

Converting Units

Change each length to a bigger or a smaller unit.

Conversion Key

$1 \text{ ft} = 12 \text{ in.}$

$1 \text{ yd} = 3 \text{ ft}$

$1 \text{ yd} = 36 \text{ in.}$

$1 \text{ mi} = 5,280 \text{ ft}$

$1 \text{ cm} = 10 \text{ mm}$

$1 \text{ m} = 100 \text{ cm}$

$1 \text{ m} = 1,000 \text{ mm}$

$1 \text{ km} = 1,000 \text{ m}$

Fill in each table.

	Example	1.	2.	3.	4.
Yards	3		6		10
Feet	9	24			
Inches	108			432	

	5.	6.	7.	8.	9.
Meters		12			7
Centimeters	800			2,500	
Millimeters			3,000		

Write each length in the smaller unit.

Example 4 ft 9 in. = 57 in.

10. 3 yd 2 ft = _____ ft

11. 6 m 45 cm = _____ cm

12. 8 cm 3 mm = _____ mm

13. 2 km 75 m = _____ m

14. 1 mi 300 ft = _____ ft

Write each length in two units.

Example 50 in. = 4 ft 2 in.

15. 17 ft = _____ yd _____ ft

16. 430 cm = _____ m _____ cm

17. 3,250 m = _____ km _____ m

Converting Units

Change units of weight, mass, and capacity. Then compare.

Conversion Key

1 lb = 16 oz		1 ton = 2,000 lb		1 kg = 1,000 g	
1 c = 8 fl oz	1 pt = 2 c	1 qt = 2 pt	1 gal = 4 qt	1 L = 1,000 mL	

Fill in the table.

	Example	1.	2.	3.	4.
Gallons	3	6			
Quarts	12		40		
Pints	24				56
Cups	48			64	

Fill in each table.

	Example	5.	6.
Pounds	5	9	
Ounces	80		176

	7.	8.	9.
Tons	3		8
Pounds		10,000	

Compare. Write >, <, or = in each circle.

Example

$$4 \text{ lb} > 60 \text{ oz}$$

10. $2 \text{ tons} \bigcirc 4,500 \text{ lb}$

11. $5 \text{ kg} \bigcirc 5,000 \text{ g}$

12. $3 \text{ gal} \bigcirc 11 \text{ qt}$

13. $7 \text{ pt} \bigcirc 15 \text{ c}$

14. $2,500 \text{ mL} \bigcirc 3 \text{ L}$

15. $64 \text{ oz} \bigcirc 4 \text{ lb}$

16. $6 \text{ qt} \bigcirc 1 \text{ gal}$

17. $1,800 \text{ g} \bigcirc 2 \text{ kg}$

18. $5 \text{ c} \bigcirc 40 \text{ fl oz}$

19. $8,000 \text{ lb} \bigcirc 3 \text{ tons}$

20. $4 \text{ L} \bigcirc 3,900 \text{ mL}$

Converting Units

Use decimals for metric units and fractions for customary units.

Conversion Key

1 cm = 10 mm | 1 m = 100 cm | 1 km = 1,000 m | 1 kg = 1,000 g | 1 L = 1,000 mL
1 ft = 12 in. | 1 yd = 3 ft | 1 mi = 5,280 ft | 1 lb = 16 oz | 1 gal = 4 qt

Write each metric amount in the other unit.

Example 340 cm = 3.4 m ($\div 100$)

1. 2.75 m = _____ cm

2. 1.6 km = _____ m

3. 450 m = _____ km

4. 85 mm = _____ cm

5. 4.2 cm = _____ mm

6. 2,350 g = _____ kg

7. 0.6 kg = _____ g

8. 1,250 mL = _____ L

9. 0.375 L = _____ mL

10. 65 cm = _____ m

11. 7.05 kg = _____ g

Write each customary amount in the other unit. Use fractions.

Example $\frac{1}{4}$ lb = 4 oz ($\times 16$)

12. $1\frac{3}{4}$ lb = _____ oz

13. $\frac{2}{3}$ ft = _____ in.

14. $1\frac{1}{2}$ yd = _____ ft

15. $2\frac{1}{4}$ gal = _____ qt

16. $\frac{1}{2}$ mi = _____ ft

17. $3\frac{1}{2}$ ft = _____ in.

