

Analyze This...

Dimensional Analysis Practice (Part 1)

Dimensional Analysis calculations allow for measurements taken with one unit of measurement to be **converted** to another **without having to measure again** using a different measuring device. Try a few to see **how fun & easy** it can be. *Enjoy*

Five Easy Steps to Success:

1. Write down what you **KNOW**.
2. Write down the **units** you want to **convert to. GO**
3. Write down the **units** you want to **get rid of. (In denominator)**
4. **Write down a conversion factor. Make sure your conversion factor always = 1.**
5. **Do the math (cancel units, multiple or divide, & include the correct units).**
*(**Circle**) your answer.

Examples:

1. How many kilometers are in 5250 m?

$$\frac{5250 \text{ m}}{1} \times \frac{1 \text{ km}}{1000 \text{ m}} = 5.250 \text{ km}$$

2. How many days are there in 40 weeks? What takes 40 weeks?

$$\frac{40 \text{ weeks}}{1} \times \frac{7 \text{ days}}{1 \text{ week}} = 280 \text{ days}$$

3. How many centimeters are in 10 inches?

$$\frac{10 \text{ in}}{1} \times \frac{2.54 \text{ cm}}{1 \text{ in}} = 25.4 \text{ cm}$$

DIRECTIONS: Convert the following metric measurements using **Dimensional Analysis**.* (Please show your work (just like the examples above) in your notebook)

1. 81 meters to mm
2. 1.5 m to cm
3. 555cm to hectometers
4. 180 minutes to hours
5. 3 hours to seconds
6. 1000 days to years
7. 25 kg to decigrams
8. 10500 mm to decameters
9. 15 kg to centigrams
10. 2 liters to ml

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Dimensional Analysis Practice (Part II)

Metric System (SI) vs. English System Converting

DIRECTIONS: Convert the following to the metric or English equivalent using Dimensional Analysis. Please **show all your work** (see examples on front page) in your notebook. You might need to use your planner, notes, or the Internet for some of the conversion factors. *Enjoy*

1. 10 inches to cm
2. 110 miles to km
3. 90 km to miles
4. 100 yards to meters
5. 40 liters to gallons
6. 40 gallons to liters
7. 16 ounces to grams
8. 25 lbs. to grams
9. 2.5 lbs. to kilograms
10. 10 kilograms to pounds
11. 1500 meters to miles
12. 20 gallons of gas to liters
13. 2 U.S. ton car to kilograms
14. Your height in cm to inches
15. 2 cups of hot chocolate to deciliters
16. There is a 7 mile beach in Australia. How many kilometers is that?

BONUS: *Pizza Party*

You're throwing a pizza party for 15 friends and figure each person will eat 4 slices. You call up the pizza place and learn that each pizza will cost you \$9.99 and will be cut into 12 slices. **How many pizzas** should you order & **how much** is this party going to cost you?

SUPER BONUS: Would it be cheaper to go with the **x-large pizza** that has **16 slices** and costs only **\$12.49**? What could be a possible problem with ordering the x-large pizzas? Explain how it might **legally** be possible to spend less and still be able to host the party?