Unit 7 · Measurement and Conversions Cheat Sheet

Unit 7 focus: customary conversions for length, weight and capacity

1 Big Idea

To change a big unit to a small unit, multiply. To change a small unit to a big unit, divide.

2 Important Vocabulary

convert	Change a measurement to a different unit.	3 feet = 36 inches
customary units	Units used in the United States: inches, feet, yards, miles, ounces, pounds, cups, quarts, gallons.	1 foot = 12 inches
weight / mass	How heavy something is.	a puppy weighs 12 pounds
capacity	How much a container holds.	a jug holds 1 gallon

3 How It Works

Convert $3\frac{1}{2}$ feet to inches.

Example: $3\frac{1}{2}$ feet = ? inches
1 foot = 12 inches: $3\frac{1}{2} \times 12$
Answer: 42 inches

4 Visual Model

Length: 1 foot = 12 inches · 1 yard = 3 feet · 1 mile = 5,280 feet

Weight: 1 pound = 16 ounces · 1 ton = 2,000 pounds

Capacity: 1 cup = 8 fluid ounces · 1 pint = 2 cups · 1 quart = 2 pints · 1 gallon = 4 quarts

5 Remember This · Watch Out!

★ Remember this

- Write remainders as the smaller unit: 50 inches = 4 feet 2 inches.
- Check: does the number get bigger when the unit gets smaller?

⚠ Watch out!

- **Multiplying when you should divide:** inches → feet means ÷ 12
- **Mixing units:** convert before you add

6 Try It!

1. 7 quarts = ? cups
   Answer: sdnɔ 82
2. 70 ounces = ? pounds ? ounces
   Answer: səɔunо 9 spunod ⊬

Answers are printed upside down. Turn the page to check!

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More practice: metric conversions and multi-step measurement problems

1 Big Idea

Metric units go up and down by powers of 10, so you move the decimal point.

2 Important Vocabulary

metric units	Units based on powers of 10: millimeters, meters, grams, liters.	1 meter = 100 centimeters
kilo-	A prefix meaning 1,000.	1 kilometer = 1,000 meters
centi-	A prefix meaning $\frac{1}{100}$.	1 centimeter = 0.01 meter
milli-	A prefix meaning $\frac{1}{1000}$.	1 milliliter = 0.001 liter

3 How It Works

Convert 2,450 grams to kilograms.

Example: 2,450 grams = ? kilograms
1 kilogram = 1,000 grams: 2,450 ÷ 1,000
Answer: 2.45 kilograms

4 Visual Model

1 kilometer = 1,000 meters

1 meter = 100 centimeters = 1,000 millimeters

1 kilogram = 1,000 grams · 1 liter = 1,000 milliliters

5 Remember This · Watch Out!

★ Remember this

- × 10, 100 or 1,000: move the point right. ÷: move it left.
- Solve multi-step problems one step at a time.

⚠ Watch out!

- **Wrong power of 10:** centi- is 100, milli- is 1,000
- **Dropping the unit:** always write the unit in your answer

6 Try It!

1. 3.2 liters = ? milliliters
   Answer: 3,200 milliliters
2. 6 pieces of 18-inch ribbon = ? feet
   Answer: 9 feet

Answers are printed upside down. Turn the page to check!