u>Elfennau a'r tabl cyfnodol</u></p>	<p>Name.....</p> <p>Teacher.....</p> <p>Mark /25.....</p>
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1) Read the information and then use it to answer the questions that follow.

“Atoms are the smallest particles that make up elements. The word comes from the Greek word *atomos*. Atoms cannot be broken down into simpler substances by chemical means.

Atoms have a central nucleus that is positively charged. Negatively charged electrons orbit the nucleus.

An element is made up of only one type of atom. Different elements contain different atoms. When two different atoms join together, a compound is formed.”

a) What name is given to the smallest particles that make up an element? [1]f

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b) What name is given to the centre of an atom? [1]f

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c) What type of charge does the centre of an atom have? [1]f

.....

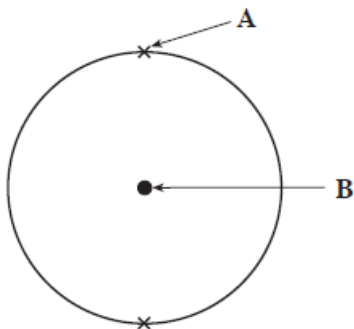
d) What type of charge do electrons have? [1]f

.....

e) State what is meant by an element [1]f

.....

2)



The diagram on the left shows the structure of an atom of helium. Name the parts of the atom labelled **A** and **B** [2]f/h

A.....

B.....

3) The table below shows the physical properties of four metals and the non-metal, iodine.

<i>Element</i>	<i>Melting point /°C</i>	<i>Boiling point /°C</i>	<i>Density / g cm⁻³</i>
copper	1084	2570	8.9
gold	1064	3080	19.3
iodine	114	184	4.9
iron	1540	2750	7.9
silver	960	2212	10.5

a) Name the **metal** with the **lowest** melting point [1]f

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b) State how the **values** for **two** physical properties of iodine show it to be a non-metal. [2]f

Property 1

.....

Property 2.....

.....

c) If you were comparing equal volumes of each metal, state which **metal** would have the **least** mass. [1]f

.....

d) Give **one** physical property of all metals that is **not** shown in the table. [1]f

.....

4) Use your Periodic Table of Elements to help you answer the following questions.

a) The chemical **symbol** for gold is[1]f/h

b) The element with the atomic number 9 is[1]f/h

c) The element in period 3, group 5 is[1]f/h

d) The following diagram shows the Periodic Table that was published by Mendeleev in 1869.

Group \ Period	1	2	3	4	5	6	7	0
1	H							
2	Li	Be	B	C	N	O	F	
3	Na	Mg	Al	Si	P	S	Cl	
4	K Cu	Ca Zn	* *	Ti *	V As	Cr Se	Mn Br	Fe Co Ni
5	Rb Ag	Sr Cd	Y In	Zr Sn	Nb Sb	Mo Te	* I	Ru Rh Pd

i) Give a reason why Mendeleev used * in some of the boxes. [1]f/h

.....

ii) Name **two** elements present in Group 1 of Mendeleev's table that are not in Group 1 of the present day Periodic Table. [1]f/h

..... and

iii) Mendeleev arranged the elements in order of increasing atomic mass. State how the elements are arranged in the present day Periodic Table. [1]f/h

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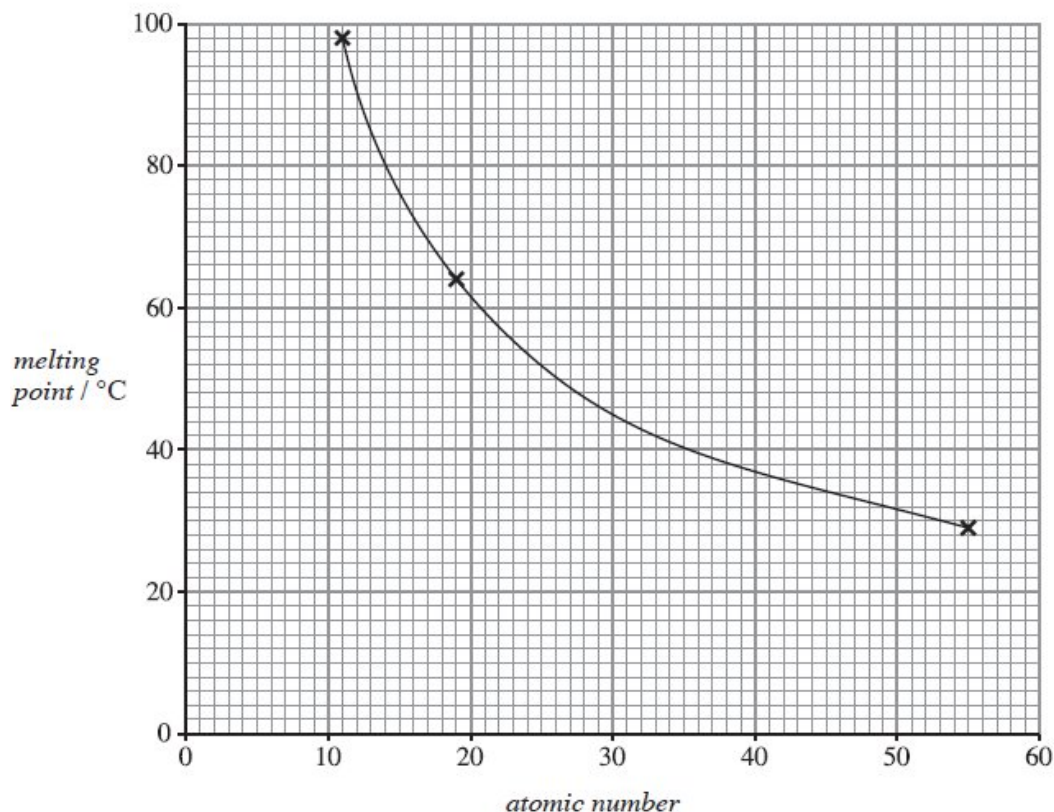
iv) Lead is found in group 4 of the present day Periodic Table, but was unknown in 1869. Give the **symbol** of the other element found in group 4 of today's Periodic Table, but unknown by Mendeleev

.....[1]f/h

v) What was Mendeleev able to predict about the unknown elements once he had constructed his Periodic Table. [1]f/h

.....

5) The graph below shows the melting points of three Group 1 elements plotted against atomic number.



Use the Periodic Table of Elements and the graph to

a) find the melting point of rubidium,°C [1]h

b) describe the relationship between the melting points and positions of elements in Group 1 [1]h

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6) The table shows some physical properties of Group 7 elements.

Element	Melting point / °C	Boiling point / °C	Density / gcm⁻³
Fluorine	-220	-188	0.0016
Chlorine	-101	-35	0.0029
Bromine	-7	59	3.1

Going down the group, describe the trend in

a) melting points..... [1]h

b) density..... [1]h

c) Iodine lies below bromine in group 7. Predict the approximate value for the of boiling point of iodine [1]h

.....°C