WKS **NAME** Answer Key
Period _____ **Date** _____

V. Significant Figures in Calculations

A. Rounding

Round each of the following to 3 significant figures.		Round each of the following to 4 significant figures.	
1) 98.473 m	98.5 m	2) 4.59812 mm	4.598 mm
3) 0.00076321 mm	0.000763 mm	4) 0.0094249 g	0.009425 g
5) 57.048 g	57.0 g	6) 20.498 kg	20.50 kg
7) 12.15 g	12.2 g	8) 6.82035×10^{3} L	6.820×10^{3} L
9) 7.49830×10^{-4} mm	7.50×10^{-4} mm	10) 45,698 km (be careful!)	4.570×10^{4} km
11) 874.5 °C	875 °C	12) 0.31995 mg	0.3200 mg

B. Calculations

Give the results of the following problems to the correct number of significant figures. Watch your units! Units can be multiplied or divided, but in addition and subtraction all units and exponents must be the same and the answer is in the same units. **Show the unrounded result first, then round** the answers to the correct number of significant figures OR decimal place. Indicate the number of sig figs or the decimal place you are rounding to.

Example: 24.548 g / 10.8 mL = 2.272962963 g/mL → 2.27 g/mL (3 SF)

13) 12.8 m × 5.2 m = 66.56 m^2 → 67 m^2 (2 sig. figs.)

14) 100 pencils × 8.57 g/pencil = 857 g (3 sig. figs.—100 pencils is a count)

15) 0.00005 cm × 538 cm^2 = 0.0269 cm^3 → 0.03 cm^3 (1 sig. fig.)

16) 6008 cm^3 ÷ 8.724 cm = 688.6749198 cm^2 → 688.7 cm^2 (4 sig. figs.)

17) 72 cm ÷ 7 rods = 10.28571429 cm/rod → 10. cm/rod or 1.0×10^{1} cm/rod (7 rods is a count; 2 sig figs)

18) 600 g ÷ 38 mL = 15.78947368 g/mL → 20 g/mL (1 sig fig)

19) 357.89 g + 0.002 g = 357.892 g → 357.89 g (addition: hundredths place)

20) 17.95 m + 32.42 m + 50 m = 100.37 m → 1.0×10^{2} m (tens place)

21) 5.5 mL + 3.7 mL + 2.97 mL = 12.17 ml → 12.2 mL (tenths place)

22) 84.675 cm – 3 cm = 81.675 cm → 82 cm (ones place)

23) 75 °C – 2.55 °C = 72.45°C → 72 °C (ones place)

24) 10 g – 9.9 g = 0.1 g → 0 g (tens place!)