

Homework & Practice 13-4

Equivalence with Metric Units of Length

Another Look!

Jasmine finished 9 centimeters of the scarf she is knitting. Manuella finished 108 millimeters of her scarf. How much longer is Manuella's scarf than Jasmine's?

To change from a larger unit like centimeters to a smaller unit like millimeters, multiply.

Step 1

Convert 9 centimeters to millimeters.

1 centimeter = 10 millimeters

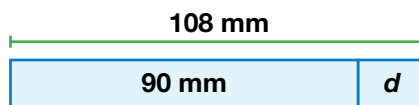
$$9 \times 10 = 90 \text{ millimeters}$$

\uparrow \uparrow
 Number of Millimeters
 centimeters per centimeter

9 centimeters = 90 millimeters

Step 2

Find the difference.



$$108 - 90 = d$$

$$d = 18$$

Manuella's scarf is 18 millimeters longer than Jasmine's scarf.



For 1–6, convert each unit.

- 7 meters = _____ centimeters
- 8 kilometers = _____ meters
- 65 centimeters = _____ millimeters
- 2 meters = _____ centimeters
- 7 kilometers = _____ meters
- 8 meters = _____ centimeters

For 7–8, complete each table.

7.

Kilometers	Meters
1	
2	
3	
4	
5	

8.

Meters	Centimeters
1	
2	
3	
4	
5	

For 9–11, use the pictures at the right.

9. **MP.1 Make Sense and Persevere**

José bought the items shown and paid \$0.53 tax. He gave the cashier a \$10 bill. How much change should José get? Use coins and bills to solve.



\$2.88

10. Brittney bought two bottles of shampoo like the one shown and paid \$0.52 tax. How much did she spend? Use coins and bills to solve.

11. **Number Sense** How can you tell, without adding, that two bottles of shampoo cost less than a bottle of shampoo and a 2-pack of toothpaste?



\$2.98

12. Martha had 2.35 centimeters of her hair cut off. Neil had 2.53 centimeters cut. Who had more hair cut off? Explain.

13. A spider traveled 3 meters in one minute. How many centimeters did it travel?

14. **MP.6 Be Precise** The ceiling of Mr. Vega's classroom is 3 meters high. The ceiling in the hall is 315 centimeters high. How much taller is the ceiling in the hall than in the classroom?

15. **Higher Order Thinking** A yellow ribbon is 56 centimeters long. It is twice as long as a green ribbon. A brown ribbon is 4 times as long as the green ribbon. What is the length of the brown ribbon?

Common Core Assessment

16. Select all the true statements.

- 1,000 kilometers = 100 meters
- 11 meters = 110 centimeters
- 17 centimeters = 170 millimeters
- 5 meters = 500 millimeters
- 5 kilometers = 5,000 meters

17. Select all the true statements.

- 5 meters = 5,000 millimeters
- 18 kilometers = 1,800 meters
- 20 centimeters = 200 millimeters
- 7 meters = 70 centimeters
- 6 meters = 60,000 millimeters