# Unit 8 · Measurement and Unit Conversions Cheat Sheet

**Unit 8 focus:** customary and metric units and conversions

## 1 Big Idea

To change a larger unit to a smaller unit, multiply. It takes more small units to measure the same amount.

## 2 Important Vocabulary

| | | |
|---|---|---|
| **customary units** | Units used in the United States, such as inches, feet, pounds and gallons. | A door is about 7 feet tall |
| **metric units** | Units based on tens, such as meters, grams and liters. | A paper clip is about 1 gram |
| **convert** | Change a measurement from one unit to another. | 3 feet = 36 inches |
| **capacity** | How much liquid a container can hold. | A jug holds 1 gallon |

## 3 How It Works

How many inches are in 5 feet 4 inches?

**Example:** 1 foot = 12 inches
**Feet to inches:** 5 × 12 = 60
**Add the extra inches:** 60 + 4
**Answer: 64 inches**

## 4 Visual Model

Length: 1 ft = 12 in · 1 yd = 3 ft · 1 km = 1,000 m · 1 m = 100 cm

Weight and mass: 1 lb = 16 oz · 1 kg = 1,000 g

Capacity: 1 gal = 4 qt · 1 qt = 2 pt · 1 pt = 2 c · 1 L = 1,000 mL

Time: 1 hr = 60 min · 1 min = 60 sec

## 5 ★ Remember This · Watch Out!

**★ Remember this**

- Make a two-column table to keep track: 1 ft → 12 in, 2 ft → 24 in, 3 ft → 36 in.
- Metric units use 10, 100 and 1,000.

**⚠ Watch out!**

- **Use the right number:** 12 inches in a foot, not 10
- **Bigger unit, smaller number:** 3 feet = 36 inches

## 6 Try It!

1. 6 pounds = ? ounces

   Answer: 96

2. 4 kilometers = ? meters

   Answer: 4,000

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

# Unit 8 · Measurement and Unit Conversions Cheat Sheet

**More practice:** time, money, area and perimeter

## 1 Big Idea

Perimeter is the distance around a rectangle. Area is the space inside. Elapsed time is how long something lasts.

## 2 Important Vocabulary

| | | |
|---|---|---|
| **perimeter** | The distance around a figure. | A 5 by 3 rectangle has a perimeter of 16 |
| **area** | The number of square units that cover a figure. | A 5 by 3 rectangle has an area of 15 square units |
| **formula** | A rule written with symbols. | Area = length × width |
| **elapsed time** | The amount of time that passes from start to end. | From 3:15 to 4:00 is 45 minutes |

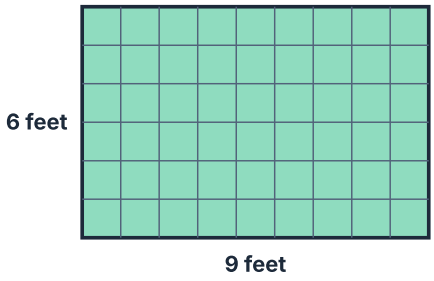
## 3 How It Works

A garden is 9 feet long and 6 feet wide. Find its perimeter and area.

**Example:** Use the formulas.
**Perimeter:** 2 × 9 + 2 × 6 = 30 feet
**Area:** 9 × 6 = 54 square feet

**Answer: 30 feet; 54 square feet**

## 4 Visual Model




Perimeter: walk around the edge, 30 feet. Area: count the squares inside, 54 square feet.

## 5 ★ Remember This · Watch Out!

**★ Remember this**

- Area is measured in square units. Perimeter is measured in units of length.
- Missing side: width = area ÷ length.

**⚠ Watch out!**

- **Area or perimeter?:** fence = perimeter, carpet = area
- **60 minutes in an hour:** 1 hour 30 minutes = 90 minutes

## 6 Try It!

1. A rectangle has an area of 48 square meters and a length of 8 meters. What is its width?

   Answer: 6 meters

2. A show starts at 2:45 PM and ends at 4:10 PM. How long is it?

   Answer: 1 hour 25 minutes

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