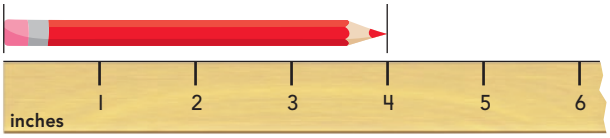
Chapter 15

Name _____

Customary and Metric Measures

Show What You Know

Measure Length Find the length of the object.

1. 

_____ inches

Multiply by 1-Digit Numbers Find the product.

4. 84 × 7	**5.** 536 × 8	**6.** 748 × 5	**7.** 2,524 × 2
8. 360 × 9	**9.** 296 × 3	**10.** $1,428 × 4	**11.** 64 × 5

MATH in the Real World

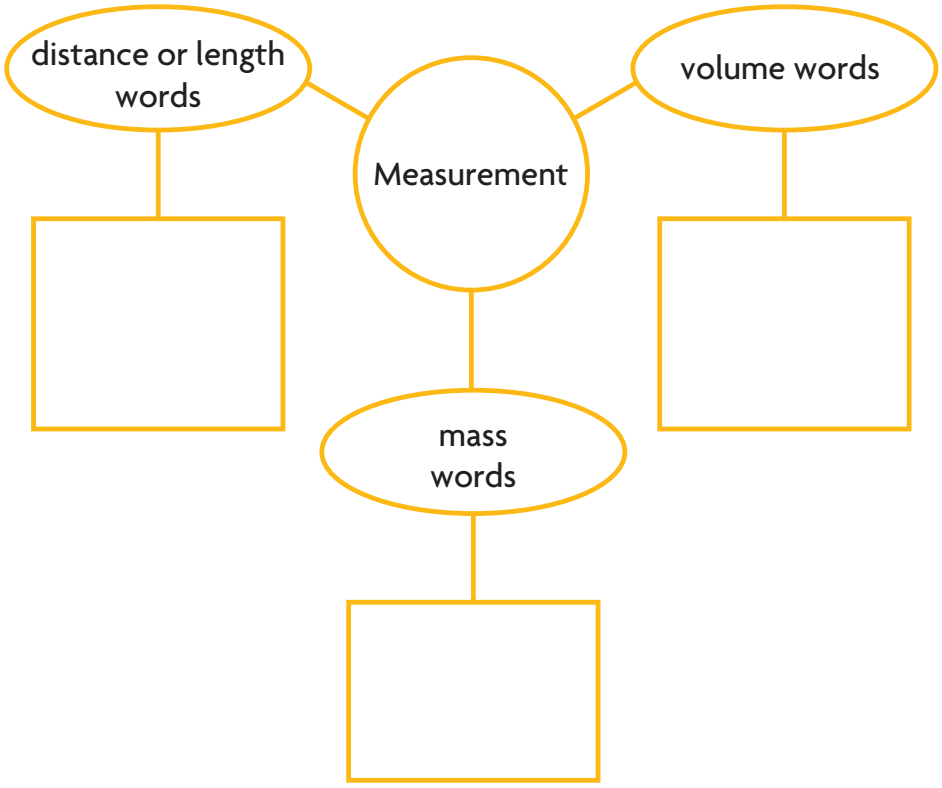
A team was given a sponge and a bucket filled with one gallon of water. The team had 1 minute to fill an empty bucket with as much water as possible. At the end of a minute Team A had 96 fluid ounces of water in their bucket. Team B had 12 cups of water in their bucket. Who was able to squeeze the most amount of water into their bucket? Explain.

Vocabulary Builder

Go Online For more help

Visualize It

Complete the Brain Storming diagram by using words with a ✓.



Understand Vocabulary

Draw a line to match each word with its definition.

1. decimeter
2. gallon
3. fluid ounce
4. ounce
5. milliliter

- The smallest customary liquid volume unit
- A metric unit for measuring liquid volume
- A customary unit for measuring weight
- The largest customary liquid volume unit
- A metric unit for measuring length or distance

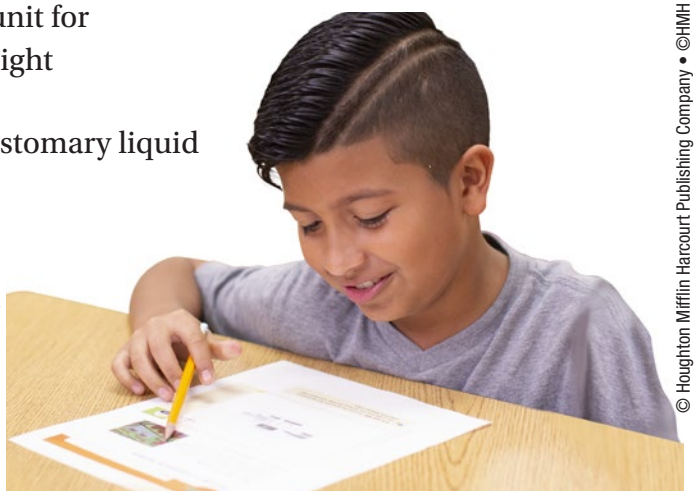
Connect to Vocabulary

Review Words

- ✓ centimeter
- ✓ foot
- ✓ gram
- ✓ inch
- ✓ kilogram
- ✓ liter
- ✓ meter
- ✓ yard

Preview Words

- cup
- decimeter
- fluid ounce
- gallon
- half gallon
- kilometer
- liquid volume
- mile
- milliliter
- millimeter
- ounce
- pint
- pound
- quart
- ton



Name _____

Measurement Benchmarks

Florida's B.E.S.T.

- **Measurement** 4.M.1.1
- **Mathematical Thinking & Reasoning** MTR.3.1, MTR.4.1, MTR.5.1, MTR.6.1, MTR.7.1

I Can use benchmarks to help identify the type of unit measurement to use when measuring objects.

UNLOCK the Problem Real World

Jae says the length of his bike is about four yards. Use the benchmark units below to determine if Jae's statement is reasonable.

Customary Units of Length			
1 in.  about 1 inch	 1 ft about 1 foot	 1 yd about 1 yard	 1 mile in about 20 minutes

A baseball bat is about one yard long. Since Jae's bike is shorter than four times the length of a baseball bat, his bike is shorter than four yards long.

So, Jae's statement _____ reasonable.

Jae's bike is about _____ baseball bats long.

A **mile** is a customary unit for measuring length or distance. This benchmark shows the distance you can walk in about 20 minutes.

Example 1 Use the benchmark customary units.

Customary Units of Liquid Volume				
 1 cup = 8 fluid ounces	 1 pint	 1 quart	 1 half gallon	 1 gallon

- About how much liquid is in a mug of hot chocolate? _____

Customary Units of Weight		
 about 1 ounce	 about 1 pound	 about 1 ton

- About how much does a grapefruit weigh? _____

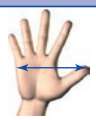
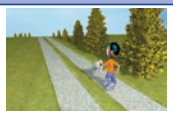
Math Talk

MTR 6.1 Assess the reasonableness of solutions.

