

Dimensional Analysis Practice

1. Using the steps below, show how to convert 12.5 km to feet.

A. Fill in the blank space to make these statements true

_____ km = _____ m

_____ m = _____ cm

_____ cm = _____ in

_____ in = _____ ft

B. Write the measurement and units that you are starting with:

C. Create your first conversion factor by dividing one of the true statements above.
Show your method:

D. Multiply your initial quantity by the first conversion factor. Cancel the appropriate units.

E. Create your second conversion factor by dividing one the true statements above.
Show your method:

F. Multiply your answer to D by the second conversion factor. Cancel the appropriate units.

G. Create your third conversion factor by dividing one the true statements above.
Show your method:

H. Multiply your answer to F by the third conversion factor. Cancel the appropriate units.

I. Create your fourth conversion factor by dividing one the true statements above.
Show your method:

J. Multiply your answer to H by the third conversion factor. Cancel the appropriate units.

K. Check: does your answer to J have the correct units? If so, what is your correct answer?

Using that same method on the front of this page, solve the following problems. Make sure that you show all the steps involved. You may attach extra notebook paper if necessary. You may need to look up definitions of units on wikipedia or google in order to write your series of true statements.

2. 3 miles to km

3. 2.7 lbs to kg

4. 3 days to seconds

5. 2.7 liters to gallons

6. 135 lbs to grams