

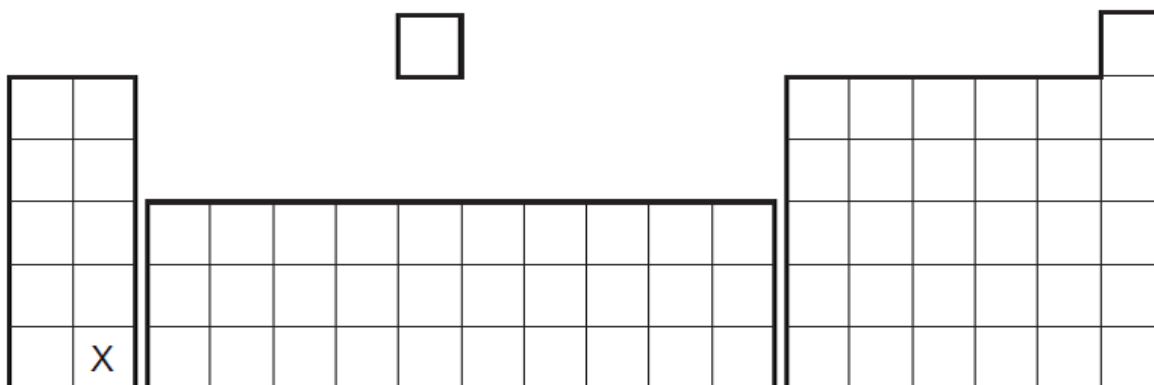
Assignment form two

Name:.....

Class:_____

Part one: multiple choice questions

1. The diagram shows the position of an element X in the Periodic Table.



What is the correct classification of element X and its oxide?

	X	oxide of X
A	metal	acidic
B	metal	basic
C	non-metal	acidic
D	non-metal	basic

2. Element X exists as diatomic molecules.

In which group of the Periodic Table is X placed?

- a. Group 0
- b. Group I
- c. Group II
- d. Group VII

3.

The diagram shows part of the Periodic Table.

Column	1	2	3	4	5	6	7	0
								□
	Li			C				
					P			
						Br	Kr	
	Rb							

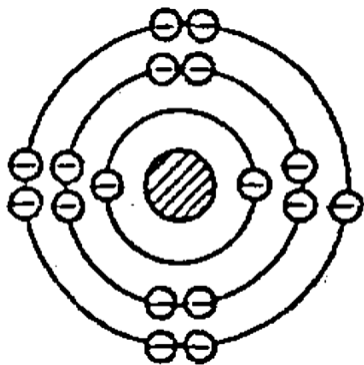
Which two elements show similar chemical properties?

- A. Li and C
- B. C and P
- C. Br and Kr
- D. Li and Rb

A.

B. Number of neutrons

4. An atom of element, X, has the electronic structure shown.



key

⊖ electron

⦿ nucleus

In which group of the periodic table is X found?

A. I

- B. II
- C. III
- D. VII

5. Which compound has ionic bonds?

- A. hydrogen chloride
- B. methane
- C. sodium chloride
- D. Water

6. The symbols of two atoms may be written as shown.



Which statement about these atoms is correct?

- A. they are different elements because they have different numbers of neutrons
- B. they are different elements because they have different number of protons
- C. they are isotopes of the same element because they have the same nucleon number.
- D. they are isotopes of the same element because they have the same proton number.

7. An ionic bond is formed by

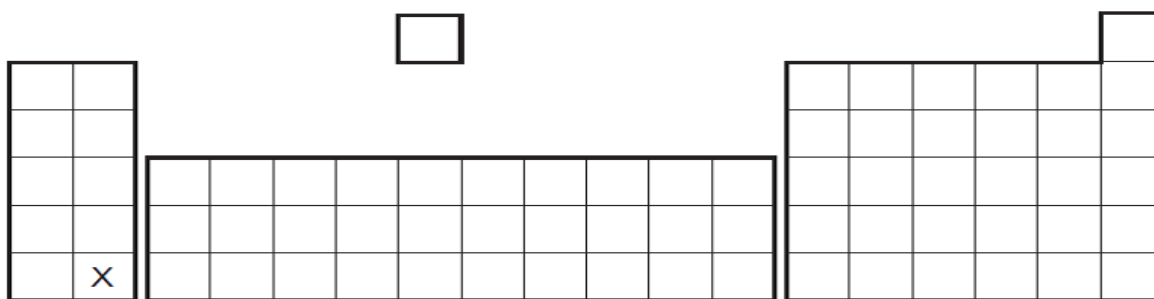
- A. Electron sharing between metals and non-metals.
- B. Electron sharing between non-metals.
- C. Electron transfer between non-metals.
- D. Electron transfer from metals to non-metals.

