

Review Exercise 1



1. Give the number of significant digits in each of the following measurements:

- a) 34098 cm d) 0.004080 km g) 5.240×10^8 mol
b) 78 000 J e) 6×10^{-3} MJ h) 0.000 100 3 m
c) 20.00 mol/L f) 8 000 000 001 cm² i) 9.050×10^{-1} L

2. Round off each of the following numbers as indicated:

- a) 900.49 (to 4 s.d.) d) 1.034 (to the nearest hundredth)
b) 26.05 (2 s.d.) e) 400673.50 (6 s.d.)
c) 899600 (2 s.d.) f) 0.02982 (3 s.d.)

3. Expand the following to decimal notation:

- a) 4.03×10^3 c) 8.705×10^6
b) 2.500×10^{-4} d) 6.10×10^{-5}

4. Rewrite each of the following (to 3 significant digits) using scientific notation:

- a) 4 000 000 000 c) 906 200
b) 0.000 001 38 d) 0.010 652

5. Perform each of the operations as indicated. Use the correct number of significant figures in your answer.

- a) $0.0789 \times 2.0 =$ d) $7605.469 - 12 =$
b) $206.40 \text{ cm} + 6.900 \text{ cm} + 845.1 \text{ cm} =$ e) $\frac{(3.01 \times 10^4)(4.4 \times 10^{-2})}{(5.75 \times 10^1)(1.500 \times 10^{-4})} =$
c) $\frac{507.15 \text{ m}^2}{0.0408 \text{ m}} =$ f) $\frac{(350.4)(0.028)(782.00)}{(104)(0.0500)} =$