**Dimensional Analysis Practice Problems**

Solve for the new unit using dimensional analysis. Make sure you use correct significant figures and include the new unit in your answer. Answers can be in standard notation or scientific notation. Show your work! Good Luck ☺

1. Convert 0.56kg to mg.

**Steps for Dimensional Analysis**

1. Write down what you are given
2. Draw X **-------------------**
3. Unit to end with (on top)

Unit to cancel (on bottom)

1. Add Conversion Factors (the #s)
2. Make sure all intermediate units cancel
3. Calculate

0.56 kg x \_\_\_\_\_\_\_ g x \_\_\_\_\_\_\_ mg = \_\_\_\_\_\_\_\_\_\_ mg

kg g

2. Convert 500.0 in to m. Hint: 1in = 2.54 cm

500 in x \_\_\_\_\_\_\_\_\_ cm x \_\_\_\_\_\_\_\_\_ m = \_\_\_\_\_\_\_\_\_\_ m

 in cm

3. Convert 2.2 Tg to ng (put your answer in scientific notation)

2.2 Tg x \_\_\_\_\_\_\_g x \_\_\_\_\_\_\_\_\_ ng = \_\_\_\_\_\_\_\_\_\_ ng

Tg g

4. Convert 3.000 weeks to minutes.

1. wk x \_\_\_\_\_\_\_\_\_\_\_\_\_ x \_\_\_\_\_\_\_\_\_\_\_\_\_ x \_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_ min

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500 in x \_\_\_\_\_\_\_\_\_ cm x \_\_\_\_\_\_\_\_\_ m = \_\_\_\_\_\_\_\_\_\_ m

 in cm

3. Convert 2.0 in to mm.

2.0 in x \_\_\_\_\_\_\_cm x \_\_\_\_\_\_\_\_\_ mm = \_\_\_\_\_\_\_\_\_\_ mm

in cm

4. Convert 3.000 weeks to minutes.

1. wk x \_\_\_\_\_\_\_\_\_\_\_\_\_\_ x \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ x \_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_ min

5. How many grams are in a sample that weighs 4.30 × 102 kilograms?

6. Convert 30.0 mL to liters.

7. How many centimeters are in 5.10 × 109 megameters?

8. 55.00 miles per hour to feet per second (1 mile = 5280 ft)

9. The average student is in class 330.0 minutes a day. Convert that into seconds per week.

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