

Name _____ Date _____ Pd _____

METRIC DIMENSIONAL ANALYSIS Practice 1

From <http://www2.hoover.k12.al.us/schools/hhs/faculty/skelley/Unit%201/DIMENSIONAL%20ANALYSIS%20Practice%201%20and%202.pdf>

Show all of the following unit conversion problems using the factor label method (dimensional analysis). Set up the problems clearly, round answers to correct significant digits and all answers must have units. Write Down The Rules:

Introduction & Examples

- Convert 92 centuries to years

$$\frac{92 \text{ centuries}}{1} \times \frac{100 \text{ years}}{1 \text{ century}} = 9200 \text{ years}$$

- If 2.54 cm = 1.00 inch, convert 46.5 inches to centimeters.

$$\frac{46.5 \text{ inches}}{1} \times \frac{2.54 \text{ cm}}{1 \text{ inch}} = 118 \text{ cm}$$

- Convert 84 miles to kilometers (there are 0.6 miles in a kilometer)

- Convert 27 months to fortnights (there are 14 days in a fortnight and ~30 days in a month)

Simple Metric Conversion: Set 1

1. Convert 135 meters (m) to kilometers (km).

2. A piece of property is found to be 399 decimeters (dm) long. Find the length in (cm)?

3. How many millimeters are there in 5.57×10^{-3} meters (m)?

4. A book is found to have a mass 0.8341 kilogram (kg). Calculate its mass in grams (g).

5. Calculate the number of micrograms (mg) in 0.000721 gram (g).

6. A 2.64 L bottle of soda contains how many milliliters (mL)?

7. What is the mass in kilograms of a 2.55×10^5 gram bag of fertilizer?

8. 4376 decigrams is equivalent to how many grams?

Simple Metric Conversion: Set 2

1. Calculate the number of centimeters (cm) there are in 6.24231 kilometers (km).

2. A very small object is found to have a length of 2.34×10^{-5} cm. Convert to millimeters (mm).

3. Calculate the number of milligrams (mg) there are in 12.00 kilograms (kg).

4. How many decigrams (dg) are there in 0.742 milligram (mg)?

5. Calculate the number of kilometers (km) there are in 1.529×10^4 millimeters (mm).

6. Calculate the number of milligrams (mg) in 6.33×10^3 micrograms (mg).