Use benchmarks to explain how you would order the units of weight from heaviest to lightest.

Benchmarks for Metric Units Like place value, the metric system is based on multiples of ten. Each unit is 10 times as large as the next smaller unit. Below are some common metric benchmarks.

Example 2 Use the benchmark metric units.

Metric Units of Length				
 about 1 millimeter	 about 1 centimeter	 about 1 decimeter	 about 1 meter	 1 kilometer in about 10 minutes

A **kilometer** is a metric unit for measuring length or distance. This benchmark shows the distance you can walk in about 10 minutes.

- Is the length of your classroom greater than or less than one kilometer?

_____

Metric Units of Liquid Volume	
 1 milliliter	 1 liter

- About how much medicine is usually in a medicine bottle?

about 120 _____

Metric Units of Mass	
 about 1 gram	 about 1 kilogram

- About how much is the mass of a paper clip?

_____

Math Talk

MTR 5.1 Use patterns and structure.

Explain how benchmark measurements can help you decide which unit to use when measuring.

Name _____

Share and Show

Math Board

Use benchmarks to choose the metric unit you would use to measure each.

Metric Units
centimeter
meter
kilometer
gram
kilogram
milliliter
liter

1. mass of a strawberry

_____

2. length of a cell phone

_____

Circle the better estimate.

3. width of a teacher's desk

10 meters or 1 meter

4. the amount of liquid a punch bowl holds

2 liters or 20 liters

5. distance between Seattle and San Francisco

6 miles or 680 miles

Math Talk

MTR 7.1 Apply mathematics to real-world contexts.

Which metric unit would you use to measure the distance across the United States? Explain.

On Your Own

Use benchmarks to choose the customary unit you would use to measure each.

Customary Units
inch
foot
yard
ounce
pound
cup
gallon

6. length of a football field

_____

7. weight of a pumpkin

_____

Circle the better estimate.

8. weight of a watermelon

4 pounds or 4 ounces

9. the amount of liquid a fish tank holds

10 cups or 10 gallons

Choose two objects in the room. Choose an attribute to measure. Use the correct tool and measure. Record the object and the measurement.

10. _____

11. _____

Problem Solving · Applications Real World

For Problem 12–13, use benchmarks to explain your answer.

12. Cristina is making macaroni and cheese for her family. Would Cristina use 1 pound of macaroni or 1 ounce of macaroni?

MATH on the Spot

_____

_____

13. Which is the better estimate for the length of a kitchen table, 200 centimeters or 200 meters?

_____

_____

14. Gema wants to weigh her cat and measure its standing height. Which two units should she use?

_____

15. MTR Vadim used benchmarks to estimate that there are more cups than quarts in one gallon. Is Vadim's estimate reasonable? Explain.

_____

_____

16. Select the correct word to complete the sentence.

Justine is thirsty after running two miles.

She should drink | 1 pint / 1 meter / 10 pounds | of water.

Name _____

Measurement Benchmarks

Go Online
Interactive Examples

Use benchmarks to choose the customary unit you would use to measure each.

1. height of a computer

foot

2. weight of a table

_____

3. length of a semi-truck

_____

4. the amount of liquid a bathtub holds

_____

Customary Units	
ounce	yard
pound	mile
inch	gallon
foot	cup

Use benchmarks to choose the metric unit you would use to measure each.

5. mass of a grasshopper

_____

6. the amount of liquid a water bottle holds

_____

7. length of a soccer field

_____

8. length of a pencil

_____

Metric Units	
milliliter	centimeter
liter	meter
gram	kilometer
kilogram	

Circle the better estimate.

9. mass of a chicken egg

50 grams 50 kilograms

10. length of a car

12 miles 12 feet

11. amount of liquid a drinking glass holds

8 ounces 8 quarts

Problem Solving Real World

12. What is the better estimate for the mass of a textbook, 1 gram or 1 kilogram?

_____

13. What is the better estimate for the height of a desk, 1 meter or 1 kilometer?

_____

14. WRITE Math Choose an object. Identify an attribute to measure. Use the correct tool and measure.

_____

_____

Lesson Check

15. What unit would be best to use for measuring the weight of a stapler?

16. Which is the best estimate for the length of a car?

Ⓐ 4 inches

Ⓑ 4 feet

Ⓒ 4 meters

Ⓓ 4 kilometers

Spiral Review

17. Bart practices his trumpet $1\frac{1}{4}$ hours each day. How many hours will he practice in 6 days?

18. Millie collected 100 stamps from different countries. Thirty-two of the stamps are from countries in Africa. What is $\frac{32}{100}$ written as a decimal?

19. Diedre drew a quadrilateral with 4 right angles and opposite sides of the same length. Name all the kinds of polygons that could be Diedre's quadrilateral.

20. How many degrees are in an angle that turns through $\frac{1}{2}$ of a circle?

Name _____

Customary Units of Length

I Can convert and compare length measurements in customary units.

Florida's B.E.S.T.

- **Measurement** 4.M.1.2
- **Mathematical Thinking & Reasoning** MTR.2.1, MTR.4.1, MTR.5.1, MTR.6.1

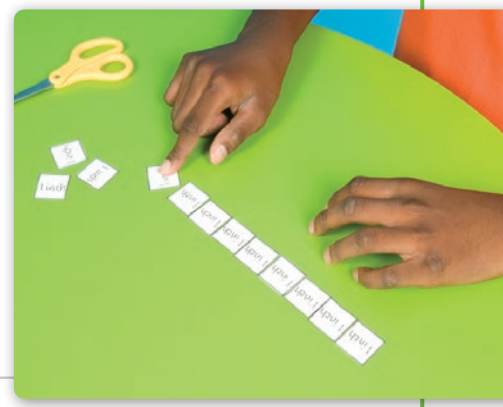
UNLOCK the Problem Real World

You can use a ruler to measure length. A ruler that is 1 foot long shows 12 inches in 1 foot. A ruler that is 3 feet long is called a yardstick. There are 3 feet in 1 yard.

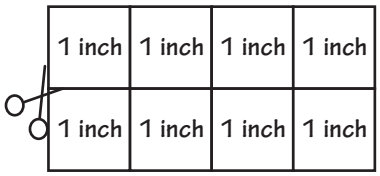
How does the size of a foot compare to the size of an inch?

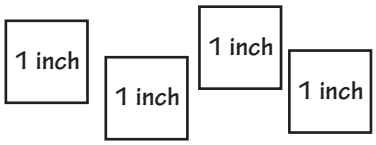
Activity

Materials ■ 1-inch grid paper ■ scissors ■ tape

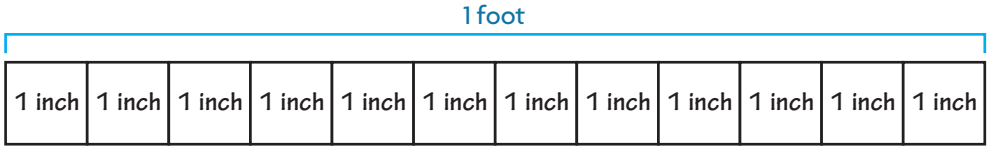


STEP 1 Cut out the paper inch tiles. Label each tile 1 inch.

