

V. Significant Figures in Calculations**A. Rounding**

Round each of the following to 3 significant figures.

- 1) 98.473 m
- 3) 0.00076321 mm
- 5) 57.048 g
- 7) 12.15 g
- 9) 7.49830×10^{-4} mm
- 11) 874.5 °C

Round each of the following to 4 significant figures.

- 2) 4.59812 mm
- 4) 0.0094249 g
- 6) 20.498 kg
- 8) 6.82035×10^3 L
- 10) 45,698 km (be careful!)
- 12) 0.31995 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: $24.548 \text{ g} / 10.8 \text{ mL} = 2.272962963 \text{ g/mL} \rightarrow 2.27 \text{ g/mL} (3 \text{ SF})$

13) $12.8 \text{ m} \times 5.2 \text{ m} =$

14) $100 \text{ pencils} \times 8.57 \text{ g/pencil} =$

15) $0.00005 \text{ cm} \times 538 \text{ cm}^2 =$

16) $6008 \text{ cm}^3 \div 8.724 \text{ cm} =$

17) $72 \text{ cm} \div 7 \text{ rods} =$

18) $600 \text{ g} \div 38 \text{ mL} =$

19) $357.89 \text{ g} + 0.002 \text{ g} =$

20) $17.95 \text{ m} + 32.42 \text{ m} + 50 \text{ m} =$

21) $5.5 \text{ mL} + 3.7 \text{ mL} + 2.97 \text{ mL} =$

22) $84.675 \text{ cm} - 3 \text{ cm} =$

23) $75 \text{ °C} - 2.55 \text{ °C} =$

24) $10 \text{ g} - 9.9 \text{ g} =$