

Name Experimental Data Desk \_\_\_\_\_  
 Date \_\_\_\_\_ Laboratory Instructor \_\_\_\_\_

REPORT SHEET | EXPERIMENT

## Basic Laboratory Techniques | 1

**A. The Meterstick**

Length of this lab book 11.0 in. \_\_\_\_\_ cm \_\_\_\_\_ mm \_\_\_\_\_ m  
 Width of this lab book 8.25 in. \_\_\_\_\_ cm \_\_\_\_\_ mm \_\_\_\_\_ m

Using an equation (including units), show that the above measurements are equivalent.

Area of this lab book (show calculations) \_\_\_\_\_ cm<sup>2</sup>

**B. The Graduated Cylinder**

Volume of water in graduated cylinder 49.8 mL  
 Volume of water contained in largest test tube 92.5 mL

**C. The Thermometer and Its Calibration**

Observed temperature of water-and-ice mixture 0.1 °C  
 Temperature of boiling water 96.4 °C  
 Observed atmospheric pressure 659 mm Hg  
 True (corrected) temperature of boiling water 96.3 °C  
 Thermometer correction \_\_\_\_\_ °C

**D. Using the Balance to Calibrate Your 10-mL Pipet**

Temperature of water used in pipet 20.0 °C  
 Corrected temperature 20.1 °C

	Trial 1	Trial 2	Trial 3
Mass of Erlenmeyer plus ~10 mL H <sub>2</sub> O (gross mass)	<u>46.56</u>	<u>46.88</u>	<u>46.85</u> g
Mass of Erlenmeyer (tare mass)	<u>36.57</u>	<u>36.74</u>	<u>36.91</u> g
Mass of ~10 mL of H <sub>2</sub> O (net mass)	_____	_____	_____ g

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Volume delivered by 10-mL \_\_\_\_\_ mL  
 pipet (show calculations)

Mean volume delivered by 10-mL pipet (show calculations) \_\_\_\_\_ mL

	<i>Trial 1</i>	<i>Trial 2</i>	<i>Trial 3</i>
Individual deviations from the mean	_____	_____	_____

Average deviation from the mean (show calculations) \_\_\_\_\_ mL

Volume delivered by your 10-mL pipet \_\_\_\_\_ mL ± \_\_\_\_\_ mL

**E. Measuring the Density of Antifreeze**

Temperature of antifreeze 23 °C

	<i>Trial 1</i>	<i>Trial 2</i>	<i>Trial 3</i>	
Mass of flask + antifreeze	<u>47.64</u>	<u>47.82</u>	<u>47.97</u>	g
Mass of empty flask	<u>30.57</u>	<u>30.74</u>	<u>30.91</u>	g
Mass of antifreeze	_____	_____	_____	g
Density of antifreeze (show calculation below)	_____	_____	_____	g

Mean (average) density

Average deviation from the mean  
 (show calculation below)