18. 6 in. = _____ ft

19. 20 oz = _____ lb

20. 3 qt = _____ gal

21. 2 ft = _____ yd

22. 30 in. = _____ ft

Converting Units

Change the units first. Then solve each problem.

Conversion Key

1 yd = 36 in. | 1 lb = 16 oz | 1 qt = 4 c | 1 km = 1,000 m | 1 L = 1,000 mL

Write each step. Then write the answer with its unit.

Example A rope is 4 yards long. Ana cuts it into pieces that are each 9 inches long. How many pieces does she get?

Step 1 $4 \times 36 = 144$ in.

Step 2 $144 \div 9 = 16$

Answer 16 pieces

1. Mia has 1.5 liters of juice. She pours it into cups that hold 250 milliliters each. How many cups can she fill?

Step 1 _____

Step 2 _____

Answer _____

2. A track is 400 meters around. Leo runs 6 laps. How many kilometers does he run?

Step 1 _____

Step 2 _____

Answer _____

3. A bag holds 5 pounds of flour. Dad uses 28 ounces to bake bread. How many ounces of flour are left?

Step 1 _____

Step 2 _____

Answer _____

4. Kim hikes 2.3 kilometers in the morning and 850 meters after lunch. How many meters does she hike in all?

Step 1 _____

Step 2 _____

Answer _____

5. Nora fills 5 bottles with 3 cups of water each. How many quarts of water does she use?

Step 1 _____

Step 2 _____

Answer _____

Converting Units

Solve each problem in steps. Show your work.

Conversion Key

$1 \text{ yd} = 3 \text{ ft}$

$1 \text{ km} = 1,000 \text{ m}$

$1 \text{ kg} = 1,000 \text{ g}$

$1 \text{ L} = 1,000 \text{ mL}$

Show your work. Write the answer with its unit.

Example A pancake recipe uses 300 milliliters of milk for 8 pancakes. Ana makes 32 pancakes. How many liters of milk does she use?

$32 \div 8 = 4 \text{ times the recipe}$

$4 \times 300 = 1,200 \text{ mL}$

$1,200 \text{ mL} = 1.2 \text{ L}$

Answer 1.2 L

1. A garden is 15 feet long and 9 feet wide. Fencing comes in rolls of 4 yards. How many rolls go all the way around the garden?

Answer _____

2. The Diaz family is on a 300 km road trip. They drive 128.5 km on Monday and 96,750 m on Tuesday. How many kilometers are left?

Answer _____

3. A box can hold up to 15 kg. The empty box weighs 1.2 kg. Each can of soup weighs 400 g. How many cans can go in the box?

Answer _____

4. Ms. Lee has 5 yards of ribbon. She cuts 8 pieces that are each $1\frac{1}{2}$ feet long. How many feet of ribbon are left?

Answer _____

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1 yd = 3 ft

1 yd = 36 in.

1 mi = 5,280 ft

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Fill in each table.

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Example 4 ft 9 in. = 57 in.

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$1 \text{ c} = 8 \text{ fl oz}$	$1 \text{ pt} = 2 \text{ c}$	$1 \text{ qt} = 2 \text{ pt}$
	$1 \text{ gal} = 4 \text{ qt}$	$1 \text{ L} = 1,000 \text{ mL}$

Fill in the table.

	Example	1.	2.	3.	4.
Gallons	3	6			
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Pints	24				56
Cups	48			64	

Fill in each table.

	Example	5.	6.
Pounds	5	9	
Ounces	80		176

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Tons	3		8
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Compare. Write $>$, $<$, or $=$ in each circle.

Example	$4 \text{ lb} > 60 \text{ oz}$	15.	$64 \text{ oz} \bigcirc 4 \text{ lb}$
10.	$2 \text{ tons} \bigcirc 4,500 \text{ lb}$	16.	$6 \text{ qt} \bigcirc 1 \text{ gal}$
11.	$5 \text{ kg} \bigcirc 5,000 \text{ g}$	17.	$1,800 \text{ g} \bigcirc 2 \text{ kg}$
12.	$3 \text{ gal} \bigcirc 11 \text{ qt}$	18.	$5 \text{ c} \bigcirc 40 \text{ fl oz}$
13.	$7 \text{ pt} \bigcirc 15 \text{ c}$	19.	$8,000 \text{ lb} \bigcirc 3 \text{ tons}$
14.	$2,500 \text{ mL} \bigcirc 3 \text{ L}$	20.	$4 \text{ L} \bigcirc 3,900 \text{ mL}$

Converting Units

Use decimals for metric units and fractions for customary units.

