

3. What is the area of a 15' x 11' room in cm^2 ? Write your answer in standard scientific notation.

4. Suppose that you don't have a Prius (or the like) that automatically gives you the miles per gallon of your car. Further suppose that you know the following information: Last time that you filled up your car, it costs \$52. This allowed you to travel 200 miles. If the gas cost \$4 per gallon, how many miles per gallon did your car get on this fill-up?

5. Over a certain range of speeds, air resistance, f , is given as $f = CA\rho v^2$.

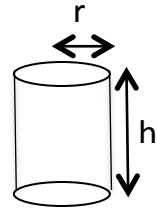
C is a constant that depends on the shape and texture of the object, A is the cross-sectional area of the object in m^2 , ρ is the density of the fluid in kg/m^3 , and v is the speed of the object relative to the fluid in m/s . Given

that f is a force in units of Newtons $\left(1 \text{ N} = 1 \frac{\text{kg} \cdot \text{m}}{\text{s}^2}\right)$, find the units of the

constant C .

6. In this “activity”, you will be given a small cylinder to measure, reviewing significant figures and units along the way.

Measure and record “h” to the nearest 0.01 cm: _____ cm



Measure and record “r” to the nearest 1 mm: _____ mm (*Divide the diameter by 2; note that dividing by a constant number (2 in this case) does not change the number of significant digits*).

Calculate the volume V of your cylinder in m^3 , noting that $V = \pi r^2 h$. Make sure to use consistent units and don’t forget to pay attention to significant figures! Write your answer in standard scientific notation.

7. Fill in the blanks for the following with either the words “reasonable” or “not reasonable”. Covert to units that you are familiar with in order to assess each.

Betty completed this activity in a time of 0.18 Ms. _____

John is 1780000000 nm tall. _____

Paul ran the 50-yard dash in 222 μ s. _____

George ate a 30,658 mm^2 piece of pizza for lunch. _____

Ringo drove on the interstate at 0.027 km/ s. _____