

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

Prog. Yr. &amp; Sec.: \_\_\_\_\_

### Activity 1 Significant Figures and Scientific Notation

A. Find the number of significant digits in the following measurements.

- |                                            |                                    |
|--------------------------------------------|------------------------------------|
| 1. 10100 mm _____                          | 6. $3.500 \times 10^{-2}$ s _____  |
| 2. 0.0874000 cL _____                      | 7. $6.19 \times 10^{-1}$ mi _____  |
| 3. 170.5 km _____                          | 8. $1.00 \times 10^3$ mg _____     |
| 4. $50\overline{00}$ cm <sup>3</sup> _____ | 9. $2 \times 10^2$ °C _____        |
| 5. 36 kg _____                             | 10. $5.920 \times 10^{-1}$ A _____ |

B. Write the following measurements in the scientific notation format.

- |                                      |                  |
|--------------------------------------|------------------|
| 1. 10100 mm                          | _____ x 10 _____ |
| 2. 0.0874000 cL                      | _____ x 10 _____ |
| 3. 170.5 km                          | _____ x 10 _____ |
| 4. $50\overline{00}$ cm <sup>3</sup> | _____ x 10 _____ |
| 5. 36 kg                             | _____ x 10 _____ |

C. Round off the following measurements to the indicated number of significant digits.

- |                              |                        |       |
|------------------------------|------------------------|-------|
| 1. 10100 mm                  | (2 significant digits) | _____ |
| 2. 0.0874000 cL              | (3 significant digits) | _____ |
| 3. 36 kg                     | (1 significant digit)  | _____ |
| 4. $2.5689 \times 10^{-2}$ s | (4 significant digits) | _____ |
| 5. $5.920 \times 10^{-1}$ A  | (3 significant digits) | _____ |

D. Perform the following operations.

- |                                                                                                                                      |   |                         |
|--------------------------------------------------------------------------------------------------------------------------------------|---|-------------------------|
| 1. (0.17362 m) (31.22 m) (170.06 m)                                                                                                  | = | _____ m <sup>3</sup>    |
| 2. $\frac{9.042 \text{ g}}{(5.24 \text{ cm}) (9.5 \text{ cm})}$                                                                      | = | _____ g/cm <sup>2</sup> |
| 3. $3.500 \times 10^{-2}$ s + $4.24 \times 10^{-2}$ s                                                                                | = | _____ s                 |
| 4. $\frac{(36 \text{ kg} - 12.5 \text{ kg})}{(80.2 \text{ m}^2 + 12 \text{ m}^2)}$                                                   | = | _____ g/cm <sup>2</sup> |
| 5. $\frac{7.50 \times 10^2 \text{ mg}}{3.0 \times 10^1 \text{ cm}} + \frac{1.00 \times 10^3 \text{ mg}}{4.5 \times 10^2 \text{ cm}}$ | = | _____ mg/cm             |