

QUICK GUIDE TO DIMENSIONAL ANALYSIS

PROBLEM:

How many kilometers are in 15,525 feet?

STRATEGY:

- Converting a given amount of feet to kilometers, choose ratios that relate feet to miles and miles to kilometers.
- Always place the unit you want to get to in the numerator.
- Always place the unit you want to cancel in the denominator.

1. Given: 15,525 feet
2. Unknown: # of kilometers represented
3. Process: Convert feet to miles to kilometers
4. Let units guide you
5. Multiply the given by the conversion factor(s)
6. Cancel units
7. Calculate

$$\begin{array}{r|l|l|l}
 15,525 \text{ Ft.} & & & \\
 \hline
 & \text{Mi.} & & \text{KM.} \\
 & \text{Ft.} & & \text{Mi.} \\
 \hline
 15,525 \cancel{\text{Ft.}} & \frac{1 \text{ Mi.}}{5,280 \cancel{\text{Ft.}}} & \frac{1.6 \text{ KM}}{1 \text{ Mi.}} = & \text{Place Units} \\
 \hline
 & & & \text{Place #'s} \\
 & & & \text{w/ units}
 \end{array}$$