MULTIPLE CHOICE

Section 1.3 Elements and the Periodic Table

- 1. Lithium belongs to the _____ group of the periodic table.
 - a) alkali metal
 - b) alkaline earth
 - c) halogens
 - d) noble gases

Section 1.4 Some Characteristics of the Elements

- 2. Gaseous elements characterized by low reactivity are found in group ____ of the periodic table.
 - a) 5A
 - b) 6A
 - c) 7A
 - d) 8A

Section 1.5 Experimentation and Measurement

- 3. The factor 0.00000001 corresponds to which prefix?
 - a) Giga
 - b) micro
 - c) nano
 - d) pico
- 4. Convert 0.003002 to standard scientific notation.
 - a) 3.002 x 10
 - b) 3002 x 10
 - c) 3.002 x 10
 - d) 3002 x 10

Section 1.6 Measuring Mass

5. A student weighed 3000 μg of sulfur in the lab. This is the same mass as a) 3.000 x 10 $^{-1}$ g.

- b) 3.000 x 10 kg.
- c) 3.000 x 10 mg.
- d) 3.000 x 10 ng.

Section 1.12 Calculations: Converting from One Unit to Another

6. You are visiting the planet Lagmom. The money exchange rates are shown below. How many Lagmom fizzbarts will you receive in exchange for \$500 at the Lagmom Spaceport Currency Exchange counter?

	\$1.00 5 pol 1 ta	0 = 10 razz bs = 1 fizzbart nta = 2 morbs	1 5	morb razz	= 25 = 1 1	pobs tanta
a) b) c) d)	5.00 x 10 ² 1.00 x 10 ³ 1.00 x 10 ⁴ 5.00 x 10 ⁵	fizzbarts fizzbarts fizzbarts fizzbarts				

Sections 2.3 - 2.6 Elements and Atoms

7. How many protons (p), neutrons (n), and electrons (e) are in one atom of ²/₁ Mg?
a) 12 p, 12 n, 12 e
b) 12 p, 14 n, 12 e
c) 12 p, 26 n, 10 e
d) 26 p, 14 n, 26 e

8. An element has two naturally occurring isotopes. One has an abundance of 37.4% and an isotopic mass of 184.953 amu, and the other has an abundance of 62.6% and a mass of 186.956 amu. What is the atomic weight of the element?
a) 185.702 amu
b) 185.954 amu
c) 186.207 amu
d) 186.956 amu

Section 2.10 Naming Compounds

9. What is the charge on the Cr in Cr_0 ?

- a) 2-
- b) 1+
- c) 2+
- d) 3+
- 10. Li_S is named.
 - a) lithium disulfide.
 - b) lithium sulfide.
 - c) lithium(II) sulfide.
 - d) lithium sulfur.
- 11. What is the formula for strontium hydroxide?
 - a) SrH₂
 - b) SrOH
 - c) SrOH₂
 - d) $Sr(0H)_{2}$

- 12. The formula for dinitrogen trioxide is
 - a) N(OH)
 - b) (NO.)
 - c) N 0
 - d) N 0
- 13. The compound $Cu(Clo_{i})$ is named
 - a) copper chlorate(II)
 - b) copper(I) chlorate
 - c) copper(I) chlorate(II)
 - d) copper(II) chlorate
- 14. By analogy with the oxoanions of sulfur, H₂TeO₃ would be named a) hydrotellurous acid
 - b) pertelluric acid
 - c) telluric acid
 - d) tellurous acid
- 15. The ions ClO₄ , ClO₃ , ClO₂ , and ClO $\,$ are named respectively
 - a) hypochlorate, chlorate, chlorite, perchlorite
 - b) hypochlorite, chlorite, chlorite, perchlorate
 - c) perchlorate, chlorate, chlorite, hypochlorited) perchlorite, chlorite, chlorate, hypochlorate
- 16. NO is
 - a) nitrate.
 - b) nitrite.
 - c) nitrogen dioxide.
 - d) nitrogen(II) oxide.
- 17. NO is the
 - a) nitrate ion.
 - b) nitrite ion.
 - c) nitrogen dioxide ion.
 - d) nitrogen(II) oxide ion.
- 18. The formula for sulfurous acid is
 - a) H S(aq)
 - b) H SO (aq)
 - c) H SO₄ (aq)
 - d) $H_2S_2O_7(aq)$
- 19. The thiosulfate ion is
 - a) HS-
 - b) HSO₄
 - c) S0
 - d) S₀

Section 3.1 Balancing Chemical Equations

20. What is the coefficient for oxygen when the following equation is balanced using the lowest, whole numbered coefficients?

C₃H₈O(g) + ____ O₂(g) → ____ CO₂(g) + ____ H₂O(g)
a) 3
b) 5
c) 7
d) 9

21. What is the sum of the coefficients when the following equation is balanced using the lowest, whole numbered coefficients?

