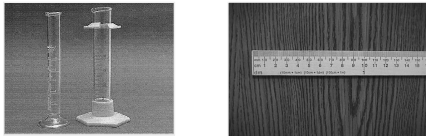


Chapter 3 Review “Scientific Measurement”



Pre-AP Chemistry
Charles Page High School
Stephen L. Cotton

Chapter 3 Review

- A cubic meter is about the same as the volume occupied by a:
a) basketball arena, or b) washing machine?
- What is the density of an object having a mass of 8.0 grams and a volume of 25 cm³?
- What temperature scale has no negative temperatures?

Chapter 3 Review

- What is the quantity 0.0075 meters expressed in centimeters?
- What is the quantity 7896 millimeters expressed in meters?
- Which of the following is NOT correct: a) 100 cg = 1 g, or b) 10 kg = 1 g

Chapter 3 Review

- The chief advantage of the metric system over other systems is ____.
- When multiplying and dividing measured quantities, what is the rule for significant figures?
- The expression of 5008 km in scientific notation is ____.

Chapter 3 Review

- Three people weigh a standard mass of 2.00 g on the same balance, and each obtain a reading of 7.32 g. The results imply the balance used was ____.
- What is the measurement of absolute zero measured in °C?
- What quantity is represented by the metric system prefix *deci*-?

Chapter 3 Review

- Which of the following measurements is expressed to three significant figures: a) 7.30 x 10⁻⁷ km, or b) 0.070 mm?
- Density is found by dividing ____.
- The weight of an object ____.
- Which of the following is the smallest: a) one liter, or b) one microliter?

Chapter 3 Review

- The closeness of a measurement to its true value is a measure of its ___.
- If the temperature of a piece of steel decreases, what happens to density?
- What is the boiling point of water expressed in kelvins?
- What is the product of 2.2 mm and 5.00 mm, using the correct number of significant figures?

Chapter 3 Review

- Express the sum of 7.68 m and 5.0 m, using the correct number of significant figures.
- When a test instrument is calibrated, does the accuracy, precision, or reliability improve?
- What is the SI unit of mass?
- Express in scientific notation the following: 0.000 000 000 154 m

Chapter 3 Review

- Which of the following measurements contains two significant figures: a) 0.000 44 L, or b) 0.004 00 L?
- Which group of measurements is most precise: a) 2 g, 3 g, 4 g, or b) 2 g, 2.5 g, 3 g? (Each group of measurements is for a different object.)

Chapter 3 Review

- What is the value 111.009 mm rounded off to four significant figures?
- What is the volume of 45.6 g of silver, if the density is 10.5 g/mL?
- Which of the following units is NOT an official SI unit: a) kilogram, or b) liter?

Chapter 3 Review

- Express the product of 4.0×10^{-2} m and 8.1×10^2 m, using the correct number of significant digits.
- What is the metric system prefix for the quantity 0.000 001?
- In the measurement 0.503 L, which digit is the estimated digit?
- Round 1042 L to two sig figs.

Chapter 3 Review

- What is the result of multiplying the value: 2.5×10^{10} by 3.5×10^{-7} ?
- What is the temperature 128 K expressed in degrees Celsius?
- What is the density of an object having a mass of 4.0 g and a volume of 39.0 cubic centimeters?

Chapter 3 Review

- The density of osmium, which is the densest metal, is 22.57 g/cm^3 . What is the mass of a block of osmium that measures $1.00 \text{ cm} \times 4.00 \text{ cm} \times 2.50 \text{ cm}$?
- Round off the value $0.003\ 095 \text{ m}$ to three significant figures.
- Express 0.05 g in kilograms.

Chapter 3 Review

- What is the sum of 2.7 g and 2.47 g expressed in the correct number of significant figures?

End of Chapter 3 Review