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Identify the choice that best completes the statement or answers the question. All questions worth 3pts. unless noted.

Chapter 7 Quiz - 5

Multiple Choice

1. Which conversion factor would best fit in the space labeled "C" in this diagram?

	$\begin{array}{c} \text{Mass} & \overset{A}{\longleftarrow} & \text{moles} & \overset{C}{\longleftarrow} & \text{Numbe} \\ \text{Substance} & \overset{B}{\longrightarrow} & \text{moles} & \overset{C}{\longleftarrow} & \text{D} \end{array}$	er of les
	a. $\frac{1 \text{mol}}{\text{N}_{\text{A}}}$ c.	1mol molar mass
	b. $\frac{N_A}{1 \text{mol}}$ d.	molar mass 1mol
2.	How many hydrogen atoms are in <u>5 molecules</u> of	isopropyl alcohol, C ₃ H ₇ O?
	a. 5 c.	$5 \times (6.02 \times 10^{23})$
	b. 35 d.	$35 \times (6.02 \times 10^{23})$
3.	The molar mass of LiF is 25.94 g/mol. How manya.5.000 molc.b.134.5 mold.	moles of LiF are present in 5.185 g? 0.1999 mol 36.32 mol
4.	The molar mass of CS_2 is 76.14 g/mol. How many a. 5.00 g c. b. 15.23 g d.	y grams of CS ₂ are present in 5.00 mol? 380.7 g 0.066 g
5.	What is the number of moles in 216 g $Ba(NO_3)_2$?	(hint: unless you're quick, do this one last!)
	a. 0.237 mol c.	0.605 mol
	b. 0.825 mol d.	3.66 mol
6.	A formula that shows the simplest whole-numbera.structural formula.b.molecular formula.d.	ratio of the atoms in a compound is the ideal formula. empirical formula.
7.	A molecular compound has the empirical formula	XY_3 . Which of the following is a possible molecular formula?
	a. X_2Y_3 c.	X_2Y_5
	b. X_2Y_6 d.	XY_4
8.	A compound's empirical formula is NO ₂ . If the fo	rmula mass is 92 amu, what is the molecular formula?
	a. N_2O_4 c.	NO ₂
	b. N_2O_2 d.	NO
9.	The percentage of sulfur in SO_2 is about 50%. Wh	nat is the percentage of oxygen in this compound?
	a. 25% c.	50%
	b. 75% d.	90%

Name: _____

10.	(E C	C)What is the empirical formula for a comp	ound	that is 53.3% O and 46.7% Si?
	a.	Si ₂ O	c.	SiO ₂
	b.	Si ₂ O ₃	d.	SiO
11.	Wł	hat is the percentage composition of CF_4 ?		
	a.	16.8% C, 83.2% F	c.	13.6% C, 86.4% F
	b.	20% C, 80% F	d.	81% C, 19% F

Numeric Response

- 12. The molar mass of aluminum is 26.98 g/mol and the molar mass of oxygen is 16.00 g/mol. Determine the molar mass of Al₂O₃.
- 13. Calculate the number of moles in 10.05 grams of CaCO $_3$ (molar mass = 100.1g/mol).
- 14. What is the mass of 10.0 moles of carbon?
- 15. Calculate the molar mass of nitroglycerin, $C_3H_5(NO_3)_3$, the main ingredient of dynamite.
- 16. The percentage of hydrogen in NaOH is ______.