

Name: \_\_\_\_\_

Block: \_\_\_\_\_

**Mole Conversions #2**

1. How many moles are in 72.9 g of HCl?
2. How many moles are in 79.85 g  $\text{Fe}_2\text{O}_3$
3. How many moles are in 11.2  $\ell$  of  $\text{CO}_2$  gas at S.T.P.?
4. How many molecules are in 720 g of  $\text{C}_6\text{H}_{12}\text{O}_6$ ?
5. How many grams are in 3.5 mol of  $\text{Ca}_3(\text{PO}_4)_2$ ?
6. How many grams are in 0.275 mol of  $\text{UOCl}_2$ ?
7. What is the volume of 1.35 mol of  $\text{Cl}_2$  gas at S.T.P.?
8. How many grams are in  $3.01 \times 10^{24}$  molecules of  $(\text{NH}_4)_2\text{SO}_4$ ?
9. How many molecules are in 85 g of  $\text{AgNO}_3$ ?
10. How many grams are in  $1.204 \times 10^{24}$  molecules of  $\text{CH}_3\text{COOH}$ ?

11. What is the molarity of a solution that contains 25.2 g of  $\text{KNO}_3$  (F.W. = 101.1) dissolved in enough water to make a total volume of 200. mL of solution?
  
  
  
  
  
  
  
  
  
  
12. What is the molarity of a solution that contains 22.5 g of NaI (F.W. = 149.89) dissolved in enough water to make a total volume of 500. mL of solution?
  
  
  
  
  
  
  
  
  
  
13. How many grams of NaOH (F.W. = 40.00) would you dissolve in water to make 1.25 L of a 2.50 M solution?
  
  
  
  
  
  
  
  
  
  
14. How many grams of  $\text{KClO}_3$  (F.W. = 87.14) would you dissolve in 200. mL of solution to end up with a concentration of 0.100 M?
  
  
  
  
  
  
  
  
  
  
15. How many mL of 12.7 M HCl would you add to water to make 450. mL of a 1.000 M solution?
  
  
  
  
  
  
  
  
  
  
16. If you dissolved 28 g of  $\text{Na}_2\text{SO}_4$  in a total volume of 90. mL, what would the concentration of  $\text{Na}^+$  ions be?