

# Converting Measurement Units

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Score: \_\_\_\_\_ / 24

## Q Quick Review

When you change a measurement to a **smaller unit**, the number gets **bigger**, because it takes many small units to fill one big unit. To convert, you **multiply**. The numbers you need are: 1 km = 1,000 m, 1 m = 100 cm, 1 cm = 10 mm, 1 kg = 1,000 g, 1 L = 1,000 mL, 1 hour = 60 minutes, 1 minute = 60 seconds, 1 foot = 12 inches, 1 yard = 3 feet, and 1 pound = 16 ounces. So to change 3 km into meters, multiply  $3 \times 1,000 = 3,000$  m. **Tip:** write down the “1 big = ? small” fact first, then multiply by it.

◇ **Example:** How many minutes are in 4 hours?

⇒ First, remember the fact you need: 1 hour = 60 minutes. You are going from a bigger unit (hours) to a smaller unit (minutes), so the number should grow — that means multiply. There are 4 hours, and each one holds 60 minutes, so  $4 \times 60 = 240$ . That makes sense: 4 hours is a long time, so a big number of minutes is just right.

**Answer:** 240 minutes

## PRACTICE

Convert each measurement to the smaller unit.

- |                                  |       |                                   |       |
|----------------------------------|-------|-----------------------------------|-------|
| 1. Convert 3 km to meters        | _____ | 11. Convert 9 km to meters        | _____ |
| 2. Convert 5 m to centimeters    | _____ | 12. Convert 12 m to centimeters   | _____ |
| 3. Convert 4 hours to minutes    | _____ | 13. Convert 5 hours to minutes    | _____ |
| 4. Convert 2 kg to grams         | _____ | 14. Convert 7 kg to grams         | _____ |
| 5. Convert 6 feet to inches      | _____ | 15. Convert 10 feet to inches     | _____ |
| 6. Convert 3 pounds to ounces    | _____ | 16. Convert 8 pounds to ounces    | _____ |
| 7. Convert 7 minutes to seconds  | _____ | 17. Convert 15 minutes to seconds | _____ |
| 8. Convert 2 L to milliliters    | _____ | 18. Convert 6 L to milliliters    | _____ |
| 9. Convert 8 yards to feet       | _____ | 19. Convert 11 yards to feet      | _____ |
| 10. Convert 10 cm to millimeters | _____ | 20. Convert 25 cm to millimeters  | _____ |

## ◆ Word Problems

21. Maya’s water bottle holds 2 liters. How many milliliters of water does it hold? \_\_\_\_\_
22. A soccer game lasts 2 hours. How many minutes long is the game? \_\_\_\_\_
23. Liam’s puppy weighs 5 kilograms. How many grams does the puppy weigh? \_\_\_\_\_
24. A bookshelf is 4 feet long. How many inches long is the bookshelf? \_\_\_\_\_



## Answer Keys

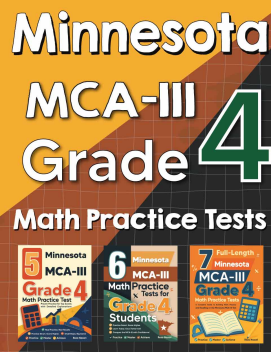
- |  |  |
|--|--|
| <p>1. 3,000 m</p> <p>2. 500 cm</p> <p>3. 240 min</p> <p>4. 2,000 g</p> <p>5. 72 in</p> <p>6. 48 oz</p> <p>7. 420 sec</p> <p>8. 2,000 mL</p> <p>9. 24 ft</p> <p>10. 100 mm</p> <p>11. 9,000 m</p> <p>12. 1,200 cm</p> | <p>13. 300 min</p> <p>14. 7,000 g</p> <p>15. 120 in</p> <p>16. 128 oz</p> <p>17. 900 sec</p> <p>18. 6,000 mL</p> <p>19. 33 ft</p> <p>20. 250 mm</p> <p>21. 2,000 mL</p> <p>22. 120 minutes</p> <p>23. 5,000 grams</p> <p>24. 48 inches</p> |
|--|--|

### Step-by-Step Explanations

- |   |   |
|---|---|
| <p>1. Since 1 km = 1,000 m, multiply <math>3 \times 1,000 = 3,000</math> m.</p> <p>2. Since 1 m = 100 cm, multiply <math>5 \times 100 = 500</math> cm.</p> <p>3. Since 1 hour = 60 minutes, multiply <math>4 \times 60 = 240</math> min.</p> <p>4. Since 1 kg = 1,000 g, multiply <math>2 \times 1,000 = 2,000</math> g.</p> <p>5. Since 1 foot = 12 inches, multiply <math>6 \times 12 = 72</math> in.</p> <p>6. Since 1 pound = 16 ounces, multiply <math>3 \times 16 = 48</math> oz.</p> <p>7. Since 1 minute = 60 seconds, multiply <math>7 \times 60 = 420</math> sec.</p> <p>8. Since 1 L = 1,000 mL, multiply <math>2 \times 1,000 = 2,000</math> mL.</p> <p>9. Since 1 yard = 3 feet, multiply <math>8 \times 3 = 24</math> ft.</p> <p>10. Since 1 cm = 10 mm, multiply <math>10 \times 10 = 100</math> mm.</p> <p>11. Since 1 km = 1,000 m, multiply <math>9 \times 1,000 = 9,000</math> m.</p> <p>12. Since 1 m = 100 cm, multiply <math>12 \times 100 = 1,200</math> cm.</p> <p>13. Since 1 hour = 60 minutes, multiply <math>5 \times 60 = 300</math> min.</p> <p>14. Since 1 kg = 1,000 g, multiply <math>7 \times 1,000 = 7,000</math> g.</p> | <p>15. Since 1 foot = 12 inches, multiply <math>10 \times 12 = 120</math> in.</p> <p>16. Since 1 pound = 16 ounces, multiply <math>8 \times 16 = 128</math> oz.</p> <p>17. Since 1 minute = 60 seconds, multiply <math>15 \times 60 = 900</math> sec.</p> <p>18. Since 1 L = 1,000 mL, multiply <math>6 \times 1,000 = 6,000</math> mL.</p> <p>19. Since 1 yard = 3 feet, multiply <math>11 \times 3 = 33</math> ft.</p> <p>20. Since 1 cm = 10 mm, multiply <math>25 \times 10 = 250</math> mm.</p> <p>21. Liters are bigger than milliliters, so multiply. Since 1 L = 1,000 mL, her bottle holds <math>2 \times 1,000 = 2,000</math> mL.</p> <p>22. Each hour has 60 minutes, so multiply <math>2 \times 60 = 120</math>. The game lasts 120 minutes.</p> <p>23. Kilograms are bigger than grams, so multiply. Since 1 kg = 1,000 g, the puppy weighs <math>5 \times 1,000 = 5,000</math> g.</p> <p>24. Each foot has 12 inches, so multiply <math>4 \times 12 = 48</math>. The bookshelf is 48 inches long.</p> |
|---|---|



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