Chemistry PAT Questions

Gonna learn you some knowledge

18. Which of the following substances is a solution?

A. Acid rain
B. Table salt
C. Helium gas
D. Baking soda

Answer: A

54.1% Correct

A student tests the reactivity of four metals by placing a piece of each metal into hydrochloric acid. Each piece has an initial mass of 40 g. The student records her observations in the following table.

Metal	Initial acid concentration (g/L)	Temperature of solution after metal reacts with hydrochloric acid (°C)	Mass of metal after it reacts with hydrochloric acid (g)
1	200	28	18
2	200	29	32
3	200	42	14
4	200	35	20

19. The information in the table shows that the metal that reacts **most readily** with hydrochloric acid is

A. 1
B. 2
C. 3
D. 4

Answer: C

67.5% Correct

16. Which of the following events is an example of a chemical change?

A. Liquid nitrogen evaporates.
B. A candle burns.
C. Water boils.
D. Ice melts.

Answer: B

54.9% Correct

Use the following table to answer question 12.

Physical Properties of Four Elements

Element	Melting Point (°C)	Boiling Point (°C)	Colour	Conductivity	Malleability
1	962	2 162	Lustrous silver	Good conductor	Very malleable
2	–218	–183	Colourless	Good insulator	Not malleable
3	115	445	Yellow	?	Not malleable
4	1 064	2 856	Lustrous yellow	?	Very malleable

12. Which of the following statements describes the conductivity of elements 3 and 4?

A. Both elements are good insulators.
B. Both elements are good conductors.
C. Element 3 is a good conductor and element 4 is a good insulator.
D. Element 3 is a good insulator and element 4 is a good conductor.

Answer :D

74.9 % correct

13. What is the chemical name of a molecular substance that is composed of one carbon atom and four chlorine atoms?

A. Carbon tetrachlorine
B. Carbon tetrachloride
C. Carbon chlorine
D. Carbon chloride

Answer: B

76.6% correct

Use the following information to answer numerical-response question 2.

A student burns a piece of magnesium that has a mass of 70.2 g and makes the following observations.

- Heat is generated.
- An intense white light is emitted.
- A mass of 130.8 g of white magnesium oxide ash is produced.

Numerical Response

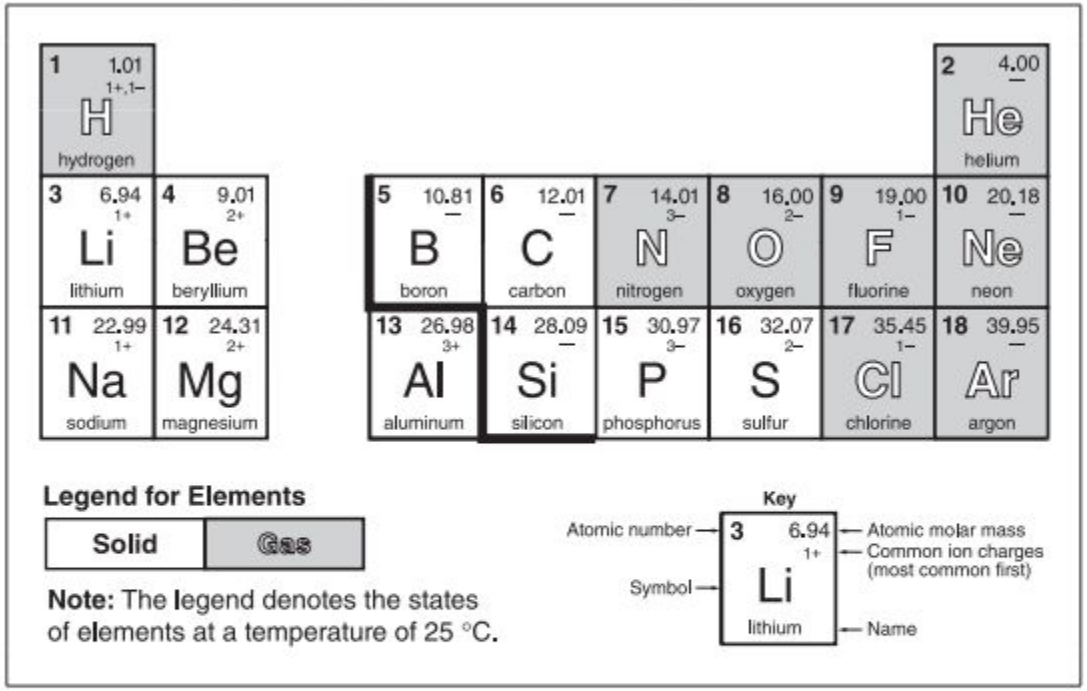
2. The mass of oxygen that reacts in the chemical reaction described above is _____ g.

(Record your answer in the numerical-response section on the answer sheet.)

Answer: 60.6

66.5% Correct

Use the following information to answer questions 14 and 15.



14. Which of the following statements about helium, neon, and argon is true?

A. They have the same number of protons.
B. They have the same number of neutrons.
C. They are solids at a temperature of 25 °C.
D. They react with other substances in a similar way.

Answer: D

77.9% correct

15. Which of the following rows identifies both the elements and number of atoms that are present in one molecule of $C_6H_{12}O_6$?

Row	Elements	Number of Atoms
A.	Carbon, helium, and oxygen	12
B.	Carbon, helium, and oxygen	24
C.	Carbon, hydrogen, and oxygen	12
D.	Carbon, hydrogen, and oxygen	24

Answer: D

84.5% Correct

17. *When two* ___*i*___ *elements are combined,* ___*ii*___ *compound is formed.*

The statement above is completed by the information in row

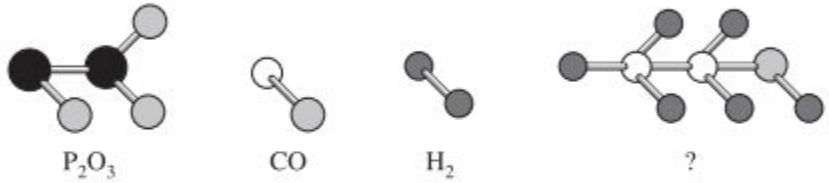
Row	*i*	*ii*
A.	metallic	an ionic
B.	metallic	a molecular
C.	non-metallic	an ionic
D.	non-metallic	a molecular

Answer: D

34.4% Corret

Use the following models to answer question 20.

Models of Different Molecules



20. The chemical formula for the unknown molecule shown above is

A. P_2H_5OH
B. P_2H_5CH
C. C_2H_5OH
D. O_2H_5CH

Answer: C

66.9% Correct

11. *In most corrosion and combustion reactions,* ___*i*___ *is a* ___*ii*___ .

The statement above is completed by the information in row

Row	*i*	*ii*
A.	oxygen	reactant
B.	oxygen	product
C.	water	reactant
D.	water	product

Answer: A

68% Correct