

## Assignment 8

Choose/Fill-in the correct answer.

1. The element that has the highest percent composition in the compound ammonium chloride,  $\text{NH}_4\text{Cl}$ , is

nitrogen  
 hydrogen  
 oxygen  
 chlorine

2. A solution of 171 grams of sugar ( $\text{C}_{12}\text{H}_{22}\text{O}_{11}$ ) 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  
  $6.00 \times 10^{-5}$  gram  
  $1.20 \times 10^{-4}$  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.)

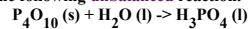
5. Will copper metal react with silver nitrate?

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.

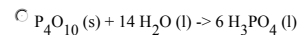
6. The decomposition of sodium chlorate,  $\text{NaClO}_3$ , yields  $\text{NaCl}$  and  $\text{O}_2$  gas. How many liters of oxygen at STP can you prepare from the decomposition of 0.8 grams of  $\text{NaClO}_3$ .

(Enter numeric answer here.)

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



$\text{P}_4\text{O}_{10}(\text{s}) + 12 \text{H}_2\text{O}(\text{l}) \rightarrow 4 \text{H}_3\text{PO}_4(\text{l})$   
  $2 \text{P}_4\text{O}_{10}(\text{s}) + 6 \text{H}_2\text{O}(\text{l}) \rightarrow 4 \text{H}_3\text{PO}_4(\text{l})$   
  $\text{P}_4\text{O}_{10}(\text{s}) + 6 \text{H}_2\text{O}(\text{l}) \rightarrow 4 \text{H}_3\text{PO}_4(\text{l})$



8. Predict the products of the reaction between aluminum metal and ferric oxide.

no reaction  
  $\text{Fe}_2(\text{s}) + \text{Al}_2\text{O}_3(\text{s})$   
  $\text{Fe}(\text{s}) + \text{AlO}_3(\text{s})$   
  $\text{Fe}(\text{s}) + \text{Al}_2\text{O}_3(\text{s})$

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  $\text{H}_3\text{PO}_4$  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  $\text{H}_3\text{PO}_4$  solution.

(Enter numeric answer here.)

Send to obtain your score