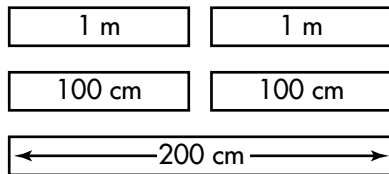


Converting Metric Units of Length

How to change a length measurement from one metric unit to another:

Converting a length from a smaller to a larger metric unit

200 centimeters = _____ meters



Think: If I measure the same length using a larger unit, I will need a smaller number of units.

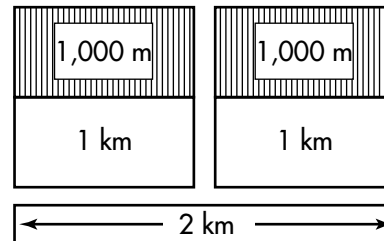
Operation: Divide.

You know $100\text{ cm} = 1\text{ m}$.

Find $200 \div 100$; $200\text{ cm} = 2\text{ m}$

Converting a length from a larger to a smaller metric unit

2 kilometers = _____ meters



Think: If I measure the same length using a smaller unit, I will need a larger number of units.

Operation: Multiply.

You know $1\text{ km} = 1,000\text{ m}$.

Find $2 \times 1,000$; $2\text{ km} = 2,000\text{ m}$

Relationships Among Metric Units of Length						
Kilometer			Meter		Centimeter	Millimeter
1 km	=		1,000 m			
			1 m	=	100 cm	= 1,000 mm
					1 cm	= 10 mm

Complete.

- 80 mm = _____ cm
- 234 cm = _____ mm
- 2 m = _____ mm
- 14,000 mm = _____ m
- Which is shorter, 60 meters or 600 centimeters? _____
- Is 3.2 meters equal to 320 millimeters? Explain.

Name _____

Converting Metric Units of Length

Convert each unit.

1. 25 m = _____ cm
2. 345 cm = _____ m
3. 4.5 m = _____ cm
4. 10 m = _____ mm
5. 987 mm = _____ cm
6. 4,000 mm = _____ cm
7. 4.2 km = _____ m
8. 3 km = _____ m
9. List three measurements with different units that are equal to 5 meters.

Write $>$, $=$, or $<$ for each \bigcirc .

10. 12 cm \bigcirc 98 mm
11. 3 km \bigcirc 5,000 m
12. 800 cm \bigcirc 8 m
13. 38.5 mm \bigcirc 10 cm
14. 9,000 cm \bigcirc 2 km
15. 1,000,000 mm \bigcirc 100 m

Mount Saint Helens, a volcano, erupted on May 18, 1980. Before the eruption, Mount St. Helens was 2,950 meters high. After the eruption, it was 2,550 meters high.

16. What is the difference in height of Mount St. Helens before and after the eruption, expressed in meters? _____
17. Before the eruption, how many kilometers high was Mount St. Helens? _____
18. Which of the following is equal to 2 meters?
A 200 mm **B** 20 cm **C** 200 km **D** 2,000 mm
19. Explain how you would convert 4 m to millimeters.

