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 ± 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 2 | 4.53 g 3 | 2.5000×10^3 mL 5

0.025 g/mL 2 | 0.0400 mg 3 | 0 °F 1

852000 kg 3 | 860. g 3 | 24.000 mi. 5

0.00 mL 3 | 0.0700 mg 3 | 24000006 kg 8

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 g/208 mL

1.23 $\frac{g}{mL}$

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

3.47 $\frac{mL}{g}$

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

16

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

0.883 $\frac{g}{mL}$

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

368.07

6) 0.886 x (32.40 mg – 6.257 mg)

23.2 mg