Conversion Key

1 cm = 10 mm | 1 m = 100 cm | 1 km = 1,000 m | 1 kg = 1,000 g | 1 L = 1,000 mL

1 ft = 12 in. | 1 yd = 3 ft | 1 mi = 5,280 ft | 1 lb = 16 oz | 1 gal = 4 qt

Write each metric amount in the other unit.

Example 340 cm = 3.4 m ($\div 100$)

1. 2.75 m = _____ cm

2. 1.6 km = _____ m

3. 450 m = _____ km

4. 85 mm = _____ cm

5. 4.2 cm = _____ mm

6. 2,350 g = _____ kg

7. 0.6 kg = _____ g

8. 1,250 mL = _____ L

9. 0.375 L = _____ mL

10. 65 cm = _____ m

11. 7.05 kg = _____ g

Write each customary amount in the other unit. Use fractions.

Example $\frac{1}{4}$ lb = 4 oz ($\times 16$)

12. $1\frac{3}{4}$ lb = _____ oz

13. $\frac{2}{3}$ ft = _____ in.

14. $1\frac{1}{2}$ yd = _____ ft

15. $2\frac{1}{4}$ gal = _____ qt

16. $\frac{1}{2}$ mi = _____ ft

17. $3\frac{1}{2}$ ft = _____ in.

18. 6 in. = _____ ft

19. 20 oz = _____ lb

20. 3 qt = _____ gal

21. 2 ft = _____ yd

22. 30 in. = _____ ft

Converting Units

Change the units first. Then solve each problem.

Conversion Key

1 yd = 36 in. | 1 lb = 16 oz | 1 qt = 4 c | 1 km = 1,000 m | 1 L = 1,000 mL

Write each step. Then write the answer with its unit.

Example A rope is 4 yards long. Ana cuts it into pieces that are each 9 inches long. How many pieces does she get?

Step 1 $4 \times 36 = 144$ in.

Step 2 $144 \div 9 = 16$

Answer 16 pieces

1. Mia has 1.5 liters of juice. She pours it into cups that hold 250 milliliters each. How many cups can she fill?

Step 1 _____

Step 2 _____

Answer _____

2. A track is 400 meters around. Leo runs 6 laps. How many kilometers does he run?

Step 1 _____

Step 2 _____

Answer _____

3. A bag holds 5 pounds of flour. Dad uses 28 ounces to bake bread. How many ounces of flour are left?

Step 1 _____

Step 2 _____

Answer _____

4. Kim hikes 2.3 kilometers in the morning and 850 meters after lunch. How many meters does she hike in all?

Step 1 _____

Step 2 _____

Answer _____

5. Nora fills 5 bottles with 3 cups of water each. How many quarts of water does she use?

Step 1 _____

Step 2 _____

Answer _____

Converting Units

Solve each problem in steps. Show your work.

Conversion Key

$1 \text{ yd} = 3 \text{ ft}$

$1 \text{ km} = 1,000 \text{ m}$

$1 \text{ kg} = 1,000 \text{ g}$

$1 \text{ L} = 1,000 \text{ mL}$

Show your work. Write the answer with its unit.

Example A pancake recipe uses **300** milliliters of milk for **8** pancakes. Ana makes **32** pancakes. How many liters of milk does she use?

$$\begin{aligned} 32 \div 8 &= 4 \text{ times the recipe} \\ 4 \times 300 &= 1,200 \text{ mL} \\ 1,200 \text{ mL} &= 1.2 \text{ L} \end{aligned}$$

Answer 1.2 L

1. A garden is **15** feet long and **9** feet wide. Fencing comes in rolls of **4** yards. How many rolls go all the way around the garden?

Answer _____

2. The Diaz family is on a **300** km road trip. They drive **128.5** km on Monday and **96,750** m on Tuesday. How many kilometers are left?

Answer _____

3. A box can hold up to **15** kg. The empty box weighs **1.2** kg. Each can of soup weighs **400** g. How many cans can go in the box?

