

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



# ONE STEP MOLE CONVERSION WORKSHEET



Answer the following questions.

- 1] How many moles are present in 25 grams of water?
  
  
  
  
  
  
  
  
  
  
- 2] What is the weight of 5 moles of carbon?
  
  
  
  
  
  
  
  
  
  
- 3] How many moles are present in 280 grams of iron?
  
  
  
  
  
  
  
  
  
  
- 4] How many moles of  $\text{H}_2\text{SO}_4$  are present in  $3.4 \times 10^{23}$  molecules?
  
  
  
  
  
  
  
  
  
  
- 5] How many moles are present in 355 grams of  $\text{AlCl}_3$ ?
  
  
  
  
  
  
  
  
  
  
- 6] How much does 4.5 moles of  $\text{Li}_2\text{O}$  weigh?
  
  
  
  
  
  
  
  
  
  
- 7] How many moles are present in 25 grams of  $\text{NH}_3$ ?



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## Answers

1] How many moles are present in 25 grams of water?

Molar mass of water = 18 g/mol

25 grams of water are found in  $(25/18)$  moles = 1.38 moles

2] What is the weight of 5 moles of carbon?

Molar mass of carbon = 12.011 g/mol

5 moles of carbon = 60.055 grams

3] How many moles are present in 280 grams of iron?

Molar mass of iron = 55.845 g/mol

280 grams of iron =  $280/55.845$  moles = 5.01 moles

4] How many moles of  $\text{H}_2\text{SO}_4$  are present in  $3.4 \times 10^{23}$  molecules?

1 mole of  $\text{H}_2\text{SO}_4$  consists of  $6.023 \times 10^{23}$  molecules

$3.4 \times 10^{23}$  molecules of  $\text{H}_2\text{SO}_4$  = 0.56 moles

5] How many moles are present in 355 grams of  $\text{AlCl}_3$ ?

Molar mass of  $\text{AlCl}_3$  = 133.34 g/mol

355 grams of  $\text{AlCl}_3$  represent  $355/133.34$  moles = 2.66 moles

6] How much does 4.5 moles of  $\text{Li}_2\text{O}$  weigh?

Molar mass of  $\text{Li}_2\text{O}$  = 29.88 g/mol

4.5 moles of  $\text{Li}_2\text{O}$  weigh  $29.88 \times 4.5$  grams = 134.46 grams

7] How many moles are present in 25 grams of  $\text{NH}_3$ ?

Molar mass of  $\text{NH}_3$  = 17 g/mol

25 grams of  $\text{NH}_3$  represent = 1.47 moles