

Warm-Up Notes

MAT 100: ELEMENTARY ALGEBRA

Fall 2026

SECTION 1.10 SYSTEMS OF MEASUREMENT

Install — 10 minute lesson

Objectives of this Section

- Make unit conversions in the US system
- Use mixed units of measurement in the US system
- Make unit conversions in the metric system
- Use mixed units of measurement in the metric system
- Convert between the US and the metric systems of measurement
- Convert between Fahrenheit and Celsius temperatures

Skills

Introduced in this section:

No new skill introduced this section. **Also practiced:** WRD.NM (Naming the model), NUM.MD (Multiplying-Dividing Integers), NUM.AS (Adding-Subtracting Integers).

Lesson

A conversion factor is just a fraction that equals 1 – like $\frac{1000 \text{ mg}}{1 \text{ g}}$ – so multiplying by it never changes the amount, only its name. Adding mixed units works the same way: you combine like units, then re-trade a full group (16 ounces, 12 inches) for the next unit up, the same way you’d trade quarters for a dollar. Temperature is the one exception – there’s no simple “equals 1” fraction between Fahrenheit and Celsius, so we use a formula instead.

I do

Watch. One stick of butter contains 91.6 grams of fat. Convert this to milligrams.

We do

Together. Convert Celsius temperatures to degrees Fahrenheit. Round to the nearest tenth. 8° Celsius

You do

Your turn. Find the total number of pounds of nuts Judy bought. She bought 1 pound 6 ounces of almonds, 2 pounds 3 ounces of walnuts, and 8 ounces of cashews. Express your answer in pounds and ounces.

Your turn. Faye is 4 feet 10 inches tall. Convert her height to inches.

Practice

1. Dimitri's daughter weighed 3.8 kilograms at birth. Convert this to grams.
2. Convert Celsius temperatures to degrees Fahrenheit. Round to the nearest tenth.
5° Celsius
3. On a baseball diamond, the distance from home plate to first base is 30 yards. Convert the distance to feet.
4. JJ's cat, Posy, weighs 14 pounds. Convert her weight to ounces.