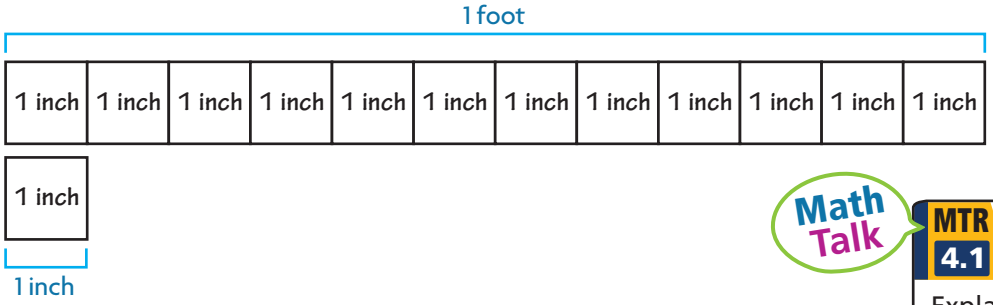




STEP 2 Place 12 tiles end-to-end to build 1 foot. Tape the tiles together.



STEP 3 Compare the size of 1 foot to the size of 1 inch.



Think: You need 12 inches to make 1 foot.

Math Talk MTR 4.1 Engage in discussions on mathematical thinking.

Explain how you know the number of inches you need to make a yard.

So, 1 foot is _____ times as long as 1 inch.

Example Compare measures.

Sveta has 4 feet of thread. She needs 50 inches of thread to make some bracelets. How can she determine if she has enough thread to make the bracelets?

Since 1 foot is 12 times as long as 1 inch, you can write feet as inches by multiplying the number of feet by 12.

STEP 1 Make a table that relates feet and inches.

Feet	Inches
1	12
2	
4	

Think:

1 foot × 12 = 12 inches

2 feet × 12 = _____

_____ feet × 12 = _____

4 feet × _____ = _____

_____ feet × 12 = _____

STEP 2 Compare 4 feet and 50 inches.

4 feet ↓ 50 inches ↓

Think: Write each measure in inches and compare using <, >, or =.

_____ ◯ _____

Sveta has 4 feet of thread. She needs 50 inches of thread.

4 feet is _____ than 50 inches.

So, Sveta _____ enough thread to make the bracelets.

Math Talk

MTR 2.1 Demonstrate understanding in multiple ways.

Explain how making a table helped you solve the problem.

- What if Sveta had 5 feet of thread? Would she have enough thread to make the bracelets? Explain.

_____

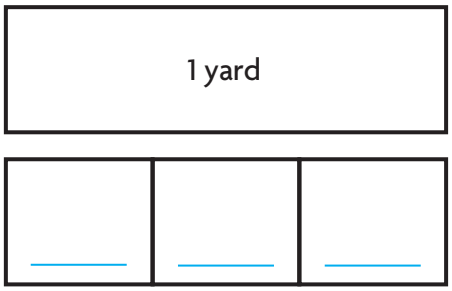
_____

_____

Name _____

Share and Show Math Board

1. Compare the size of a yard to the size of a foot. Use a model to help.



1 yard is _____ times as long as _____ foot.

Customary Units of Length
1 foot (ft) = 12 inches (in.)
1 yard (yd) = 3 feet
1 yard (yd) = 36 inches

Complete.

2. 2 feet = _____ inches

3. 3 yards = _____ feet

4. 21 feet = _____ yards

Math Talk

MTR 4.1 Engage in discussions on mathematical thinking.

If you measured the length of your classroom in yards and then in feet, which unit would have a greater number of units? Explain.

On Your Own

Complete.

5. 4 yards = _____ feet

6. 30 feet = _____ yards

7. 84 inches = _____ feet

MTR **Compare using <, >, or =.**

8. 1 foot ◯ 13 inches

9. 2 yards ◯ 6 feet

10. 6 feet ◯ 60 inches

Problem Solving · Applications Real World

11. Mercy has 3 yards of fabric. She needs 100 inches of fabric to make curtains. Does she have enough fabric to make curtains? Explain. Make a table to help.

MATH on the Spot

Yards	Inches
1	
2	
3	

12. Select the measures that are equal. Mark all that apply.

Ⓐ 4 feet

Ⓑ 12 yards

Ⓒ 36 feet

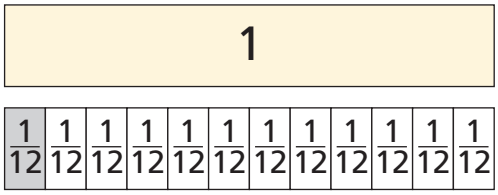
Ⓓ 480 inches

Ⓔ 15 feet

Ⓕ 432 inches

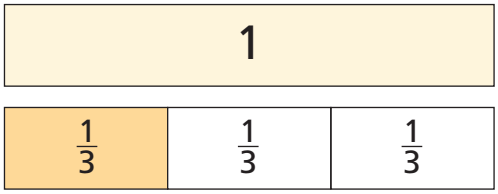
13. Jasmine and Luke used fraction strips to compare the size of a foot to the size of an inch using fractions. They drew models to show their answers. Whose answer makes sense? Whose answer is nonsense? Explain your reasoning.

Jasmine's Work



1 inch is $\frac{1}{12}$ of a foot.

Luke's Work



1 inch is $\frac{1}{3}$ of a foot.

a. MTR For the answer that is nonsense, write an answer that makes sense.

b. Look back at Luke's model. Which two units could you compare using his model? Explain.

Name _____

Customary Units of Length

Go Online
Interactive Examples

Complete.

1. 3 feet = 36 inches Think: 1 foot = 12 inches, so 3 feet = 3 × 12 inches, or 36 inches

2. 2 yards = _____ feet

3. 96 inches = _____ feet

4. 7 yards = _____ feet

5. 4 feet = _____ inches

6. 45 feet = _____ yards

7. 10 feet = _____ inches

Compare using <, >, or =.

8. 3 yards ◯ 10 feet

9. 5 feet ◯ 60 inches

10. 8 yards ◯ 20 feet

Problem Solving Real World

11. Jeanne has two lengths of ribbon. One ribbon is 2 feet long. The other ribbon is 30 inches long. Which length of ribbon is longer? Explain.

_____

_____

_____

_____

12. A football player gained 2 yards on one play. On the next play, he gained 5 feet. Was his gain greater on the first play or the second play? Explain.

_____

_____

_____

_____

13. WRITE Math Write a problem that can be solved by comparing feet and inches using a model. Include a solution. Explain why you are changing from a larger unit to a smaller unit.

