**Converting Units of Measurement Notes**

From the question, we can see that Pierre has given his weight in kilograms (kg), we want to know his weight in pounds (lb) so our old units will be kilograms, our new units will be pounds.

A good conversion factor would be to use 1 kg = 2.2 lb.

$$old units\* \left(\frac{new units}{old units}\right)=new units$$

$$75 kg\* \left(\frac{2.2 lb}{1 kg}\right)= \\_\\_\\_\\_\\_\\_\\_\\_\\_lb$$

$$75 kg\* \left(\frac{2.2 lb}{1 kg}\right)= 165lb$$

How it’s done…

Example: You went to France and Pierre told you he weighed 75 kilograms. How much does Pierre weigh in pounds?

1. **Determine from the situation your old units and new units.**
2. **Figure out what conversion factor(s) could be used to change the units.**
3. Set up your conversion factor(s) so that old units are in the denominator.
	1. Since your old units appear on the top and bottom, they “cancel”
4. Perform indicated operations
	1. Multiply for conversion numerators
	2. Divide for conversion denominators
5. STATE YOUR FINAL ANSWER WITH NEW UNITS

$$\frac{60 minutes}{1 hour} \frac{24 hours}{1 day} \frac{1000 m}{1 km }$$

$$\frac{12 inches}{1 foot} \frac{2.2 lb}{1 kg}$$

$$\frac{1 hour}{60 minutes} \frac{1 day}{24 hours} \frac{1 km}{1000 m}$$

$$\frac{1 foot}{12 inches} \frac{1 kg}{2.2 lb}$$

**Conversion Factor**

A conversion factor is a number that helps us go from one unit of measurement to another.

A conversion factor is set up as a fraction with two different units of equal measure in the numerator and denominator.

Because the two units written are equal, the fraction is a fancy was of using the identity property.

Notice that there are two ways to write each fraction

**Identifying Units**

When converting units of measurement it is important to identify the set of units that you have, and the new units to which you want to change.

You will multiply your initial (old units) by a conversion factor to get your new units.