Multiple Choice Questions                   Unit (4)                                                   Chem-100

1. The formula mass of C₆H₆ is
   A. 78.04 amu      B. 78.08 amu      C. 78.12 amu      D. 78.06 amu

2. What is the number of mol in 6.41 g of SO₂?
   A. 0.100 mol     B. 0.133 mol     C. 0.266 mol     D. 0.050 mol

3. What is the mass of 2.10 mol of helium?
   A. 4.10 g       B. 8.40 g       C. 4.20 g       D. 2.00 g

4. What coefficient is placed in front of H₂O to complete the balancing of the following equation?
   \(2\text{Al(OH)}_3 + 3\text{H}_2\text{SO}_4 \rightarrow \text{Al}_2(\text{SO}_4)_3 + ?\text{H}_2\text{O}\)
   A. 6          B. 3             C. 8             D. 2

5. The reaction \(4\text{HNO}_3 \rightarrow 4\text{NO}_2 + 2\text{H}_2\text{O} + \text{O}_2\), is an example of a __________ reaction.
   A. combination    B. double replacement    C. decomposition   D. single replacement

6. In the reaction \(\text{Sn} + \text{CuCl}_2 \rightarrow \text{SnCl}_2 + \text{Cu}\), what is reduced?
   A. Sn       B. Cl⁻       C. Cu       D. Cu²⁺

7. The reaction \(\text{A} + \text{B} \rightarrow \text{C} + 75 \text{kcal}\) is an example of a(n) __________ reaction.
   A. endothermic   B. exothermic   C. equilibrium   D. slow

8. At equilibrium the rate of the forward reaction is _________ the rate of _________ reaction.
   A. the same as, reverse    B. smaller than, reverse    C. larger than, reverse   D. the same as, activation

For the next two questions (9 and 10), consider the following balanced equation:
\(\text{N}_2 + 3\text{H}_2 \rightarrow 2\text{NH}_3\).

9. When 4.50 mole of H₂ react, how many grams of N₂ are needed?
   A. 28.0 g      B. 14.0 g      C. 28.5 g      D. 42.0 g

10. How many grams of H₂ are required to produce 27.0 g of NH₃?
    A. 3.70 g     B. 6.80 g     C. 4.80 g     D. 3.20 g
Multiple Choice Questions                                      Unit (4)                                      Chem-100

**Answers**

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