_____

_____

Lesson Check

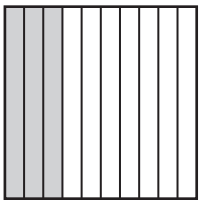
14. Fae has 14 feet of wire to use to make necklaces. She needs to know the length in inches so she can determine how many necklaces to make. How many inches of wire does Fae have?

15. Jafar bought 8 yards of ribbon. He needs 200 inches to use to make curtains. How many inches of ribbon does he have?

Spiral Review

16. Shonda had a sleepover and her mom is making sandwiches for lunch. If her mom had $2\frac{3}{4}$ loaves of bread and used $1\frac{1}{4}$ loaves for the sandwiches, how much bread does she have left?

17. What decimal represents the shaded part of the model below?



18. Three sisters shared $3.60 equally. How much did each sister get?

19. Draw an acute angle.

Name _____

Customary Units of Weight

I Can convert and compare weight measurements.

Florida's B.E.S.T.

- **Measurement** 4.M.1.2
- **Mathematical Thinking & Reasoning** MTR.2.1, MTR.3.1, MTR.4.1, MTR.5.1, MTR.6.1, MTR.7.1

UNLOCK the Problem Real World

Ounces and **pounds** are customary units of weight. How does the size of a pound compare to the size of an ounce?

▲ You can use a spring scale to measure weight.

Activity

Materials ■ color pencils

The number line below shows the relationship between pounds and ounces.

STEP 1 Use a color pencil to shade 1 pound on the number line.

STEP 2 Use a different color pencil to shade 1 ounce on the number line.

STEP 3 Compare the size of 1 pound to the size of 1 ounce.

You need _____ ounces to make _____ pound.

So, 1 pound is _____ times as heavy as 1 ounce.

Math Talk

MTR 4.1 Engage in discussions on mathematical thinking.

How can you compare the size of 9 pounds to the size of 9 ounces?

- **MTR** Explain how the number line helped you to compare the sizes of the units.

_____

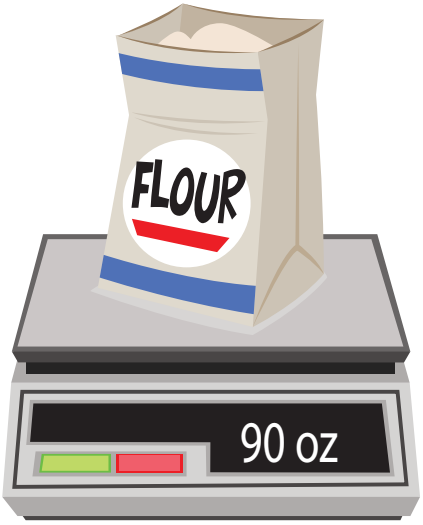
_____

_____

_____

Go Online For more help

Example Compare measures.



Naomi needs 5 pounds of flour to bake bread for a dinner. She has 90 ounces of flour. How can she determine if she has enough flour to bake the bread?

STEP 1 Make a table that relates pounds and ounces.

Pounds	Ounces
1	16
3	
5	

Think:

1 pound × 16 = 16 ounces

_____ pounds × 16 = 32 ounces

3 pounds × _____ = _____

_____ pounds × _____ = 64 ounces

5 pounds × _____ = _____

STEP 2 Compare 90 ounces and 5 pounds.

90 ounces ↓ 5 pounds ↓

Think: Write each measure in ounces and compare using <, >, or =.

_____ ◯ _____

Naomi has 90 ounces of flour. She needs 5 pounds of flour.

90 ounces is _____ than 5 pounds.

So, Naomi _____ enough flour to make the bread.

Try This! There are 2,000 pounds in 1 **ton**.
Make a table that relates tons and pounds.

Tons	Pounds
1	2,000
2	
	10,000

1 ton is _____ times as heavy as 1 pound.

Name _____

Share and Show

Math Board

1. 4 tons = _____ pounds

Think: 4 tons × _____ = _____

Customary Units of Weight
1 pound (lb) = 16 ounces (oz)
1 ton (T) = 2,000 pounds

Complete.

2. 10,000 pounds = _____ tons

3. 6 pounds = _____ ounces

Math Talk

MTR 4.1 Engage in discussions on mathematical thinking.

What equation can you use to solve Problem 4? Explain.

On Your Own

Complete.

4. 7 pounds = _____ ounces

5. 12,000 pounds = _____ tons

MTR **Compare using >, <, or =.**

6. 1 pound ◯ 15 ounces

7. 2 tons ◯ 2 pounds

Problem Solving · Applications

Real World

8. A landscaping company ordered 8 tons of gravel. It sells the gravel in 50-pound bags. How many pounds of gravel did the company order?

_____

MATH on the Spot

9. If you could draw a number line that shows the relationship between tons and pounds, what would it look like? Explain.

_____

_____

_____

10. Write the symbol that compares the weights correctly.

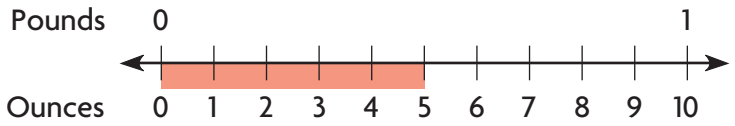
< = >

160 ounces _____ 10 pounds

600 pounds _____ 3 tons

11. Alisaie bought $\frac{1}{2}$ pound of grapes. How many ounces of grapes did she buy?

Jorge drew the number line below to solve the problem. He says his model shows that there are 5 ounces in $\frac{1}{2}$ pound. What is his error?



Look at the way Jorge solved the problem. Find and describe his error.

Draw a correct number line and solve the problem.

So, Alisaie bought _____ ounces of grapes.

- MTR Look back at the number line you drew. How many ounces are in $\frac{1}{4}$ pound? Explain.

Name _____

Customary Units of Weight

Go Online
Interactive Examples

Complete.

1. 5 pounds = 80 ounces

Think: 1 pound = 16 ounces, so
5 pounds = 5 × 16 ounces, or 80 ounces

2. 7 tons = _____ pounds

3. 2 pounds = _____ ounces

4. 6,000 pounds = _____ tons

5. 10 pounds = _____ ounces

Compare using <, >, or =.

6. 8 pounds ◯ 80 ounces

7. 1 ton ◯ 100 pounds

8. 3 pounds ◯ 50 ounces

9. 5 tons ◯ 10,000 pounds

Problem Solving Real World

10. A company that makes steel girders can produce 6 tons of girders in one day. How many pounds is this?

_____

11. Axel's baby sister weighed 6 pounds at birth. How many ounces did the baby weigh?

_____

12. WRITE Math Write a problem that can be solved by comparing pounds and ounces using a model. Include a solution. Explain why you are changing from a larger unit to a smaller unit.

_____

_____

_____

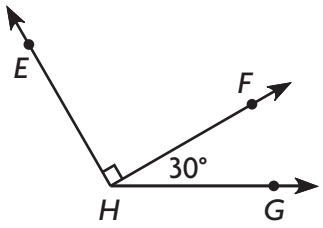
Lesson Check

13. Maj bought 2 pounds of cheese to make lasagna. The recipe gives the amount of cheese needed in ounces. How many ounces of cheese did she buy?

