

## Summer Study Guide

- Be able to properly identify the number of sig figs in a measurement.
- Adding, subtracting, multiplying and dividing with significant figures.
- Be able to convert between scientific notation and standard notation.
- Multiplying and dividing with scientific notation.
- Be able to properly read and explain how to read rulers, balances and graduated cylinders.
- What is density?
- What are the units for density?
- What is the formula for density?
- How do you determine the density of a solid?
  - Regular Shaped Objects
  - Irregular Shaped Objects
- A platinum bar measures 5.0 cm long, 4.0 cm wide, and 1.50 mm thick. It has a mass of 7000. grams. Calculate the density of the bar.
- A lead cylinder has a mass of 540 grams and a density of 2.70 g/ml. Calculate the volume of the lead cylinder.
- A cork has a density of 0.1875 g/cm<sup>3</sup> and a volume of 16 cm<sup>3</sup>. Calculate the mass of the cork.

**Determine how many significant figures are in the following.**

1. 0.08750 m \_\_\_\_\_

2. 170930 mg \_\_\_\_\_

3. 40.00 km \_\_\_\_\_

4. 0.0394 hrs \_\_\_\_\_

**Perform the following calculations. DO NOT FORGET UNITS!**

5.  $98.02 \text{ mg} \times 19 \text{ mg} \times 0.004134 \text{ mg} =$  \_\_\_\_\_

6.  $4.65 \text{ g} + 8.2 \text{ g} + 3.43 \text{ g} =$  \_\_\_\_\_

7.  $100.0 \text{ m}^2 / 50.0 \text{ m} =$  \_\_\_\_\_

8.  $20.4 \text{ min} - 4.5 \text{ min} - 3 \text{ min} =$  \_\_\_\_\_

**Perform the following unit conversions. DO NOT FORGET UNITS!**

9. Convert 5.67 miles  $\rightarrow$  cm

10. Convert 999.9 s  $\rightarrow$  days