Assignment 8

Choose/Fill-in the correct answer.

1. **The element that has the highest percent composition in the compound ammonium chloride, NH_4Cl, is**
   - nitrogen
   - hydrogen
   - oxygen
   - chlorine

2. **A solution of 171 grams of sugar ($C_{12}H_{22}O_{11}$) in**
   - 1 liter of solution is 1 molar
   - 2 liter of solution is 0.5 molar
   - 1 liter of solution is 2 molar
   - 1 liter of solution is 0.5 molar

3. **How many grams of oxygen molecules is in 0.00192 moles of oxygen molecules?**
   - 0.0614 gram
   - 0.0307 gram
   - 6.00×10^{-5} gram
   - 1.20×10^{-4} gram

4. **4.5 liters of a gas at STP weighs 9.5 grams. What is the molar mass (in grams/mole) of the gas?**

   _____ (Enter numeric answer here.)

5. **Will copper metal react with silver nitrate?**
   - No, because copper is not as reactive as silver.
   - Yes, because copper is more reactive than silver.
   - No, because copper is more reactive than silver.
   - Yes, because copper is not as reactive as silver.

6. **The decomposition of sodium chlorate, $NaClO_3$, yields NaCl and O_2 gas. How many liters of oxygen at STP can you prepare from the decomposition of 0.8 grams of $NaClO_3$.**

   _____ (Enter numeric answer here.)

7. **Write the balanced equation for the following unbalanced reaction.**

   P_4O_{10} (s) + H_2O (l) -> H_3PO_4 (l)

   - P_4O_{10} (s) + 12 H_2O (l) -> 4 H_3PO_4 (l)
   - 2 P_4O_{10} (s) + 6 H_2O (l) -> 4 H_3PO_4 (l)
   - P_4O_{10} (s) + 6 H_2O (l) -> 4 H_3PO_4 (l)

   - P_4O_{10} (s) + 14 H_2O (l) -> 6 H_3PO_4 (l)

8. **Predict the products of the reaction between aluminum metal and ferric oxide.**
   - no reaction
   - Fe_2 (s) + Al_2O_3 (s)
   - Fe (s) + AlO_3 (s)
   - Fe (s) + Al_2O_3 (s)

9. **Calculate the volume (in mL) of a 0.51 M NaOH solution that is needed to neutralize completely a 25.0 mL of a 0.157 M H_3PO_4 solution.**

   _____ (Enter numeric answer here.)

10. **Calculate the volume (in mL) of a 1.21 M NaOH solution that is needed to neutralize completely a 25.0 mL of a 0.154 M H_3PO_4 solution.**

    _____ (Enter numeric answer here.)

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