Units, Scientific Notation, and Equations in LaTeX

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September 4, 2017

Here is how to display units, use scientific notation, and write equations for dimensional analysis.

When writing a measurement, include its units, like this: 50 mm. Notice I used a "sticky space" to put a space between the number and the unit, but still keep the number and unit together on the same line (you don't want mm to get word–wrapped to the next line).

Sometimes units need exponents. Write them like this: 430 m^2; 0.56 m s^{-1}.

Write in scientific notation like this: 2.15×10^3. When units are involved, another way to keep the units with the number (instead of using a sticky space) so they don't wrap to the next line is like this: 6×10^{-3} kg m^{-3}. This method also allows LaTeX to break up the number in a good place if it is too long to all be on one line.

A simple equation is shown in (1). You could also write something short like this in your current paragraph. This is how you do that: $5 + 10 = 15$. You have to put $ signs around it. Fractions are shown in (2). Learn how to deal with squared terms by looking at (3). It is rewritten as (4) to further illustrate how to deal with squared terms. As usual with LaTeX, if you don't understand how something works, copy my example and try changing it to see what happens, or Google it.

$$5 + 10 = 15 \tag{1}$$

$$5.0 \text{ ft} \times \frac{12 \text{ in}}{1 \text{ ft}} \times \frac{2.54 \text{ cm}}{1 \text{ in}} = 150 \text{ cm} \tag{2}$$

$$1\bar{0}0 \text{ acres} \times \frac{\frac{1}{640} \text{ mile}^2}{1 \text{ acre}} \times \frac{(5280 \text{ ft})^2}{(1 \text{ mile})^2} \times \frac{(1 \text{ m})^2}{(3.2808 \text{ ft})^2} \times \frac{1 \text{ ha}}{10^4 \text{ m}^2} = 4\bar{0} \text{ ha} \tag{3}$$

$$1\bar{0}0 \text{ acres} \times \frac{1/640 \text{ mile}^2}{1 \text{ acre}} \times \frac{27,878,400 \text{ ft}^2}{1 \text{ mile}^2} \times \frac{1 \text{ m}^2}{10.76 \text{ ft}^2} \times \frac{1 \text{ ha}}{100 \text{ m} \times 100 \text{ m}} = 4\bar{0} \text{ ha} \tag{4}$$