



SKILL 1: Metric Units of Length

The **metric system** is a system of measurement used in most parts of the world. It uses prefixes to describe amounts that are much larger or smaller than the base unit. To convert a unit in the metric system, you need to multiply or divide by a power of 10. The information below can help you relate the millimeter (mm), centimeter (cm), and kilometer (km) to the meter (m). The prefixes tell you the meaning of each unit.

milli- means thousandth	1 mm = 0.001 m	1 m = 1,000 mm
centi- means hundredth	1 cm = 0.01 m	1 m = 100 cm
kilo- means thousand	1 km = 1,000 m	1 m = 0.001 km

Example 1

Convert 34,000 millimeters to meters.

You are converting from a smaller unit to a larger unit, so divide. When converting from millimeters to meters, divide by 1,000.

$$34,000 \div 1,000 = 34$$

So, 34,000 millimeters = 34 meters.

Example 2

Convert 2.8 centimeters to millimeters.

You are converting from a larger unit to a smaller unit, so multiply. When converting from centimeters to millimeters, multiply by 10.

$$2.8 \times 10 = 28$$

So, 2.8 centimeters = 28 millimeters.

Guided Practice

1. Convert 16 kilometers to meters.

- Are you converting from a smaller unit to a larger unit or from a larger unit to a smaller unit? _____
- Will you multiply or divide? _____
- What number will you multiply or divide by? _____
- 16 kilometers = _____ meters

Convert.

- 6 meters = _____ centimeters
- 162 kilometers = _____ meters
- 4,000 meters = _____ kilometers
- 25,000 millimeters = _____ meters

SKILL 1: Practice

Convert.

- 1. 90 mm = _____ cm
- 2. 3 m = _____ mm
- 3. 1,400 mm = _____ cm
- 4. 48 cm = _____ m
- 5. 50 cm = _____ mm
- 6. 200 cm = _____ m
- 7. 19 m = _____ km
- 8. 8,000 mm = _____ m
- 9. 40 mm = _____ cm
- 10. 3,000 m = _____ km
- 11. 2.3 km = _____ cm
- 12. 4,000 mm = _____ cm
- 13. 900 cm = _____ mm
- 14. 50 m = _____ km
- 15. 6 km = _____ m
- 16. 7,000 mm = _____ m
- 17. 7.4 km = _____ m
- 18. 8 mm = _____ cm
- 19. 17 cm = _____ mm
- 20. 6.2 km = _____ m
- 21. 100 cm = _____ m
- 22. 36 mm = _____ cm

Solve.

- 23. A tornado traveled 64,400 meters in an hour. Convert this distance to kilometers. _____
- 24. Old Faithful, Yellowstone National Park's most famous geyser, shoots a spray of steam and hot water 50 m into the air. Is this height greater or less than 5,000 mm? _____

TEST PREP

- 25. Convert 30 meters to centimeters. *Skill 1*
 - A 0.3 cm
 - B 3 cm
 - C 300 cm
 - D 3,000 cm
- 26. Which length is the longest? *Skill 1*
 - F 6.7 m
 - G 67 cm
 - H 670 m
 - J 6.7 km