Answer _____

4. Ms. Lee has **5** yards of ribbon. She cuts **8** pieces that are each **$1\frac{1}{2}$** feet long. How many feet of ribbon are left?

Answer _____

Converting Units

Change each length to a bigger or a smaller unit.

Conversion Key

1 ft = 12 in.	1 yd = 3 ft	1 yd = 36 in.	1 mi = 5,280 ft
1 cm = 10 mm	1 m = 100 cm	1 m = 1,000 mm	1 km = 1,000 m

Fill in each table.

	Example	1.	2.	3.	4.
Yards	3	8	6	12	10
Feet	9	24	18	36	30
Inches	108	288	216	432	360

	5.	6.	7.	8.	9.
Meters	8	12	3	25	7
Centimeters	800	1,200	300	2,500	700
Millimeters	8,000	12,000	3,000	25,000	7,000

Write each length in the smaller unit.

Example 4 ft 9 in. = 57 in.

10. 3 yd 2 ft = 11 ft

11. 6 m 45 cm = 645 cm

12. 8 cm 3 mm = 83 mm

13. 2 km 75 m = 2,075 m

14. 1 mi 300 ft = 5,580 ft

Write each length in two units.

Example 50 in. = 4 ft 2 in.

15. 17 ft = 5 yd 2 ft

16. 430 cm = 4 m 30 cm

17. 3,250 m = 3 km 250 m

Converting Units

Change units of weight, mass, and capacity. Then compare.

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$1 \text{ lb} = 16 \text{ oz}$	$1 \text{ ton} = 2,000 \text{ lb}$	$1 \text{ kg} = 1,000 \text{ g}$
$1 \text{ c} = 8 \text{ fl oz}$	$1 \text{ pt} = 2 \text{ c}$	$1 \text{ qt} = 2 \text{ pt}$
	$1 \text{ gal} = 4 \text{ qt}$	$1 \text{ L} = 1,000 \text{ mL}$

Fill in the table.

	Example	1.	2.	3.	4.
Gallons	3	6	10	4	7
Quarts	12	24	40	16	28
Pints	24	48	80	32	56
Cups	48	96	160	64	112

Fill in each table.

	Example	5.	6.
Pounds	5	9	11
Ounces	80	144	176

	7.	8.	9.
Tons	3	5	8
Pounds	6,000	10,000	16,000

Compare. Write $>$, $<$, or $=$ in each circle.

Example	4 lb $>$ 60 oz	15.	64 oz $=$ 4 lb
10.	2 tons $<$ 4,500 lb	16.	6 qt $>$ 1 gal
11.	5 kg $=$ 5,000 g	17.	1,800 g $<$ 2 kg
12.	3 gal $>$ 11 qt	18.	5 c $=$ 40 fl oz
13.	7 pt $<$ 15 c	19.	8,000 lb $>$ 3 tons
14.	2,500 mL $<$ 3 L	20.	4 L $>$ 3,900 mL

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Use decimals for metric units and fractions for customary units.

Conversion Key

1 cm = 10 mm | 1 m = 100 cm | 1 km = 1,000 m | 1 kg = 1,000 g | 1 L = 1,000 mL
1 ft = 12 in. | 1 yd = 3 ft | 1 mi = 5,280 ft | 1 lb = 16 oz | 1 gal = 4 qt

Write each metric amount in the other unit.

Example 340 cm = 3.4 m ($\div 100$)

1. 2.75 m = 275 cm

2. 1.6 km = 1,600 m

3. 450 m = 0.45 km

4. 85 mm = 8.5 cm

5. 4.2 cm = 42 mm

6. 2,350 g = 2.35 kg

7. 0.6 kg = 600 g

8. 1,250 mL = 1.25 L

9. 0.375 L = 375 mL

10. 65 cm = 0.65 m

11. 7.05 kg = 7,050 g

Write each customary amount in the other unit. Use fractions.

Example $\frac{1}{4}$ lb = 4 oz ($\times 16$)

12. $1\frac{3}{4}$ lb = 28 oz

13. $\frac{2}{3}$ ft = 8 in.

14. $1\frac{1}{2}$ yd = $4\frac{1}{2}$ ft

15. $2\frac{1}{4}$ gal = 9 qt

16. $\frac{1}{2}$ mi = 2,640 ft

17. $3\frac{1}{2}$ ft = 42 in.