8. Which one of following sets represents a pair of isotopes?

- A. ${}^{12}_6\text{C}$ and ${}^{14}_7\text{N}$
- B. ${}^{32}_{16}\text{S}$ and ${}^{32}_{16}\text{S}$
- C. O_2 and O_3
- D. ${}^{206}_{82}\text{Pb}$ and ${}^{208}_{82}\text{Pb}$

9.

The diagram shows the position of an element X in the Periodic Table.



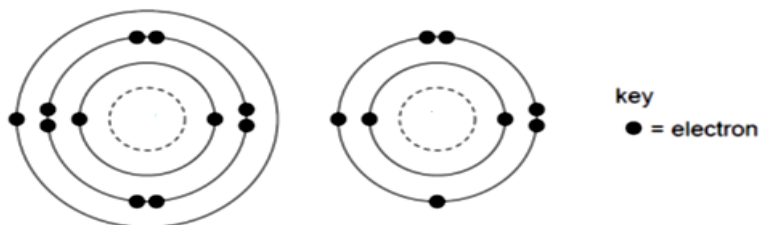
What is the correct name the common name of group X

- A) Alkali metals B) Halogens C) Alkali earth metals D) noble gases

10. The maximum amount of solute that can dissolve 100g of water at specific temperature is -----

- A. temperature
B. Diffusion
C. Sublimation
D. Solubility

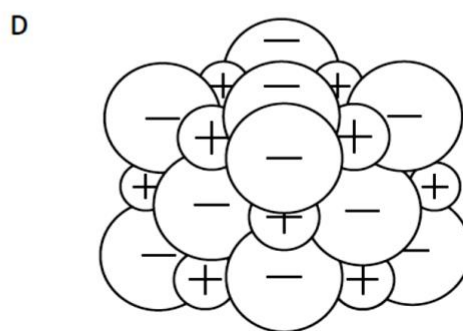
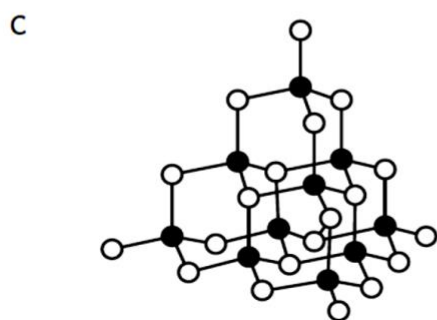
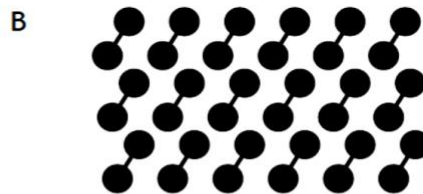
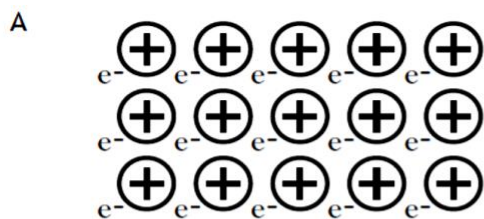
11. The diagrams below show electronic configuration of two atoms.



Name the ionic compound formed when the above atoms react together.

- A. Sodium sulphide
B. Sodium chloride
C. Magnesium oxide
D. Sodium oxide

12. Which of the following diagrams could be used to represent the structure of an ionic compound?



13. Element **X** forms an acidic, covalent oxide.
Which row in the table shows how many electrons there could be in the outer shell of an atom of **X**?

