Chpt 6 Elements & the Periodic Table Recap

Part A: Multi	ple Choice – Circle the best answer.	[9 marks]

1.	Which of the following is a no a. chromium	n-metal: b.)sulfur	c. silicon	d. francium
2.	Which of the following is a me a. silicon	etalloid? b. francium	c. sulfur	d. chromium
3.	Which of these elements is the a. nitrogen	e <u>most reactive</u> ? b fluorine	c. sulphur	d. oxygen
4.	Which of the following is a me a. nitrogen	e tal ? b. silicon	c. sulphur	(d) francium

- 5. The element sodium has the following properties: silver lustre, reactivity, electrical conductivity, malleability. Potassium is found *directly below* sodium in the periodic table. You can expect potassium to:
 - a. have fewer electrons than sodium.
 - b. be malleable and a good conductor, but to be non-reactive.
 - (c) have similar properties to sodium since they are in the same family.
 - d. have very different properties from sodium since it is in a different period.
- 6. A *group* of elements is:
 - located in a vertical column in the periodic table.
 - b. located in a horizontal row in the periodic table.
 - c. a group of elements related by atomic mass.
 - d. another name for a period in the periodic table.
- 7. Which is a correct comparison of the *alkali metals* and the *alkaline earth metals*?
 - (a.) The alkali metals are softer.
 - b. The alkali metals are less reactive. X
 - c. The alkali metals all sink in water, but the alkaline earth metals float.
 - d. The alkali metals burn readily, but the alkaline earth metals never catch fire.
- 8. On bags of fertilizers, there are usually three numbers, such as 20-10-10. These numbers stand for the percentages of the elements N, P, & K in the fertilizer. These *elements* are:
 - a. nickel, phosphorus and potassium
 - b. nitrogen, phosphorus and chlorine
 - nitrogen, phosphorus and potassium
 - d. nitrogen, potassium, and sodium
- 9. **Pure substances** include:

 - a elements and compounds.
 - b. solutions and elements.
 - c. mechanical mixtures and solutions.
 - d. mechanical mixtures and compounds.

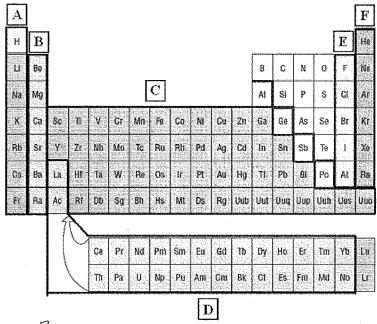
elements compounds
(H2 or Oz) (co2 or H20)

<u>Part B: Modified True/False.</u> Indicate if the following statements are True or False. If you choose False, change the **underlined** word/phrase to make the statement true. [6 marks]

True/False	Statement	Correction (if necessary)
10. True	An element cannot be broken down into simpler chemical substances by any physical or chemical means	
11. False	If an element is a gas at room temperature, it is likely to be \underline{a} metal.	a non-metal
12. Falon	If a negatively charged particle is attracted to a second particle, the second particle must have <u>a negative charge</u>	Posuve Charge
13. Foler	The Bohr-Rutherford model of the atom is useful for explaining the properties of <i>all of the elements</i> on the Periodic Table	First 20 iliments
14. True	An atom with 16 protons, 16 electrons and 18 neutrons has a mass number of <u>34</u> .	/6. 18 34
15. True	As you go down a family on the Periodic Table, the number of electron orbits <i>increases</i> .	

Part C: Matching.

On the Periodic Table shown, sets of elements have been outlined and labelled A through F. Match the sets of elements to the names stated below. [6 marks]



16. alkaline earth metals _ B

17. alkali metals A

18 rare earth metals/inner transition metals_____

19. noble gases ______

20. halogens ____

21. transition elements \mathcal{C}

Match the scientist to a key experiment or discovery. [6 marks]

- 22. billiard ball model
- F

A. Bohr

- 23. the electron
- B

B. Thomson

- 24. first atomic theory
- E

C. Chadwick

- 25. electron orbits

D. Rutherford

- 26. gold foil experiment
- D

E. Democritus

27. neutron

C

F. Dalton

Part D: Short Answer

28. Using the given standard atomic notation, fill in the blanks at the right. [3 marks]

 $^{31}_{15}P$

- a. Phosphorous has _____15 ____ protons.
- b. Phosphorous has _______ l6 _____ electrons.
- c. Phosphorous has _______ neutrons.29

29. Using the following standard atomic notations, draw the **Bohr-Rutherford diagram** for: [8 marks]

Helium ⁴₂He

of protons: 2

of neutrons_2___

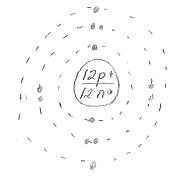
of electrons_2

Magnesium: ²⁴₁₂Mg

of protons: 1^2

of neutrons _/2





30. Using examples, explain why you think the Periodic Table is more than just a listing of the known elements.[2 marks]

- organized by patterns

periodo - # of e- shells

groups - # of values electrons

Statu - most merces - solids

mot non-media + liquido

familie - common properties (eg noble goses - all 1001 - reactive)