Review Exercise 1 - Answers

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

a) 5 significant digits d) 4 significant digits g) 4 significant digits

b) 5 significant digits e) 1 significant digit h) 4 significant digits

c) 4 significant digits f) 10 significant digits i) 4 significant digits

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

a) 900.5 d) 1.03

b) 26 e) 400674

c) 9.0×10^5 f) 0.0298

3. Expand the following to decimal notation:

a) 4030 c) 8 705 000

b) 0.000 250 0 d) 0.000 061 0

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

a) 4.00×10^9 c) 9.06×10^5

b) 1.38×10^{-6} d) 1.07×10^{-2}

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

a) $0.0789 \times 2.0 = 0.16$

b) $206.40 \text{ cm} + 6.900 \text{ cm} + 845.1 \text{cm} = 1058.4 \text{ cm}$

c) $\frac{507.15 \text{ m}^2}{0.0408 \text{ m}} = 1.24 \times 10^4 \text{ m}$

d) $7605.469 - 12 = 7593$

e) $\frac{(3.01 \times 10^4)(4.4 \times 10^{-2})}{(5.75 \times 10^1)(1.500 \times 10^{-4})} = 1.5 \times 10^5$

f) $\frac{(350.4)(0.028)(782.00)}{(104)(0.0500)} = 1.5 \times 10^3$