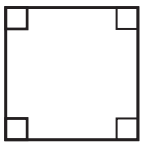
14. A school bus weighs 14,000 pounds. The weight limit for a bridge is given in tons. What is this weight of the bus in tons?

Spiral Review

15. What is the measure of $\angle EHG$?



16. How do you classify the angles in this shape? What is their measure?



17. To make dough, Kat needs $2\frac{1}{2}$ cups of flour. How much flour does she need to make 5 batches of dough?

18. Judi's father is 6 feet tall. The minimum height to ride a rollercoaster is given in inches. How many inches tall is Judi's father?

Name _____

Customary Units of Liquid Volume

I Can convert and compare liquid volume in customary units.

Florida's B.E.S.T.

- **Measurement** 4.M.1.2
- **Mathematical Thinking & Reasoning** MTR.2.1, MTR.3.1, MTR.4.1, MTR.5.1, MTR.6.1, MTR.7.1

UNLOCK the Problem Real World

Liquid volume is the measure of the space a liquid occupies. Some basic units for measuring liquid volume are **gallons**, **half gallons**, **quarts**, **pints**, and **cups**.

The bars below model the relationships among some units of liquid volume. The largest units are gallons. The smallest units are **fluid ounces**.

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 4 cups

1 gallon

1 gallon															
1 half gallon								1 half gallon							
1 quart				1 quart				1 quart				1 quart			
1 pint		1 pint		1 pint		1 pint		1 pint		1 pint		1 pint		1 pint	
1 cup	1 cup	1 cup	1 cup	1 cup	1 cup	1 cup	1 cup	1 cup	1 cup	1 cup	1 cup	1 cup	1 cup	1 cup	1 cup
8 fluid ounces	8 fluid ounces	8 fluid ounces	8 fluid ounces	8 fluid ounces	8 fluid ounces	8 fluid ounces	8 fluid ounces	8 fluid ounces	8 fluid ounces	8 fluid ounces	8 fluid ounces	8 fluid ounces	8 fluid ounces	8 fluid ounces	8 fluid ounces

Example 1 How does the size of a gallon compare to the size of a quart?

Math Talk

MTR 5.1 Use patterns and structure.

Describe the pattern in the units of liquid volume.

STEP 1 Draw two bars that represent this relationship. One bar should show gallons and the other bar should show quarts.

STEP 2 Shade 1 gallon on one bar and shade 1 quart on the other bar.

STEP 3 Compare the size of 1 gallon to the size of 1 quart.

So, 1 gallon is _____ times as much as 1 quart.

Example 2 Compare measures.

Jenny needs to make 3 gallons of lemonade for the lemonade sale. She has a powder mix that makes 350 fluid ounces of lemonade. How can she decide if she has enough powder mix?

STEP 1 Use the model on the previous page. Find the relationship between gallons and fluid ounces.

1 gallon = _____ cups

1 cup = _____ fluid ounces

1 gallon = _____ cups × _____ fluid ounces

1 gallon = _____ fluid ounces

STEP 2 Make a table that relates gallons and fluid ounces.

Gallons	Fluid Ounces
1	128
2	
3	

Think:

1 gallon = 128 fluid ounces

2 gallons × 128 = _____ fluid ounces

3 gallons × 128 = _____ fluid ounces

STEP 3 Compare 350 fluid ounces and 3 gallons.

350 fluid ounces ↓ _____ ◯ _____ ↓ 3 gallons

Think: Write each measure in fluid ounces and compare using <, >, or =.

Jenny has enough mix to make 350 fluid ounces.
She needs to make 3 gallons of lemonade.

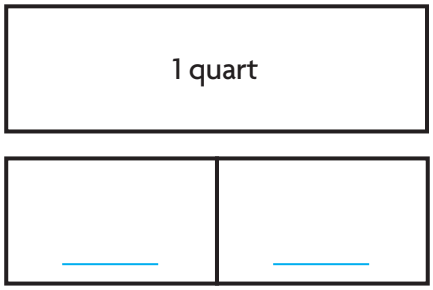
350 fluid ounces is _____ than 3 gallons.

So, Jenny _____ enough mix to make 3 gallons of lemonade.

Name _____

Share and Show

1. Compare the size of a quart to the size of a pint. Use a model to help.



Customary Units of Liquid Volume
1 cup (c) = 8 fluid ounces (fl oz)
1 pint (pt) = 2 cups
1 quart (qt) = 2 pints
1 quart (qt) = 4 cups
1 gallon (gal) = 4 quarts
1 gallon (gal) = 8 pints
1 gallon (gal) = 16 cups

1 quart is _____ times as much as _____ pint.

Complete.

2. 2 pints = _____ cups

3. 12 quarts = _____ gallons

4. 24 cups = _____ quarts

Math Talk

MTR 5.1 Use patterns and structure.

Explain how the conversion chart above relates to the bar model in Exercise 1.

On Your Own

Use a model or *i*Tools to complete.

5. 4 gallons = _____ pints

6. 40 fluid ounces = _____ cups

MTR **Compare using >, <, or =.**

7. 2 gallons ◯ 32 cups

8. 4 pints ◯ 6 cups

9. 5 quarts ◯ 11 pints

Problem Solving · Applications

10. A soccer team has 25 players. The team's thermos holds 4 gallons of water. If the thermos is full, is there enough water for each player to have 2 cups? Explain. Complete the table to help.

MATH on the Spot

Gallons	Cups
1	
2	
3	
4	

11. MTR Whose statement makes sense? Whose statement is nonsense? Explain your reasoning.

Frey's Statement

Angela's Statement

12. Peter's glasses each hold 8 fluid ounces. How many glasses of juice can Peter pour from a bottle that holds 2 quarts?

13. A pitcher contains 5 quarts of water. Eir says the pitcher contains 10 cups of water. Explain Eir's error. Then find the correct number of cups the pitcher contains.

Name _____

Customary Units of Liquid Volume

Go Online
Interactive Examples

Complete.

1. 24 quarts = 6 gallons

Think: 1 gallon = 4 quarts,
so 24 quarts = 24 ÷ 4 = 6 gallons

2. 12 quarts = _____ pints

3. 6 cups = _____ fluid ounces

4. 18 cups = _____ pints

5. 10 quarts = _____ cups

6. 40 pints = _____ gallons

7. 3 gallons = _____ cups

Compare using <, >, or =.

8. 6 pints ◯ 60 fluid ounces

9. 3 gallons ◯ 30 quarts

10. 5 quarts ◯ 20 cups

11. 12 pints ◯ 6 cups

Problem Solving Real World

12. A chef makes $1\frac{1}{2}$ gallons of soup in a large pot. How many 1-cup servings can the chef get from this large pot of soup?

