10 SCIENCE 2014

CHEMISTRY TEST ONE

Name: _____ **Teacher:** _____ **Mark:** /55

ANSWER KEY **Percentage:** %

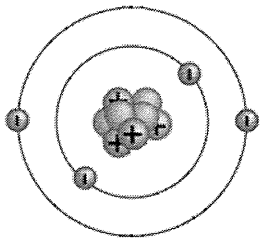
SECTION A: **MULTIPLE CHOICE** **(10 marks)**

Please answer on the separate multiple choice answer grid below.

Choose the Best Answer.
Fill-in Bubble Completely.
Ⓐ Ⓑ Ⓒ ● Ⓔ

1. Ⓐ Ⓑ Ⓒ Ⓓ
2. Ⓐ Ⓑ Ⓒ Ⓓ
3. Ⓐ Ⓑ Ⓒ Ⓓ
4. Ⓐ Ⓑ Ⓒ Ⓓ
5. Ⓐ Ⓑ Ⓒ Ⓓ
6. Ⓐ Ⓑ Ⓒ Ⓓ
7. Ⓐ Ⓑ Ⓒ Ⓓ
8. Ⓐ Ⓑ Ⓒ Ⓓ
9. Ⓐ Ⓑ Ⓒ Ⓓ
10. Ⓐ Ⓑ Ⓒ Ⓓ

1. The atom on the right has a:



(a) Neutral charge.
(b) Positive charge.
(c) Negative charge.
(d) Nucleus charge.

2. The periodic table was first put together in 1869 by the Russian chemist:

(a) Ernest Rutherford.
(b) John Newlands.
(c) Dmitri Mendeleev.
(d) Antoine Lavoisier.

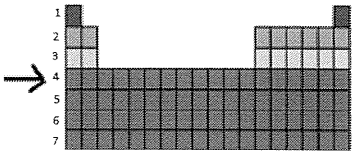
3. Choose the correct definition for 'atom'.

(a) The smallest part of an element that can take place in a chemical reaction.
(b) The smallest part of a cell.
(c) Anything that takes up space and has mass.
(d) The smallest part of an element that is unable to take place in a chemical reaction.

4. A substance made up of atoms with the same atomic number is known as:

(a) an element.
(b) an atom.
(c) a proton.
(d) a particle.

5. The arrow is pointing to a:



(a) column.
(b) period.
(c) row.
(d) group.

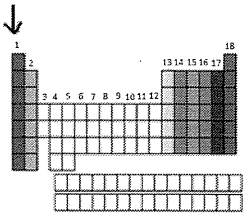
6. Gold is written as $^{197}_{79}Au$ on the periodic table. From this we know that:

(a) it contains 118 protons.
(b) it contains a total of 197 protons, neutrons and electrons.
(c) it contains 118 neutrons.
(d) it contains 197 electrons.

7. The noble gases are all:

(a) found on the right hand side of the periodic table and highly reactive.
(b) found on the left hand side of the periodic table and highly reactive.
(c) found on the right hand of the periodic table and unreactive.
(d) found on the left hand of the periodic table and unreactive.

8. The arrow is pointing to a:



(a) column.
(b) period.
(c) group.
(d) bar.

9. Which of the following are all transition metals?

(a) Li, Mn, Ca.
(b) Mn, Fe, Cu.
(c) F, Cl, Br.
(d) Na, K, Fe.

10. A particular atom has 8 protons, 8 electrons and 9 neutrons. Its atomic number is:

(a) 8.
(b) 9.
(c) 17.
(d) 1.

