

## Mixed Mole Practice

1 mole =  $6.02 \times 10^{23}$  particles  
1 mole = molar mass

1. Calculate the mass of 1.58 moles  $\text{CH}_4$ . [molar mass  $\text{CH}_4$  = 16.05 g/mol]  
Given: 1.58 moles  $\text{CH}_4$   
Unknown: ? g  $\text{CH}_4$   
Will you use molar mass or  $6.02 \times 10^{23}$  to solve this problem?

\_\_\_\_\_ = \_\_\_\_\_

3. How many molecules are there in a 0.583 mole sample of  $\text{H}_2\text{O}$ ? [molar mass of  $\text{H}_2\text{O}$  = 18.02 g/mol]  
G: 0.583 moles  $\text{H}_2\text{O}$   
U: ? molecules  $\text{H}_2\text{O}$   
Will you use molar mass or  $6.02 \times 10^{23}$  to solve this problem?

\_\_\_\_\_ = \_\_\_\_\_

4. How many moles of  $5.79 \times 10^{20}$  molecules of  $\text{CO}_2$ ? [molar mass  $\text{CO}_2$  = 44.01 g/mol]  
G:  $5.79 \times 10^{20}$  molecules  $\text{CO}_2$   
U: ? mole  $\text{CO}_2$   
Will you use molar mass or  $6.02 \times 10^{23}$  to solve this problem?

\_\_\_\_\_ = \_\_\_\_\_

5. How many moles are in a 35.0 gram sample of  $\text{H}_2\text{O}$ ? [molar mass  $\text{H}_2\text{O}$  = 18.02 g/mol]  
G: 35.0 g  $\text{H}_2\text{O}$   
U: ? moles  $\text{H}_2\text{O}$   
Will you use molar mass or  $6.02 \times 10^{23}$  to solve this problem?

\_\_\_\_\_ = \_\_\_\_\_

6. How many grams of NaOH do you measure if you need 2.87 moles of NaOH?

\_\_\_\_\_ = \_\_\_\_\_

7. How many moles of NaCl are in  $2.11 \times 10^{24}$  particles of NaCl?

\_\_\_\_\_ = \_\_\_\_\_

8. How many molecules are present in 1.45 moles of  $\text{H}_2\text{O}$ ?

\_\_\_\_\_ = \_\_\_\_\_

9. If you have 10.33 grams of copper, how many moles of copper is that?

\_\_\_\_\_ = \_\_\_\_\_

10. Calculate the molar mass of  $\text{Al}(\text{C}_2\text{H}_3\text{O}_2)_3$ .