13. Kendra's water bottle contains 2 quarts of water. She wants to add drink mix to it, but the directions for the drink mix give the amount of water in fluid ounces. How many fluid ounces are in her bottle?

14. WRITE Math Write a problem that can be solved by comparing quarts and cups using a model. Include a solution. Explain why you are changing from a larger unit to a smaller unit.

Lesson Check

15. Burke drinks 64 fluid ounces of water a day. The recommended daily amount is given in fluid ounces. How many cups of water does he drink each day?

16. A cafeteria used 5 gallons of milk in preparing lunch. How many 1-quart containers of milk did the cafeteria use?

Spiral Review

17. Roy uses $\frac{1}{4}$ cup of batter for each muffin. Make a list to show the amounts of batter he will use depending on the number of muffins he makes.

18. Anya has $\frac{7}{100}$ of a dollar. What is the amount of money Anya has?

19. Classify this angle.

20. A hippopotamus weighs 4 tons. Feeding instructions are given for weights in pounds. How many pounds does the hippopotamus weigh?

Name _____

Mixed Measures

I Can solve problems that involve mixed measurements.

Florida's B.E.S.T.

- **Measurement** 4.M.1.2
- **Mathematical Thinking & Reasoning** MTR.2.1, MTR.3.1, MTR.4.1, MTR.5.1, MTR.6.1, MTR.7.1

UNLOCK the Problem Real World

Herman is building a picnic table for a new campground. The picnic table is 5 feet 10 inches long. How long is the picnic table in inches?

Change a mixed measure.

Think of 5 feet 10 inches as 5 feet + 10 inches.

Write feet as inches.

5 feet
+ 10 inches

Think: 5 feet × 12 = 60 inches →

[ ] inches
+ [ ] inches
[ ] inches

So, the picnic table is _____ inches long.

Example 1 Add mixed measures.

Herman built the picnic table in 2 days. The first day he worked for 3 hours 45 minutes. The second day he worked for 2 hours 10 minutes. How long did it take him to build the table?

STEP 1 Add the minutes.

3 hr 45 min
+ 2 hr 10 min
[ ] min

STEP 2 Add the hours.

3 hr 45 min
+ 2 hr 10 min
[ ] hr 55 min

So, it took Herman _____ to build the table.

Math Talk

MTR 4.1 Engage in discussions on mathematical thinking.

How is adding mixed measures similar to adding tens and ones? How is it different? Explain.

- What if Herman worked an extra 5 minutes on the picnic table? How long would he have worked on the table then? Explain.

_____

_____

Example 2 Subtract mixed measures.

Hien is building a fence around the picnic area. She has a pole that is 6 feet 6 inches long. She cuts off 1 foot 7 inches from one end. How long is the pole now?

STEP 1 Subtract the inches.

Think: 7 inches is greater than 6 inches. You need to regroup to subtract.

6 ft 6 in. = 5 ft 6 in. + 12 in.

= 5 ft _____ in.

$$\begin{array}{r} {}^{5}\cancel{6}\text{ ft } {}^{18}\cancel{6}\text{ in.} \\ -\ 1\text{ ft } \ 7\text{ in.} \\ \hline \quad\ \text{in.} \end{array}$$

Common Error

Be sure to check that you are regrouping correctly. There are 12 inches in 1 foot.

STEP 2 Subtract the feet.

$$\begin{array}{r} {}^{5}\cancel{6}\text{ ft } {}^{18}\cancel{6}\text{ in.} \\ -\ 1\text{ ft } \ 7\text{ in.} \\ \hline \quad\ \text{ft } 11\text{ in.} \end{array}$$

So, the pole is now _____ long.

Try This! Subtract. Show your work.

3 pounds 5 ounces − 1 pound 2 ounces

Share and Show Math Board

1. A truck is carrying 2 tons 500 pounds of steel. How many pounds of steel is the truck carrying?

Think of 2 tons 500 pounds as 2 tons + 500 pounds. Write tons as pounds.

$$\begin{array}{r} 2\text{ tons} \\ +\ 500\text{ pounds} \\ \hline \end{array}$$

Think: 2 tons × 2,000 = _____ pounds

$$\longrightarrow \quad \begin{array}{r} \quad\ \text{pounds} \\ +\quad\ \text{pounds} \\ \hline \text{pounds} \end{array}$$

So, the truck is carrying _____ pounds of steel.

Name _____

Rewrite each measure in the given unit.

2. 1 yard 2 feet

_____ feet

3. 3 pints 1 cup

_____ cups

4. 3 weeks 1 day

_____ days

Add or subtract.

5. 2 lb 4 oz
+ 1 lb 6 oz

6. 3 gal 2 qt
− 1 gal 3 qt

7. 5 hr 20 min
− 3 hr 15 min

Math Talk

MTR 3.1 Complete tasks with mathematical fluency.

How do you know when you need to regroup to subtract? Explain.

On Your Own

Rewrite each measure in the given unit.

8. 1 hour 15 minutes

_____ minutes

9. 4 quarts 2 pints

_____ pints

10. 10 feet 10 inches

_____ inches

Add or subtract.

11. 2 tons 300 lb
− 1 ton 300 lb

12. 10 gal 8 c
+ 8 gal 9 c

13. 7 lb 6 oz
− 2 lb 12 oz

Problem Solving · Applications

Real World

14. MTR Ahmed fills 6 pitchers with juice. Each pitcher contains 2 quarts 1 pint. How many pints of juice does he have in all?

15. Rahul and Akh each solve the problem at the right. Rahul says the sum is 4 feet 18 inches. Akh says the sum is 5 feet 6 inches. Whose answer makes sense? Whose answer is nonsense? Explain.

2 ft 10 in.
+ 2 ft 8 in.

16. Jackson has a rope 1 foot 8 inches long. He cuts it into 4 equal pieces. How many inches long is each piece?

MATH on the Spot

17. Theo is practicing for a 5-kilometer race. He runs 5 kilometers every day and records his time. His average time is 25 minutes 15 seconds. Yesterday it took him only 23 minutes 49 seconds. How much faster was his time yesterday than his average time?

a. What are you asked to find?

_____

_____

b. What information do you know?

_____

_____

c. How will you solve the problem?

_____

d. Solve the problem.

_____

e. Fill in the sentence.

Yesterday, Theo ran 5 kilometers in a time that was _____ faster than his normal time.

18. Lee has 5 pieces of pipe. Each piece is 3 feet 6 inches long. If Lee joins the pieces end to end to make one long pipe, how long will the new pipe be?

_____

19. Ana mixes 2 quarts 1 pint of apple juice and 1 quart 3 cups of cranberry juice. Will her mixture be able to fit in a 1 gallon pitcher? Explain.

_____

_____

_____

_____

_____

_____

Name _____

Mixed Measures

Go Online
Interactive Examples

Complete.

