

Dimensional analysis and opps with sig figs (Homework)

For help with these problems

www.tutor-homework.com

Be sure to mention the filename:

Chemistry_Questions_0116

www.tutor-homework.com (for tutoring, homework help, or help with online classes)

1.

The length 28.3 mm can also be expressed as

2.

How many digits after the decimal point should be reported when the calculation $(10434.1 - 9.3360)$ is performed?

3.

Evaluate each of the following and write the answer to the appropriate number of significant figures.

(a) $212.5 + 22.9 + 402.17$

(b) $1.0069 + 0.259 + 0.10370$

(c) $52.317 + 26.71 - 0.9949$

(d) $2.21 \times 10^2 + 3.079 \times 10^3$

4.

Without actually performing the calculations indicated, tell to how many significant digits the answer to the calculation should be expressed.

(a) $(13.33 + 11.873 + 10.3) / (1.27)$

(b) $(0.185)(6.022 \times 10^{23})$

(c) $(2.94)(0.08202)(298)/(720.7)$

(d) $[(1.52975)(47.112)] / [(262.33)(0.2)]$

5.

Given that 1 L = 1000 mL, determine what conversion factor is appropriate to convert the following.

(a) 2.25 L to milliliters

(b) 325 mL to liters

1 L / 1000 mL

6.

The United States has high-speed trains running between Boston and New York capable of speeds of up to 160. mi/h. Are these trains faster or slower than the fastest trains in the United Kingdom, which reach speeds of 225 km/h?

Give the speed of the United Kingdom trains in miles per hour.