18. 6 in. = $\frac{1}{2}$ ft

19. 20 oz = $1\frac{1}{4}$ lb

20. 3 qt = $\frac{3}{4}$ gal

21. 2 ft = $\frac{2}{3}$ yd

22. 30 in. = $2\frac{1}{2}$ ft

Converting Units

Change the units first. Then solve each problem.

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Write each step. Then write the answer with its unit.

Example A rope is 4 yards long. Ana cuts it into pieces that are each 9 inches long. How many pieces does she get?

Step 1 $4 \times 36 = 144 \text{ in.}$

Step 2 $144 \div 9 = 16$

Answer 16 pieces

1. Mia has 1.5 liters of juice. She pours it into cups that hold 250 milliliters each. How many cups can she fill?

Step 1 $1.5 \text{ L} = 1,500 \text{ mL}$

Step 2 $1,500 \div 250 = 6$

Answer 6 cups

2. A track is 400 meters around. Leo runs 6 laps. How many kilometers does he run?

Step 1 $6 \times 400 = 2,400 \text{ m}$

Step 2 $2,400 \text{ m} = 2.4 \text{ km}$

Answer 2.4 km

3. A bag holds 5 pounds of flour. Dad uses 28 ounces to bake bread. How many ounces of flour are left?

Step 1 $5 \times 16 = 80 \text{ oz}$

Step 2 $80 - 28 = 52 \text{ oz}$

Answer 52 oz

4. Kim hikes 2.3 kilometers in the morning and 850 meters after lunch. How many meters does she hike in all?

Step 1 $2.3 \text{ km} = 2,300 \text{ m}$

Step 2 $2,300 + 850 = 3,150 \text{ m}$

Answer $3,150 \text{ m}$

5. Nora fills 5 bottles with 3 cups of water each. How many quarts of water does she use?

Step 1 $5 \times 3 = 15 \text{ c}$

Step 2 $15 \div 4 = 3 \frac{3}{4} \text{ qt}$

Answer $3 \frac{3}{4} \text{ qt}$

Converting Units

Solve each problem in steps. Show your work.

Conversion Key

$1 \text{ yd} = 3 \text{ ft}$

$1 \text{ km} = 1,000 \text{ m}$

$1 \text{ kg} = 1,000 \text{ g}$

$1 \text{ L} = 1,000 \text{ mL}$

Show your work. Write the answer with its unit.

Example A pancake recipe uses 300 milliliters of milk for 8 pancakes. Ana makes 32 pancakes. How many liters of milk does she use?

$$32 \div 8 = 4 \text{ times the recipe}$$

$$4 \times 300 = 1,200 \text{ mL}$$

$$1,200 \text{ mL} = 1.2 \text{ L}$$

Answer 1.2 L

1. A garden is 15 feet long and 9 feet wide. Fencing comes in rolls of 4 yards. How many rolls go all the way around the garden?

$$15 + 9 + 15 + 9 = 48 \text{ ft}$$

$$48 \text{ ft} = 16 \text{ yd}$$

$$16 \div 4 = 4$$

Answer 4 rolls

2. The Diaz family is on a 300 km road trip. They drive 128.5 km on Monday and 96,750 m on Tuesday. How many kilometers are left?

$$96,750 \text{ m} = 96.75 \text{ km}$$

$$128.5 + 96.75 = 225.25 \text{ km}$$

$$300 - 225.25 = 74.75 \text{ km}$$

Answer 74.75 km

3. A box can hold up to 15 kg. The empty box weighs 1.2 kg. Each can of soup weighs 400 g. How many cans can go in the box?

$$15 - 1.2 = 13.8 \text{ kg}$$

$$13.8 \text{ kg} = 13,800 \text{ g}$$

$$13,800 \div 400 = 34 \text{ R } 200$$

Answer 34 cans

4. Ms. Lee has 5 yards of ribbon. She cuts 8 pieces that are each $1\frac{1}{2}$ feet long. How many feet of ribbon are left?

$$8 \times 1\frac{1}{2} = 12 \text{ ft}$$

$$5 \text{ yd} = 15 \text{ ft}$$

$$15 - 12 = 3 \text{ ft}$$

Answer 3 ft