

3. a) Convert the volume of a can of Coke from ounces into milliliters. Check your answer.

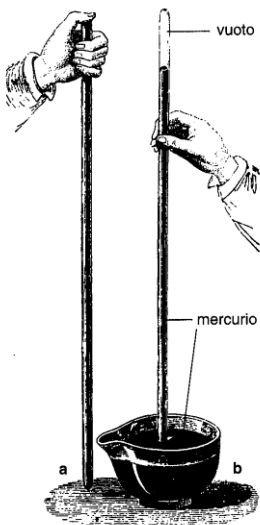
b) Measure the dimensions (height and diameter) of a can of Coke in centimeters. Use this to calculate the volume of the can; $V = \pi (\text{dia}/2)^2 h$. Convert this result into ounces. Compare your result with that noted above.

4. Convert your weight and height, as listed on your driver's license, into kilograms and centimeters respectively.

5. Convert number of miles "to Yosemite" into kilometers. Check your answer.

6. The grain (gr.) is an old apothecary unit of mass; $1 \text{ gr.} = 1/7000 \text{ lb.}$ A standard Aspirin tablet contains 5 gr. of Aspirin. Convert this to milligrams. Check your answer.

7. Atmospheric pressure is measured using a barometer. A barometer is constructed so that the pressure of the atmosphere "pushes" a column of Mercury into a vacuum until the weight of the column counters the atmospheric pressure. The pressure is then reported in terms of the height of the column; $760 \text{ mmHg} = 1 \text{ atmosphere of pressure.}$ Read our barometer to obtain today's atmospheric pressure. Report this pressure in pounds per square inch (psi).



8. Current highway speed in New Mexico is 65 mph. Report this speed in meter per second.

9. Obtain a stopwatch and measure in seconds how long it takes you to make one lap around the 2nd Floor Jones Hall corridor. How many years did it take you to make this lap?

10. The kilowatt hour [kWh] is a unit of energy (Power [kilowatt] x Time [hour]) equal to 3.6 MJ. Using your data from the last lab, how many kWhs were consumed by your hotplate in heating your Water? The British Thermal Unit (BTu) is another unit of energy typically used to describe the "heat" value of fuels, equal to 1055 J. Report the above data in BTu's.