

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

## Unit 01: Chemistry Math Skills Practice Test

Attempt every problem, don't leave any blank. Failure to complete **every problem** on the practice test will result in your becoming ineligible for retake tests on this unit. Ask if you have questions.

### Skill 1: Converting Units of Measurement

1) How many centiseconds are equivalent to 6.2 seconds? \_\_\_\_\_

2) If a desk is 1.73 meters tall, how many decameters is this? \_\_\_\_\_

3)  $16.358\text{ }^{\circ}\text{C} =$  \_\_\_\_\_ K

4)  $18.3\text{ }\mu\text{g} =$  \_\_\_\_\_ dg

5) How many  $\text{cm}^3$  is 10.3 daL? \_\_\_\_\_

### Skill 2: The metric system

1) Complete the following table of SI Base units

Measurement	SI Unit	Symbol
		g
Volume		
Temperature		
	Second	
		m

**Skill 3: Significant Digits** How many significant digits do the following numbers have?

0.0083 \_\_\_\_\_

7000 \_\_\_\_\_

300.00 \_\_\_\_\_

1500. \_\_\_\_\_

1201 \_\_\_\_\_

$4\bar{4}00$  \_\_\_\_\_



### Skill 6: Scientific Notation

1) Convert the following numbers to scientific notation

60000 \_\_\_\_\_

40000. \_\_\_\_\_

0.0000301 \_\_\_\_\_

2) Convert the following numbers from scientific notation to regular notation

$5.40 \times 10^3$  \_\_\_\_\_

$5.1 \times 10^{-4}$  \_\_\_\_\_

$1.4 \times 10^5$  \_\_\_\_\_

### Skill 7: Measurements and Uncertainty

1) If the density of silicon was published as  $2.46 \text{ g/cm}^3$  in a reputable book, and you take three measurements of  $3.091 \text{ g/cm}^3$ ,  $3.089 \text{ g/cm}^3$  and  $3.090 \text{ g/cm}^3$ . Would you say that your experiment was accurate or precise or both or neither? Justify your answer.

2) Calculate the % error in question #1.

### Skill 8: Calculations

1)  $(8.3565 \times 10^3) + (7.6358 \times 10^4) =$  \_\_\_\_\_

2)  $(4.21 \times 10^{-4}) \cdot (9.935 \times 10^{-5}) =$  \_\_\_\_\_

3)  $(9.03 \cdot 4.5875) / 0.179 =$  \_\_\_\_\_

4)  $0.003548 - 2.6547 =$  \_\_\_\_\_