

## Significant Figures

Name \_\_\_\_\_

**Significant figures** are the number of meaningful digits used to express a value. The number of digits include the digits that are known with certainty plus one estimated digit which is usually unknown by  $\pm 1$ .

- Leading zeros are not significant.
- Zeros at the end of a number are not significant unless they are to the right of the decimal point.

Indicate the number of significant figures in each measurement.

240 mL \_\_\_\_\_

4.53 g \_\_\_\_\_

$2.5000 \times 10^3$  mL \_\_\_\_\_

0.025 g/mL \_\_\_\_\_

0.0400 mg \_\_\_\_\_

0 °F \_\_\_\_\_

852000 kg \_\_\_\_\_

860. g \_\_\_\_\_

24.000 mi. \_\_\_\_\_

0.00 mL \_\_\_\_\_

0.0700 mg \_\_\_\_\_

24000006 kg \_\_\_\_\_

For **addition** and **subtraction**, just look at the number of digits to the right of the decimal point.

For **multiplication** and **division**, look at the number of significant figures in each measurement.

Do the following calculations, and report answers to the correct number of significant figures

1.)  $256.44 \text{ g} / 208 \text{ mL}$

2)  $\frac{640 \text{ mL} - 254 \text{ mL}}{25.22 \text{ g} + 86.1 \text{ g}}$

3)  $\frac{4.7 \times (8.62 - 3.400)}{6.0 \times 0.25}$

4)  $\frac{0.4266 \text{ g} + 1.66 \text{ g}}{56.240 \text{ mL} - 32.62 \text{ mL}}$

5)  $\frac{925.6002 + 38.7340}{2.6200}$

6)  $0.886 \times (32.40 \text{ mg} - 6.257 \text{ mg})$