PH₂(g) + ____ O₂(g) → ____ P₄O₁₀(s) + ____ H₂O(g)
a) 10
b) 12

- c) 19
- d) 22
- a) 22

22. Calcium phosphate reacts with sulfuric acid to form calcium sulfate and phosphoric acid. What is the coefficient for sulfuric acid when the equation is balanced using the lowest, whole-numbered coefficients?a) 1b) 2

- c) 3
- d) none of these

Section 3.3 Avogadro's Number and the Mole

23. How many grams are there in 0.500 mol of dichlorodifluoromethane, CF_2Cl_2 ? a) 4.14 x 10⁻³ g b) 60.5 g c) 121 g d) 242 g 24. How many moles are there in 1.50 g of ethanol, CH_3CH_2OH ? a) 0.0145 mol b) 0.0326 mol c) 30.7 mol d) 69.0 mol

25. What is the molar mass of butane if 5.19 x $10^{1\,\text{c}}$ molecules weighs 5.00 µg? a) 58.0 g/mol b) 172 g/mol c) 232 g/mol

d) 431 g/mol

Section 3.4 Stoichiometry: Chemical Arithmetic

26. How many moles of CuO are produced from 0.450 mol of Cu₂O in the following reaction? 2 Cu₂O(s) + O₂(g) \longrightarrow 4 CuO(s) a) 0.225 mol b) 0.450 mol c) 0.900 mol d) 4.44 mol 27. How many grams of calcium chloride are needed to produce 10.0 g of potassium chloride?

 $\begin{array}{cccc} & \text{CaCl}_2(\text{aq}) \ + \ \text{K}_2\text{CO}_3(\text{aq}) \ \longrightarrow \ 2 \ \text{KCl}(\text{aq}) \ + \ \text{CaCO}_2(s) \\ \text{a)} & 3.36 \text{ g} \\ \text{b)} & 7.44 \text{ g} \\ \text{c)} & 14.9 \text{ g} \\ \text{d)} & 29.8 \text{ g} \end{array}$

Section 3.6 Reactions with Limiting Amounts of Reactants

28. Which substance is the limiting reagent when 2.0 g of sulfur reacts with 3.0 g of oxygen and 4.0 g of sodium hydroxide according to the following reaction:
2 S(s) + 3 O₂(g) + 4 NaOH(aq) → 2 Na₂SO₄(aq) + 2 H₂O(1)
a) S
b) O₂
c) NaOH
d) all react equally
29. How many grams of the excess reagent are left over when 6.00 g of CS₂ gas react with 10.0 g of Cl₂ gas in the following reaction:
CS₂(g) + 3 Cl₂(g) → CCl₄(1) + S₂Cl₂(1)
a) 2.42 g
b) 2.77 g
c) 3.58 g
d) 4.00 g

Section 3.7 Concentrations of Reactants in Solution: Molarity

- 30. What is the concentration when 10.0 g of FeCl; is dissolved in enough water to make 275 mL of solution?
 a) 2.24 x 10⁻¹ M
 b) 0.224 M
 - c) 4.46 M
 - d) 4.46 x 10 M
- 31. How many grams of AgNO3 are needed to make 250. mL of a solution that is 0.135 M? a) 1.99 g b) 3.15 g
 - c) 5.73 g
 - d) 9.17 g
 - u) 0.17 g

1	a)					
2	d)		Chapter:	1	QUESTI ON:	10
2.	u)		Chapter:	1	QUESTI ON:	22
3.	<i>c</i>)		Chapter:	1	QUESTI ON:	28
4.	a)		Chapter:	1	QUESTI ON:	30
5.	d)		Chapter:	1	QUESTI ON:	39
6.	c)		Chapter:	1	QUESTI ON:	67
7.	b)		Chapter:	2	QUESTI ON:	24
8.	c)		Chapter:	2	QUESTI ON:	26
9.	d)		Chapter:	2	QUESTI ON:	63
10.	b)		Chapter:	2	QUESTI ON:	64
11.	d)	periodic table required	Chapter:	2	QUESTI ON:	65
12.	c)		Chapter:	2	QUESTI ON:	68
13.	d)		Chapter:	2	QUESTI ON:	71
14.	d)		Chapter:	2	QUESTI ON:	72
15.	c)		Chapter:	2	OUESTION	73
16.	c)		Chant and	~ 2	QUESTION.	74
17.	b)		Charte	~	QUESTION.	74
			chapter:	2	QUESITON:	13

ANSW	ER KEY FOR TEST UNTITLED			Pag	ge 2
18.	b) periodic table suggested				
19.	d)	Chapter:	2	QUESTI ON:	76
0.0	-l)	Chapter:	2	QUESTI ON:	78
20.	a)	Chapter:	3	QUESTI ON:	3
21.	c)	Chapter:	3	QUESTI ON:	4
22.	c)	Chanter	3		7
23.	b)	chapter.	5	QUESTION.	,
24.	b)	Chapter:	3	QUESTI ON:	15
25.	a)	Chapter:	3	QUESTI ON:	16
96		Chapter:	3	QUESTI ON:	22
20.		Chapter:	3	QUESTI ON:	29
27.	b)	Chapter:	3	QUESTI ON:	31
28.	c)	Chantan	0	OUESTI ON.	49
29.	a)	chapter:	3	QUESTION:	42
30.	b)	Chapter:	3	QUESTI ON:	44
31.	c)	Chapter:	3	QUESTI ON:	49
~ ~ •		Chapter:	3	QUESTI ON:	50