	1	2	6	7
A	✓	x	x	x
B	✓	✓	x	x
C	x	x	x	✓
D	x	x	✓	✓

14. Which particle is an ion?

	number of protons	number of neutrons	number of electrons
A	1	0	1
B	3	4	3
C	6	6	6
D	11	12	10

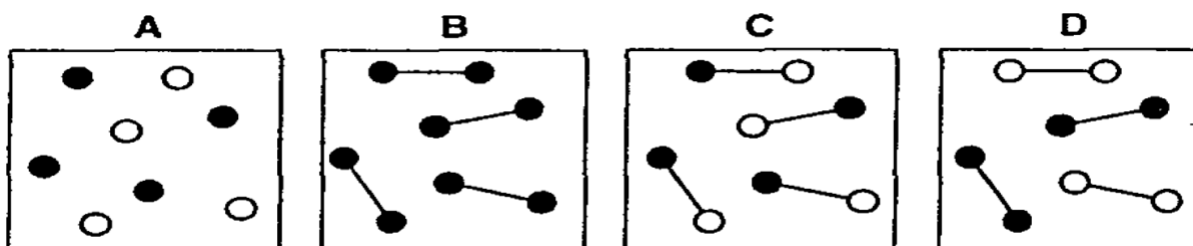
15. When sodium chloride is formed from its elements, each chlorine atom.....1.....
one.....2.....

Which words correctly complete gaps 1 and 2?

	1	2
A	gains	electron
B	gains	proton
C	loses	electron
D	loses	proton

16. Two elements represented by  and  can form a compound.

Which diagram shows molecules of the compound?



17. Which of the following represents the electronic structure of three elements in the same group of the Periodic Table?

- | | | | |
|----|---------|---------|------------|
| A. | 2. 8. 1 | 2. 8. 3 | 2. 8. 4 |
| B. | 2. 7 | 2. 8 | 2. 8. 1 |
| C. | 2. 8 | 2. 8. 1 | 2. 8. 2 |
| D. | 2. 1 | 2. 8. 1 | 2. 8. 8. 1 |

18. ____ How do metals form their ions?

- A. By gaining electrons
- B. By gaining protons
- C. By losing electrons
- D. By losing protons

Answer all of the following questions in the space provided.

Two isotopes of potassium are $^{39}_{19}\text{K}$ and $^{40}_{19}\text{K}$.

-
-
-

- | | protons | number of electrons | neutrons |
|----------------------|---------|---------------------|----------|
| $^{39}_{19}\text{K}$ | | | |
| $^{40}_{19}\text{K}$ | | | |

-
-
-

The chemical symbols and positions of six elements in the periodic table are shown.

[illegible]

Draw a straight line from each description to its correct symbol.

Description	Symbol
A metal with a low density that does not corrode easily	Al
It has properties similar to those of sodium, Na	Fe
It is a transition metal	He
It is a noble gas	Li
	O

Question 3

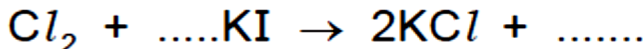
The table below shows some properties of the halogens.

halogen	melting point/°C	boiling point/°C	colour
chlorine	-101	-35	
bromine	-7	+59	
iodine	+114	+184	greyish-black

- Complete the spaces in the table to show the colours of chlorine and bromine.
- Room temperature is about 20 °C.
What is the state of chlorine and bromine at room temperature?

.....
.....

- Chlorine reacts with an aqueous solution of potassium iodide.
 - Complete the balanced equation for this reaction.



- ii. State the names of the products of this reaction.

.....

.....

- iii. To which group in the Periodic Table does chlorine belong?

.....

- iv. State one use of chlorine

.....

Question 4

The positions of five elements, **A**, **B**, **C**, **D** and **E**, are shown in the periodic table. These letters are not the atomic symbols of these elements.

1 2 3 4 5 6 7 0

- a) Use only elements **A**, **B**, **C**, **D** and **E** to answer (i) and (ii).

- i. Give the letters of **all** the elements that are metallic.

.....

- ii. Give the letters of the **two** elements that have the most similar chemical properties.

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- b) An atom of element **E** has atomic number 10 and mass number 22.

- i. How many electrons does this atom contain? Number of electrons

.....