1. 8 pounds 4 ounces = 132 ounces

Think: 8 pounds = 8 × 16 ounces, or 128 ounces.
128 ounces + 4 ounces = 132 ounces

2. 5 weeks 3 days = _____ days

3. 4 minutes 45 seconds = _____ seconds

4. 50 yards 2 feet = _____ feet

5. 3 tons 600 pounds = _____ pounds

Add or subtract.

6. 9 gal 1 qt
+ 6 gal 1 qt

7. 12 lb 5 oz
− 7 lb 10 oz

8. 8 hr 3 min
+ 4 hr 12 min

Problem Solving Real World

9. Michael's basketball team practiced for 2 hours 40 minutes yesterday and 3 hours 15 minutes today. How much longer did the team practice today than yesterday?

10. Anuuka had a piece of ribbon that was 5 feet 3 inches long. She removed a 5-inch piece to use in her art project. What is the length of the piece of ribbon now?

11. WRITE Math Write a subtraction problem involving pounds and ounces. Solve the problem and show your work.

Lesson Check

12. Hwasa bought 1 pound 11 ounces of roast beef and 2 pounds 5 ounces of corned beef. How much more corned beef did she buy than roast beef?

13. Theodore says there are 2 weeks 5 days left in the year. How many days are left in the year?

Spiral Review

14. Compare using $<$, $=$, or $>$.

$0.05 \bigcirc 0.5$

15. Draw a reflex angle.

16. What is one-hundredth less than 15.6?

17. Mr. Tao has 24 books in his class to read to the large group. He reads $\frac{2}{3}$ of the books by March. How many books has he read?

Name _____

Metric Units of Length

Florida's B.E.S.T.

- **Measurement** 4.M.1.2
- **Mathematical Thinking & Reasoning** MTR.2.1, MTR.3.1, MTR.4.1, MTR.5.1, MTR.6.1

I Can convert and compare length measurements in metric units.

Investigate

Materials ■ ruler (meter) or meterstick strips ■ scissors ■ tape

Meters (m), **decimeters** (dm), centimeters (cm), and **millimeters** (mm) are all metric units of length.

Build a meterstick to show how these units are related.

A. Cut out the meterstick strips.

B. Place the strips end-to-end to build 1 meter. Tape the strips together.

C. Look at your meter strip. What patterns do you notice about the sizes of the units?

1 meter is _____ times as long as 1 decimeter.

1 decimeter is _____ times as long as 1 centimeter.

1 centimeter is _____ times as long as 1 millimeter.

Describe the pattern you see.

_____

_____

Math Idea

If you lined up 1,000 metersticks end-to-end, the length of the metersticks would be 1 kilometer.

Draw Conclusions

1. Compare the size of 1 meter to the size of 1 centimeter. Use your meterstick to help.

_____

2. Compare the size of 1 meter to the size of 1 millimeter. Use your meterstick to help.

3. What operation could you use to find how many centimeters are in 3 meters? Explain.

Make Connections

You can use different metric units to describe the same length. For example, you can measure the length of a book as 3 decimeters or as 30 centimeters.

1 meter = 10 decimeters

1 meter = 100 centimeters

1 meter = 1,000 millimeters

Complete the sentence.

- A length of 5 meters is _____ centimeters.
- A length of 8 meters is _____ decimeters.
- A length of 2 meters is _____ millimeters.

Math Talk

MTR 5.1 Use patterns and structure.

Explain how you are able to convert meters to decimeters, centimeters, and millimeters.

Name _____

Share and Show

Math Board

Complete.

Metric Units of Length
1 centimeter (cm) = 10 millimeters (mm)
1 decimeter (dm) = 10 centimeters
1 meter (m) = 10 decimeters
1 meter (m) = 100 centimeters
1 meter (m) = 1,000 millimeters

1. 2 meters = _____ centimeters

2. 3 centimeters = _____ millimeters

3. 5 decimeters = _____ centimeters

4. 65 meters = _____ centimeters

5. 12 decimeters = _____ centimeters

6. 41 meters = _____ decimeters

7. 24 centimeters = _____ millimeters

MTR **Compare using <, >, or =.**

8. 4 meters ◯ 40 decimeters

9. 5 centimeters ◯ 5 millimeters

10. 6 decimeters ◯ 65 centimeters

11. 7 meters ◯ 700 millimeters

On Your Own

12. A new building is 25 meters tall. How many decimeters tall is the building?

_____

13. Alexis is knitting a blanket 2 meters long. Every 2 decimeters, she changes the color of the yarn to make stripes. How many stripes will the blanket have? Explain.

_____

_____

_____

14. Julianne's desk is 75 centimeters long. She says her desk is 7,500 millimeters long. Describe her error.

15. Write the equivalent measurements in each column. You will *not* use all of the measures.

5,000 millimeters	500 centimeters	50 centimeters
500 millimeters	5 centimeters	500 decimeters
5,000 centimeters	550 millimeters	50 decimeters

5 meters	5 decimeters	50 millimeters

16. Sibel was writing a report on pecan trees. She made the table of information to the right.

Write a problem that can be solved by using the data.

Pecan Tree	
Average Measurements	
Length of nuts	3 cm to 5 cm
Height	21 m to 30 m
Width of trunk	18 dm
Width of leaf	10 cm to 20 cm

Pose a problem.

Solve your problem.

- MTR Describe how you could change the problem by changing a unit in the problem. Then solve the problem.

Name _____

Metric Units of Length

Go Online
Interactive Examples

Complete.

1. 4 meters = 400 centimeters

Think: 1 meter = 100 centimeters, so 4 meters = 4 × 100 centimeters, or 400 centimeters

2. 8 centimeters = _____ millimeters

3. 5 meters = _____ decimeters

4. 9 meters = _____ millimeters

5. 7 meters = _____ centimeters

Compare using <, >, or =.

6. 8 meters ◯ 80 centimeters

7. 3 decimeters ◯ 30 centimeters

8. 4 meters ◯ 450 centimeters

9. 90 centimeters ◯ 9 millimeters

Record the length in meters.

10. 43 meters = _____ centimeters

11. 6 decimeters = _____ centimeters

Problem Solving Real World

12. A flagpole is 4 meters tall. How many centimeters tall is the flagpole?

_____

13. Lucille runs the 50-meter dash in her track meet. How many decimeters long is the race?

_____

14. WRITE Math Find a measurement, in centimeters, of an object. Look through books, magazines, or the Internet. Then write the measurement in millimeters

_____

_____

Lesson Check

15. A pencil is 15 centimeters long. How many millimeters long is that pencil?

16. John's father is 2 meters tall. How many centimeters tall is John's father?

Spiral Review

17. Turk reads for $\frac{3}{4}$ hour each night. How long will he read in 4 nights?

18. Gianni jogged 0.6 mile. Eliza jogged 0.49 mile. Write an inequality to compare the distances they jogged.

19. Carrie buys 4 gallons of juice for a class party. If each serving is 1 cup, how many servings will she have?

20. Jackson ran 3.06 kilometers. Write this distance as a mixed number.

Name _____

Metric Units of Mass and Liquid Volume

Florida's B.E.S.T.

