

# Converting Measurement Units

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score: \_\_\_\_\_ / 24

## Q Quick Review

You can **convert measurement units** by multiplying or dividing using a known relationship. Useful facts: 1 foot = 12 inches, 1 yard = 3 feet, 1 pound = 16 ounces, 1 gallon = 4 quarts, 1 hour = 60 minutes, 1 kilometer = 1000 meters, 1 meter = 100 centimeters, 1 liter = 1000 milliliters. To go from a **bigger unit to a smaller one**, multiply (there will be more of them). To go from a **smaller unit to a bigger one**, divide.

◇ **Example:** Convert 3 feet to inches.

⇒ We are going from a bigger unit (feet) to a smaller unit (inches), so we expect a larger number and we multiply. The relationship is 1 foot = 12 inches. Multiply the number of feet by 12:  $3 \times 12 = 36$ . So 3 feet equals 36 inches. It makes sense that there are more inches than feet, since inches are smaller.

**Answer:** 36 inches

## PRACTICE

Convert each measurement.

- |                  |       |                     |       |
|------------------|-------|---------------------|-------|
| 1. 3 ft = □ in   | _____ | 11. 7 days = □ h    | _____ |
| 2. 2.5 km = □ m  | _____ | 12. 3 m = □ cm      | _____ |
| 3. 48 in = □ ft  | _____ | 13. 10 qt = □ gal   | _____ |
| 4. 5000 m = □ km | _____ | 14. 1.5 ft = □ in   | _____ |
| 5. 3 lb = □ oz   | _____ | 15. 5 km = □ m      | _____ |
| 6. 2 gal = □ qt  | _____ | 16. 6 ft = □ yd     | _____ |
| 7. 180 min = □ h | _____ | 17. 2 h = □ min     | _____ |
| 8. 4 yd = □ ft   | _____ | 18. 64 oz = □ lb    | _____ |
| 9. 2.5 L = □ mL  | _____ | 19. 8 pt = □ qt     | _____ |
| 10. 96 oz = □ lb | _____ | 20. 2000 lb = □ ton | _____ |

## ◆ Word Problems

21. A ribbon is 4 yards long. How many feet of ribbon is that? \_\_\_\_\_
22. A water bottle holds 2.5 liters. How many milliliters does it hold? \_\_\_\_\_
23. A bag of dog food weighs 96 ounces. How many pounds does it weigh? \_\_\_\_\_
24. A car trip lasts 180 minutes. How many hours long is the trip? \_\_\_\_\_



## Answer Keys

- |         |                      |
|---------|----------------------|
| 1. 36   | 13. 2.5              |
| 2. 2500 | 14. 18               |
| 3. 4    | 15. 5000             |
| 4. 5    | 16. 2                |
| 5. 48   | 17. 120              |
| 6. 8    | 18. 4                |
| 7. 3    | 19. 4                |
| 8. 12   | 20. 1                |
| 9. 2500 | 21. 12 feet          |
| 10. 6   | 22. 2500 milliliters |
| 11. 168 | 23. 6 pounds         |
| 12. 300 | 24. 3 hours          |

### Step-by-Step Explanations

- |  |   |
|--|---|
| 1. Multiply by 12: $3 \times 12 = 36$ inches.              | 13. Divide by 4: $10 \div 4 = 2.5$ gallons.                                       |
| 2. Multiply by 1000: $2.5 \times 1000 = 2500$ meters.      | 14. Multiply by 12: $1.5 \times 12 = 18$ inches.                                  |
| 3. Divide by 12: $48 \div 12 = 4$ feet.                    | 15. Multiply by 1000: $5 \times 1000 = 5000$ meters.                              |
| 4. Divide by 1000: $5000 \div 1000 = 5$ kilometers.        | 16. Divide by 3: $6 \div 3 = 2$ yards.  |
| 5. Multiply by 16: $3 \times 16 = 48$ ounces.              | 17. Multiply by 60: $2 \times 60 = 120$ minutes.                                  |
| 6. Multiply by 4: $2 \times 4 = 8$ quarts.                 | 18. Divide by 16: $64 \div 16 = 4$ pounds.  |
| 7. Divide by 60: $180 \div 60 = 3$ hours.                  | 19. There are 2 pints in a quart, so $8 \div 2 = 4$ quarts.                       |
| 8. Multiply by 3: $4 \times 3 = 12$ feet.                  | 20. There are 2000 pounds in a ton, so $2000 \div 2000 = 1$ ton.                  |
| 9. Multiply by 1000: $2.5 \times 1000 = 2500$ milliliters. | 21. Yards to feet means multiplying by 3: $4 \times 3 = 12$ feet.                 |
| 10. Divide by 16: $96 \div 16 = 6$ pounds.                 | 22. Liters to milliliters means multiplying by 1000: $2.5 \times 1000 = 2500$ mL. |
| 11. Multiply by 24: $7 \times 24 = 168$ hours.             | 23. Ounces to pounds means dividing by 16: $96 \div 16 = 6$ pounds.               |
| 12. Multiply by 100: $3 \times 100 = 300$ centimeters.     | 24. Minutes to hours means dividing by 60: $180 \div 60 = 3$ hours.               |



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