

Name:

Dimensional Analysis (Unit Conversion) Worksheet

Period:

Common Conversion Factors:

$$1 \text{ ft} = 12 \text{ in}$$

$$1 \text{ gal} = 4 \text{ qt}$$

$$1 \text{ lb} = 454 \text{ g}$$

$$1 \text{ mi} = 5280 \text{ ft}$$

$$1 \text{ in} = 2.54 \text{ cm}$$

$$1 \text{ L} = 1.057 \text{ qt}$$

$$1 \text{ lb} = 16 \text{ oz}$$

$$1 \text{ mi} = 1.61 \text{ km}$$

$$1 \text{ mL} = 1 \text{ cm}^3$$

Directions: Use the *train track method* to solve each of the following. You may use *only* the conversion factors listed above, and your knowledge of the metric system. Make sure to express your answer in the correct number of *significant digits*. NO WORK = NO CREDIT!

1) 29.5 inches \rightarrow feet

2) 245.3 feet \rightarrow miles

3) 0.11 L \rightarrow cm^3

4) 0.0459 meters \rightarrow inches

5) 18,268.3 inches \rightarrow meters

6) 80 km \rightarrow inches

7) 2.5×10^4 gallons \rightarrow mL

8) 34.8 mi/hr \rightarrow km/min

9) 0.00590 lb/qt \rightarrow g/gal

10) 5.178×10^{-3} lb/gal \rightarrow g/mL