

Name: _____ Date: _____

- 1 How many moles of nitrogen atoms are contained in one mole of $\text{Ba}(\text{NO}_3)_2$?
- A 1
B 2
C 6
D 9
- 2 The molecular formula of a compound is X_6Y_3 . What is the empirical formula for this compound?
- A X_6Y
B XY_3
C X_2Y
D XY_2
- 3 Zinc is used as a coating on iron and steel to prevent corrosion. What is the mass, in grams, of 0.0650 mol Zn?
- A 3.25 g
B 3.90 g
C 3.94 g
D 4.25 g
- 4 Mole is to atom as gram is to —
- A amu
B mass
C molecule
D particle
- 5 What is the total number of atoms contained in 2.00 moles of helium?
- A 15.999
B 32.0
C 6.02×10^{23}
D 1.20×10^{24}
- 6 A compound has the formula $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$. Its chemical name is —
- A aqueous magnesium sulfate
B magnesium sulfate pentahydrate
C magnesium sulfate heptahydrate
D magnesium sulfate decahydrate

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- 7 Indium (In) is a relatively rare element that never occurs as a free metal. It is usually found in a compound that contains 70.48% In and 29.52% S. What is the empirical formula for this compound?
- A InS
 B In₂S₃
 C In₃S₅
 D In₆S₉
- 8 A student measures 10.0 g of hydrated sodium carbonate (Na₂CO₃·xH₂O) and places it in a crucible. After heating, 3.7 g of anhydrous sodium carbonate (Na₂CO₃) remains. What is the formula for the hydrate?
- A Na₂CO₃·2H₂O
 B Na₂CO₃·5H₂O
 C Na₂CO₃·8H₂O
 D Na₂CO₃·10H₂O
- 9 Potassium nitrate, also known as saltpeter, is used in matches. What is the percent by mass of potassium (K) in potassium nitrate (KNO₃)?
- A 38.67%
 B 45.94%
 C 55.71%
 D 56.58 %
- 10 Baking soda is the common name for sodium hydrogen carbonate (NaHCO₃). What is the mass in grams of 2.75 moles of sodium hydrogen carbonate?
- A 63.2 g
 B 84 g
 C 210 g
 D 231 g
- 11 A mole of ¹²/₆C atoms will have a total mass of —
- A 12 kg
 B 12 g
 C 12 amu
 D 6 amu