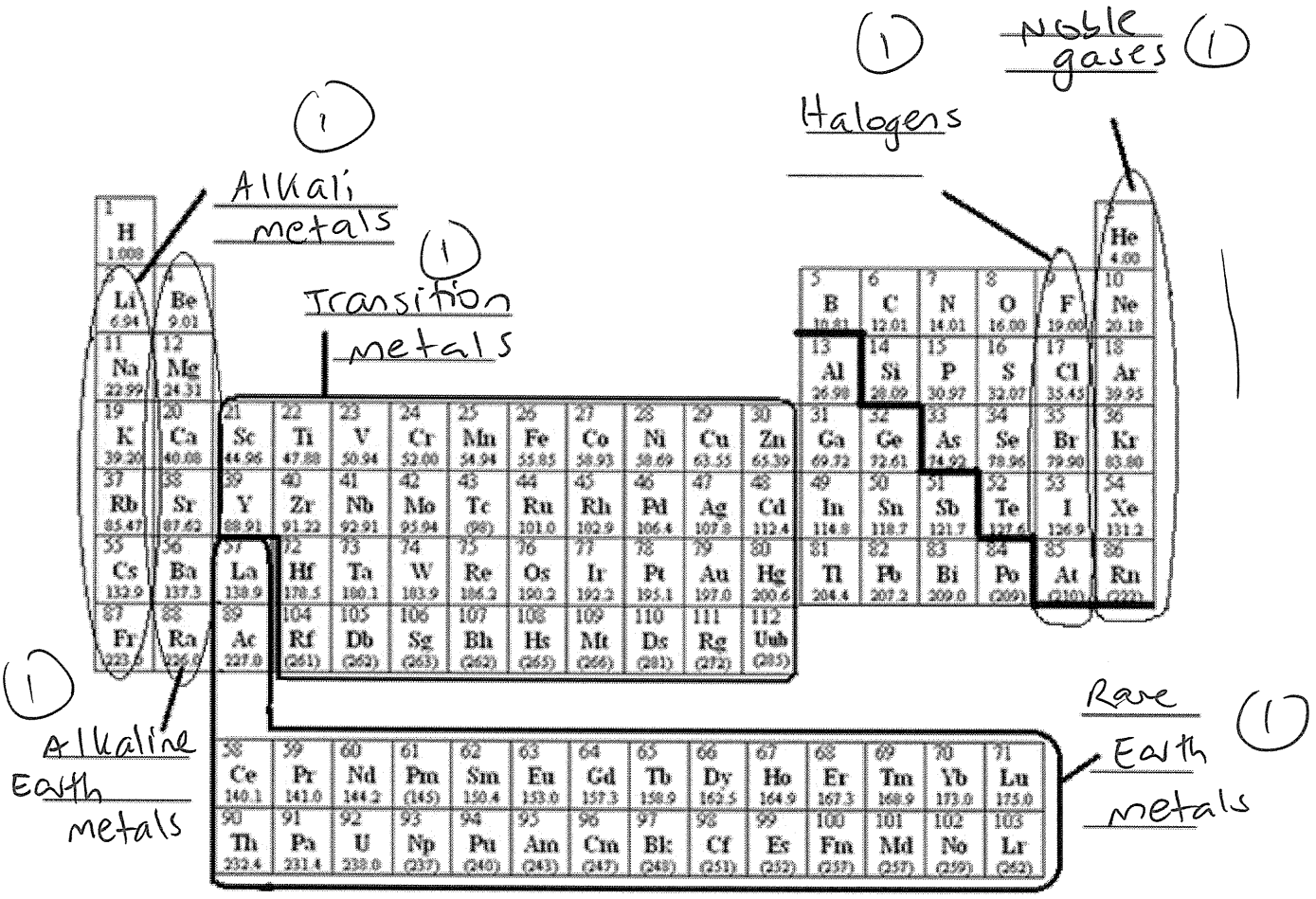
SECTION B: **SHORT ANSWER** **(45 marks)**

1. Fill in the table below. (10 marks)

Element	**Symbol**
Helium	He
Beryllium	Be
Carbon	C
Phosphorus	P
Potassium	K
Calcium	Ca
Lithium	Li
Boron	B
Silicon	Si
Sulfur (sulphur)	S
chlorine	Cl
Oxygen	O
Hydrogen	H
Nitrogen	N
Fluorine	F
Neon	Ne
Aluminium	Al
Argon	Ar
Sodium	Na
Magnesium	Mg

0.5 mark each - must be spelt correctly

2a. Fill in the diagram of the periodic table below. (6 marks)



b. Fill in the table below using the periodic table above. (4 marks)

Element	Group of the periodic table
Lithium	Alkali metals (1)
Helium	Noble gases (1)
Chlorine	Halogens (1)
Iron	Transition metals (1)