Question 5

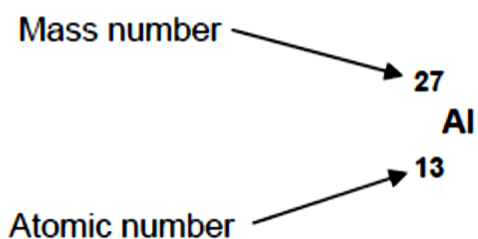
A student did a series of experiments in which a halogen was displaced from a salt by the

addition of another halogen.
Which result was **not** correct?

	halogen	salt	halogen produced	
(a)	Br	KCl	Cl	☐
(b)	Br	KI	I	☐
(c)	Cl	KBr	Br	☐
(d)	Cl	KI	I	☐

Question 6

a) An atom of aluminium can be represented as shown below.



In this atom of aluminium the number of protons is..... and the number of neutrons is

b) Which statement in the table below describes the mass of an electron?

Tick (✓) **one** box.

Statement	Tick (✓)
Electrons have a very small mass compared to protons.	☐
Electrons have about the same mass as protons.	☐
Electrons are much heavier than protons.	☐
Electrons have about the same mass as neutrons.	☐

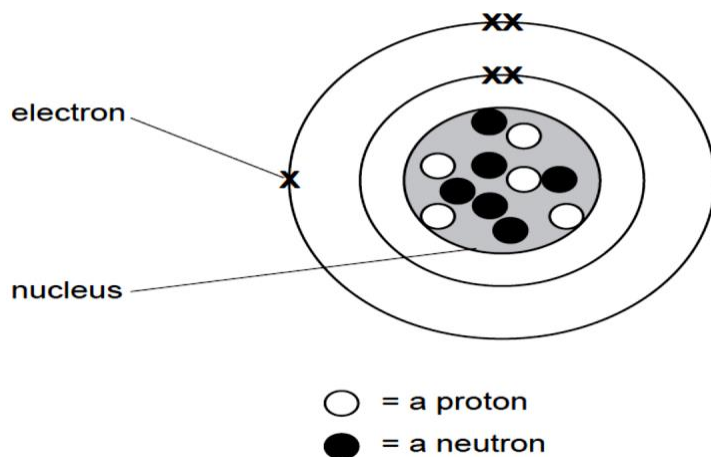
Question 7

Part of the periodic table is shown below.

Electronic configuration

Question 9

The diagram shows the atomic structure of an atom of element X.



a) Complete the table.

sub-atomic particle	relative charge	relative mass
electron	-1	
neutron		
proton		1

Question 10

Two isotopes of phosphorus are $^{31}_{15}\text{P}$ and $^{32}_{15}\text{P}$.

a) State one difference and one similarity between these two isotopes.

Difference

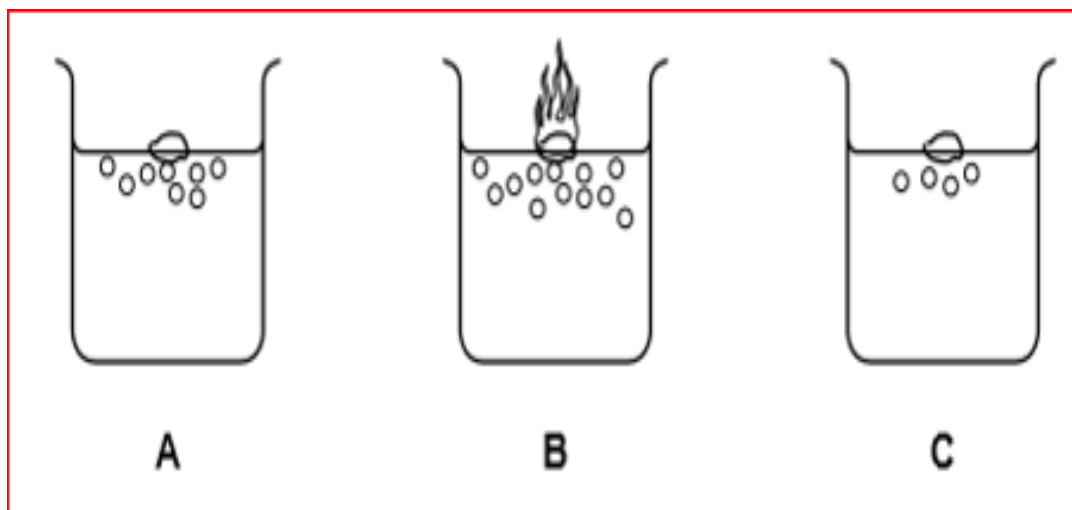
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Similarity

