

Unit 2 Measurement and Calculation

- Express the following in proper scientific notation
 - 304,000,000
 - 0.000453
 - 26,000
 - 0.000000004512
- Perform the following on your calculator
 - $(7.34 \times 10^7) \times (1.22 \times 10^3)$
 - $(4.98 \times 10^{-4})(6.99 \times 10^{-6})$
 - $(1.11 \times 10^8)(2.17 \times 10^{-3})$
- Perform the following on your calculator
 - $(7.88 \times 10^4) \div (3.55 \times 10^{-4})$
 - $\frac{(3.4 \times 10^{-6})(2.3 \times 10^3)}{(3.9 \times 10^4)}$
- Convert the following
 - 236 g to kg
 - 21.3 g to cg
 - 153 mg to ng
 - 18 pm to Gm
 - 23.4 cm³ to mL
 - 66 L to cm³
- Determine the number of significant figures for the following
 - 3.802 g salt
 - 2100 ft of carpet
 - 0.00500 meters of rope
- Round each of the following off to 3 significant figures
 - 54681 miles
 - 0.003404 liters
 - 2302 yards
- Add the following and round off to proper significant figures
 - 21.0 + 5.883 + 2.56
 - 0.000345 + 1.2004 + 5.6711
 - $2.34 \times 10^4 + 1.9 \times 10^3$
- Perform the following calculations, rounding off to proper significant figures
 - $\frac{(2.33)(81.94)(2.1)}{(33.44)(78.2)}$
 - $\frac{(2.123 \times 10^{-3})(55.6)}{(8.97 \times 106)}$

9. In jewelry, 1 carat is defined as exactly 200 mg. For a diamond weighing 33.3 carats, what is the mass in grams?
10. What is the volume in gallons for a fuel tank capacity of 45.0L?
11. Convert 12.0 nm to inches.
12. The density of rubbing alcohol is 0.891 g/mL. How many liters does 1540 g of alcohol occupy?
13. How many mL of olive oil is 163g? The density of olive oil is 0.919 g/cm³.
14. A light year is defined as the distance light travels in one year. If the speed of light is 186,000 miles/second, how far, in miles, is 1 light year? In km?
15. There are 34 students in a math class. 46.8% are female. Of the female students, 23.4% have dark hair. How many dark haired, female students are in this class?
16. Convert the following:
 - a. 45°F to °C
 - b. 137°C to °F
 - c. 25°C to K
 - d. 286K to °F