

Physics 1114 - General Physics I

Quiz #1 - 2012.08.22

Solutions

1. If two numbers have a different number of significant figures, how many significant figures will their product have?

The product will have, at most, the lesser number of significant figures of the two.

2. Dimensional analysis can be very useful in constructing physical relations. Consider the simple pendulum, which has length l measured in meters (m). The period T of time, measured in seconds s , that it takes for the pendulum to complete one full swing can be related to gravity g , which is measured in meters per second squared (m/s^2), and the length l of the pendulum. Find this relation using dimensional analysis. Hint: $T = (l/g)^x$, find x .

Using the hint, we see that the units on l/g are seconds squared, thus $T = \sqrt{l/g}$.