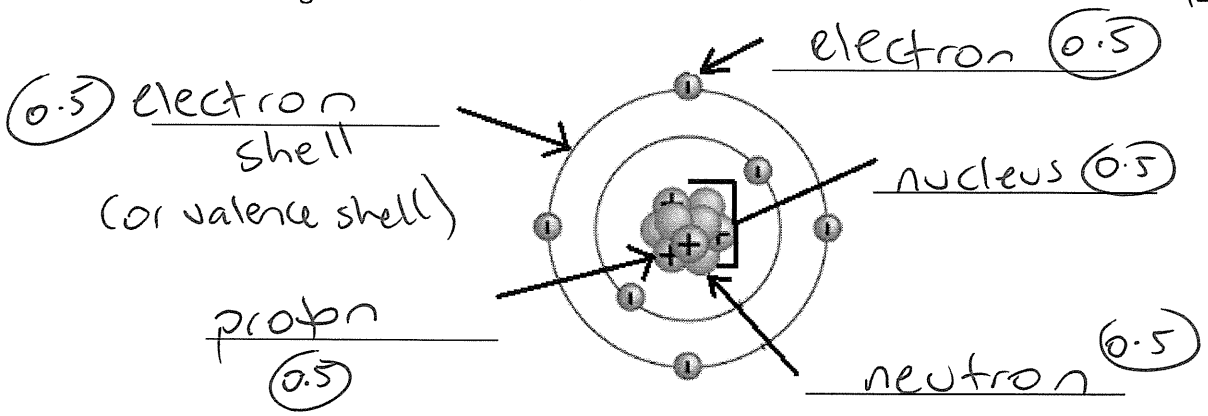
3. State the number of electrons that fill the shells in an atom. (1.5 marks)

First shell: 2 (0.5)

Second shell: 8 (0.5)

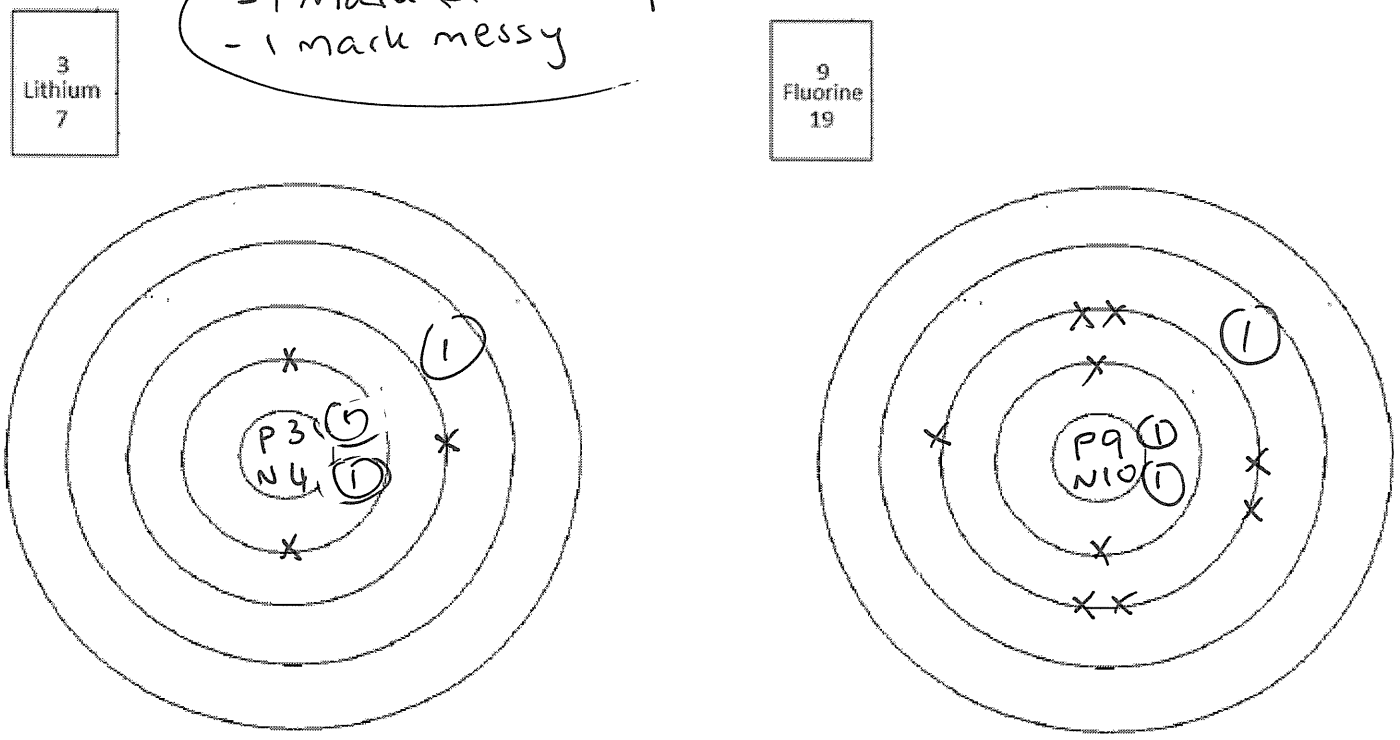
Third shell: 18 (0.5)

