# Q1W5-Test1-Ch. Types of compounds.

## **Multiple Choice**

Identify the choice that best completes the statement or answers the question.

 1. A formula unit of calcium bromide has two bromide ions corresponding to each calcium ion in What is the formula of calcium bromide?					
	a CaBr	C	Ca. Br		
	b CaBr-	d.	Ca <sub>2</sub> Br		
•		u. 1			
 2.	Which allotrope of carbon has a three-dimensi-	onal	solid structure?		
	a. Coal b. Diamond	с. d	Graphite		
3	A formula unit of magnasium chlorida has two	u.	or ide ions corresponding to each magnesium ion in the		
 5.	compound. What is the formula of magnesium chloride?				
	a. MgCl	c.	Mg <sub>2</sub> Cl		
	b. MgCl <sub>2</sub>	d.	Mg <sub>2</sub> Cl <sub>2</sub>		
 4.	A substance will conduct an electric current if	it			
	a. is wet	c.	is covalent		
	b. forms ions in solution	d.	consists of ions in the dry state		
 5.	Based on its position in the periodic table, the most likely charge of an iodide ion is				
	a. 1+	c.	2+		
	b. 1-	d.	7-		
 6.	Which of the following formulas is incorrect?				
	a. $Al_2(SO_4)_3$	с.	Ca(OH) <sub>2</sub>		
	b. $AIOH_3$	d.	$(NH_4)_2S$		
 7.	Which of the following compounds can be used as a drying agent?				
	a. $CuSO_4 \cdot 5H_2O$	c.	calcium chloride dihydrate		
	b. hygroscopic alum	d.	the dihydrate of calcium sulfate		
8.	In order to separate two liquids from each other by distillation, they must				
	a. evaporate at the same temperature	с.	both be molecular substances		
	b. evaporate at different temperatures	d.	both be inorganic compounds		
9	Which of the following pairs of compounds are allotropes?				
 ).	a. sulfuric acid and nitric acid	C.	Cl <sub>2</sub> and Cl		
	b. ozone and $O_3$	d.	$O_2$ and $O_3$		
 10.	is an allotrope of carbon.				
	a. Diamond	c.	Ozone		
	b. Carbon monoxide	d.	Black phosphorus		

#### Completion

Complete each statement.

- A. trifluoride
- B. heat and light
- C. perchlorate
- D. phosphate

11. The name of the anion  $ClO_4^-$  is \_\_\_\_\_.

12. The name of the anion  $PO_4^{3-}$  is \_\_\_\_\_.

13. Forest fire releases energy in the form of \_\_\_\_\_\_

14. The second part of the name of the compound NF<sub>3</sub> is \_\_\_\_\_\_.

- A. binary compound
- B. polyatomic ion
- C. distillation
- D. hydrate

15. The sulfate ion is an example of a(n) \_\_\_\_\_\_ because it contains two different elements.

- 16. A(n) \_\_\_\_\_\_ is one that contains two, and only two, elements.
- 17.  $CaSO_4 \cdot 2H_2O$  is a(n) \_\_\_\_\_\_ because it always contains a fixed ratio of water molecules to calcium and sulfate ions.
- 18. A chemist can often use the process of \_\_\_\_\_\_ to separate two liquids from each other.

### Matching

- Match each item with the correct item below.

   a. ionic
   b. molecular

   19. potassium nitrite

   20. selenium dioxide

   21. pentane

   22. diphosphorus pentasulfide

   23. nickel(II) bromide

   Match each item with the correct item below.

   a. common

   b. formal

   24. magnesium iodide octahydrate

   25. anhydrous gypsum

   26. nitric acid
- \_\_\_\_\_ 27. calcined magnesia
- \_\_\_\_\_ 28. lithium hydroxide

## Problem

Write the number of the formula formed when the following atoms or groups of atoms combine with each other.

1	sodium and oxygen	Α	$Mg_3P_2$
2	aluminum and fluorine	B	CaSO <sub>4</sub>
3	magnesium and phosphorus	С	NH <sub>4</sub> NO <sub>3</sub>
4	calcium and sulfate	D	$Al_2(CO_3)_3$
5	ammonium and nitrate	Ε	AlF <sub>3</sub> ;
6	aluminum and carbonate	F	Na <sub>2</sub> O

12	sodium aluminum sulfate	Α	BrF <sub>7</sub>
13	bromine heptafluoride	В	NaAl(SO <sub>4</sub> ) <sub>2</sub>
14	dihydrogen difluoride	С	$H_2F_2$
15	calcium sulfate hemihydrate	D	SO <sub>3</sub> ;
16	sulfur (6+) and oxygen	Ε	$CaSO_4 \cdot \frac{1}{2}H_2O$

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