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Question 11

When group one elements react with water, hydrogen gas is given off. The diagram shows the reaction of element in group one with water



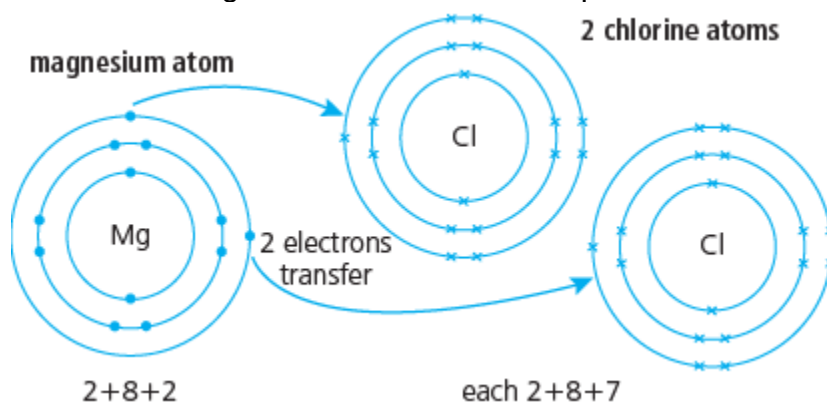
- A. what is the common name of group one _____
B. which element is most reactive -----
C. which latter represent lithium element _____
D. balance the equation between sodium and water by completing left hand side



- E. what is chemical name of NaOH- -----

Question 12

1. Look at the diagram below and answer question that follow



- Magnesium burn chlorine to form _____
- Write down chemical formula of compound?
- How many electrons does magnesium lose to reach full outer shell?
- How many chlorine atoms react with one magnesium atom?
- Is this bond ionic or covalent? give a reason for your choice

Question 13

The grid below represents part of the periodic table. Study it and answer the questions that follow. (The letters do not represent the actual symbols of the elements)

						A
				B		
	C			D	E	
F						

- a)** What name is given to the group of elements to which **C** and **F** belong?

.....

.....

.....

b) Which letter represents a noble gases?

.....
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c) What type of bond is formed when **B** and **E** react? Explain why?

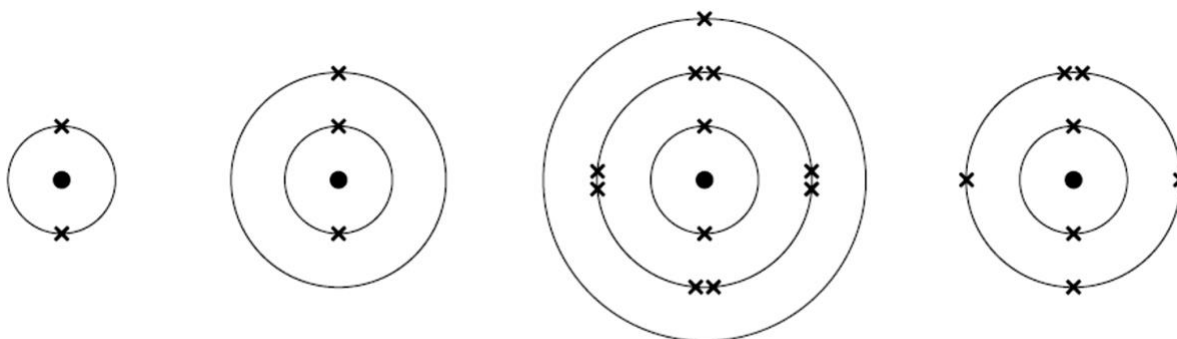
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d) What is the name of the compound formed when **C** and **B** react? Explain why?

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Question 14

The diagrams show the electronic structure of four different atoms.



Atom A

Atom B

Atom C

Atom D

a) Name the two sub-atomic particles in the nucleus of an atom.

.....and.....

b) Why is there no overall electrical charge on each atom?

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c) Why is **Atom A** unreactive?

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Question 15

Define the following terms

a. Atom

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b. Ion

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c. Molecule

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d. Compound

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e. Element

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f. Ionic bond

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