4. Label the diagram of the atom below. (2.5 marks)



5. Complete the electron configurations below (neatly in pencil). (6 marks)

-1 mark for not in pencil
-1 mark messy



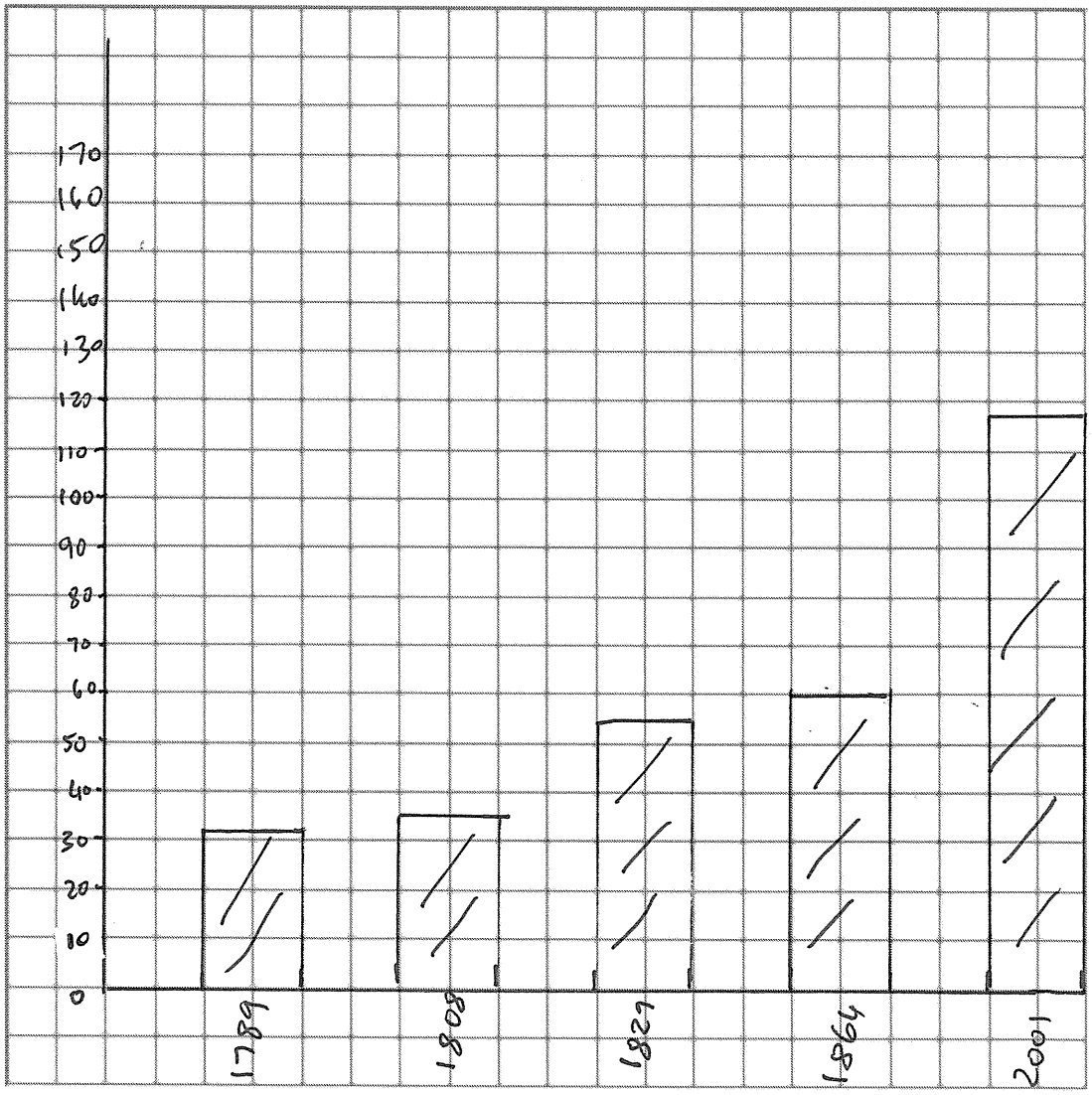
6. Fill in the table below using the periodic table included at the end of the test. (10 marks)

Element	Atomic number	Mass number	Number of protons in each atom of the element	Number of neutrons in each atom of the element	Number of electrons in atom of the element.
Silver	47 (0.5)	108 (0.5) (or 107.86)	47 (0.5)	61 (0.5)	47 (0.5)
Helium	2 (0.5)	4 (0.5) (or 4.00)	2 (0.5)	2 (0.5)	2 (0.5)
Magnesium	12 (0.5)	24 (0.5) or (24.30)	12 (0.5)	12 (0.5)	12 (0.5)
Sodium	11 (0.5)	23 or (22.98) (0.5)	11 (0.5)	12 (0.5)	11 (0.5)

7. Draw a graph using the information from the table below. (5 marks)
Don't forget all the things that a graph needs!

Year	Number of elements known
1789	31
1808	36
1829	55
1864	60
2001	118

Number of elements known versus year



The Periodic Table of the Elements

1 **H** 1.00794																	2 **He** 4.003
3 **Li** 6.941	4 **Be** 9.012182											5 **B** 10.811	6 **C** 12.0107	7 **N** 14.00674	8 **O** 15.9994	9 **F** 18.9984032	10 **Ne** 20.1797
11 **Na** 22.989770	12 **Mg** 24.3050											13 **Al** 26.981538	14 **Si** 28.0855	15 **P** 30.973761	16 **S** 32.066	17 **Cl** 35.4527	18 **Ar** 39.948
19 **K** 39.0983	20 **Ca** 40.078	21 **Sc** 44.955910	22 **Ti** 47.867	23 **V** 50.9415	24 **Cr** 51.9961	25 **Mn** 54.938049	26 **Fe** 55.845	27 **Co** 58.933200	28 **Ni** 58.6934	29 **Cu** 63.546	30 **Zn** 65.39	31 **Ga** 69.723	32 **Ge** 72.61	33 **As** 74.92160	34 **Se** 78.96	35 **Br** 79.904	36 **Kr** 83.80
37 **Rb** 85.4678	38 **Sr** 87.62	39 **Y** 88.90585	40 **Zr** 91.224	41 **Nb** 92.90638	42 **Mo** 95.94	43 **Tc** (98)	44 **Ru** 101.07	45 **Rh** 102.90550	46 **Pd** 106.42	47 **Ag** 107.8682	48 **Cd** 112.411	49 **In** 114.818	50 **Sn** 118.710	51 **Sb** 121.760	52 **Te** 127.60	53 **I** 126.90447	54 **Xe** 131.29
55 **Cs** 132.90545	56 **Ba** 137.327	57 **La** 138.9055	72 **Hf** 178.49	73 **Ta** 180.9479	74 **W** 183.84	75 **Re** 186.207	76 **Os** 190.23	77 **Ir** 192.217	78 **Pt** 195.078	79 **Au** 196.96655	80 **Hg** 200.59	81 **Tl** 204.3833	82 **Pb** 207.2	83 **Bi** 208.98038	84 **Po** (209)	85 **At** (210)	86 **Rn** (222)
87 **Fr** (223)	88 **Ra** (226)	89 **Ac** (227)	104 **Rf** (261)	105 **Db** (262)	106 **Sg** (263)	107 **Bh** (262)	108 **Hs** (265)	109 **Mt** (266)	110 (269)	111 (272)	112 (277)	113	114				

58 **Ce** 140.116	59 **Pr** 140.90765	60 **Nd** 144.24	61 **Pm** (145)	62 **Sm** 150.36	63 **Eu** 151.964	64 **Gd** 157.25	65 **Tb** 158.92534	66 **Dy** 162.50	67 **Ho** 164.93032	68 **Er** 167.26	69 **Tm** 168.93421	70 **Yb** 173.04	71 **Lu** 174.967
90 **Th** 232.0381	91 **Pa** 231.03588	92 **U** 238.0289	93 **Np** (237)	94 **Pu** (244)	95 **Am** (243)	96 **Cm** (247)	97 **Bk** (247)	98 **Cf** (251)	99 **Es** (252)	100 **Fm** (257)	101 **Md** (258)	102 **No** (259)	103 **Lr** (262)