- **Measurement** 4.M.1.2
- **Mathematical Thinking & Reasoning** MTR 2.1, MTR.3.1, MTR 4.1, MTR.5.1, MTR.6.1

I Can convert and compare mass and liquid volume measurements in metric units.

UNLOCK the Problem Real World

Mass is the amount of matter in an object. Metric units of mass include kilograms (kg) and grams (g). Liters (L) and **milliliters** (mL) are metric units of liquid volume.

The charts show the relationship between these units.

Metric Units of Mass	Metric Units of Liquid Volume
1 kilogram (kg) = 1,000 grams (g)	1 liter (L) = 1,000 milliliters (mL)

Example 1 Compare kilograms and grams.

Hana planted a flower garden full of bluebonnets. She used 9 kilograms of soil. How many grams of soil is that?

number of kilograms		grams in 1 kilogram		total grams
9	×	1,000	=	_____

So, Hana used _____ grams of soil to plant her bluebonnets.

- Are kilograms heavier or lighter than grams?

- Will the number of grams be greater than or less than the number of kilograms?

- What operation will you use to solve the problem?

Example 2 Compare liters and milliliters.

Hana used 5 liters of water to water her bluebonnet garden. How many milliliters of water is that?

number of liters		milliliters in 1 liter		total milliliters
5	×	1,000	=	_____

So, Hana used _____ milliliters of water.

Math Talk

MTR 5.1 Use patterns and structure.

Compare the size of a kilogram to the size of a gram. Then compare the size of a liter to the size of a milliliter.

Share and Show

Math Board

1. There are 3 liters of water in a pitcher. How many milliliters of water are in the pitcher?

There are _____ milliliters in 1 liter. Since I am changing from a larger unit to a smaller unit, I can _____ 3 by 1,000 to find the number of milliliters in 3 liters.

So, there are _____ milliliters of water in the pitcher.

Complete.

2. 4 liters = _____ milliliters

3. 6 kilograms = _____ grams

Math Talk

MTR 5.1 Use patterns and structure.

Explain how you can find the number of grams in 8 kilograms.

On Your Own

Complete.

4. 8 kilograms = _____ grams

5. 7 liters = _____ milliliters

MTR Compare using <, >, or =.

6. 1 kilogram ◯ 900 grams

7. 2 liters ◯ 2,000 milliliters

MTR Complete.

8.

Liters	Milliliters
1	1,000
2	
3	
	4,000
5	
6	
	7,000
8	
9	
10	

9.

Kilograms	Grams
1	1,000
2	
	3,000
4	
5	
6	
7	
	8,000
9	
10	

Name _____

Problem Solving · Applications Real World

10. Frank wants to fill a fish tank with 8 liters of water. How many milliliters is that?

11. Vero has 3 water bottles. She fills each bottle with 1 liter of water. How many milliliters of water does she have?

12. Karim's empty backpack has a mass of 3 kilograms. He doesn't want to carry more than 7 kilograms on a trip. How many grams of equipment can Jared pack?

13. A large cooler contains 20 liters of iced tea and a small cooler contains 5 liters of iced tea. How many more milliliters of iced tea does the large cooler contain than the small cooler?

14. A 500-gram bag of granola costs $4, and a 2-kilogram bag of granola costs $15. Which is the least expensive way to buy 2,000 grams of granola? Explain.

15. MTR The world's largest apple had a mass of 1,849 grams. Liv said the mass was greater than 2 kilograms. Does Sue's statement make sense? Explain.

Show the Math

Demonstrate Your Thinking

UNLOCK the Problem Real World

16. Lori bought 600 grams of cayenne pepper and 2 kilograms of black pepper. How many grams of pepper did she buy in all?

MATH on the Spot

black pepper cayenne pepper

a. What are you asked to find?

_____

b. What information will you use?

_____

c. Tell how you might solve the problem.

_____

_____

_____

d. Show how you solved the problem.

_____

_____

_____

_____

e. Complete the sentences.

Lori bought _____ grams of cayenne pepper.

She bought _____ grams of black pepper.

_____ + _____ = _____ grams

So, Lori bought _____ grams of pepper in all.

17. WRITE *Math* Aivy has two rocks. One has a mass of 20 grams and the other has a mass of 20 kilograms. Which rock has the greater mass? Explain.

_____

_____

_____

18. For numbers 18a–18c, choose Yes or No to tell whether the measurements are equivalent.

a.	5,000 grams and 5 kilograms	○ Yes	○ No
b.	300 milliliters and 3 liters	○ Yes	○ No
c.	8 grams and 8,000 kilograms	○ Yes	○ No

Name _____

Metric Units of Mass and Liquid Volume

Go Online
Interactive Examples

Complete.

1. 5 liters = 5,000 milliliters

Think: 1 liter = 1,000 milliliters,
so 5 liters = 5 × 1,000 milliliters, or 5,000 milliliters

2. 3 kilograms = _____ grams

3. 8 liters = _____ milliliters

4. 7 kilograms = _____ grams

5. 9 liters = _____ milliliters

Compare using <, >, or =.

6. 8 kilograms ◯ 850 grams

7. 3 liters ◯ 3,500 milliliters

Problem Solving Real World

8. Kenny buys four 1-liter bottles of water. How many milliliters of water does Kenny buy?

_____

9. Mrs. Kone bought three 2-kilogram packages of flour. How many grams of flour did she buy?

_____

10. Colleen bought 8 kilograms of apples and 2.5 kilograms of pears. How many more grams of apples than pears did she buy?

_____

11. Dave uses 500 milliliters of juice for a punch recipe. He mixes it with 2 liters of ginger ale. How many milliliters of punch does he make?

_____

12. WRITE Math Write a problem that involves changing kilograms to grams. Explain how to find the solution.

_____

_____

_____

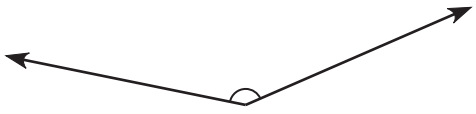
Lesson Check

13. During his hike, Milt drank 1 liter of water and 1 liter of sports drink. How many milliliters of liquid did he drink?

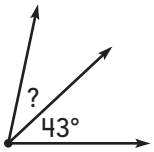
14. Larinda cooked a 4-kilogram roast. The roast left over after the meal weighed 3 kilograms. How many grams of roast were eaten during that meal?

Spiral Review

15. Use a protractor to find the angle measure.



16. A ray is drawn to divide a 78° angle into two angles. One of the new angles is 43°. What is the measure of the other angle?



17. Carly bought 3 pounds of birdseed. How many ounces of birdseed did she buy?

18. A door is $2\frac{1}{2}$ feet wide. How wide is the door in inches?

Name _____

Chapter 15

Chapter Review

1. Mrs. Miller wants to estimate the width of the steps in front of her house. Select the best benchmark for her to use.

   (A) her fingertip

   (B) the thickness of a dime

   (C) the width of a license plate

   (D) how far she can walk in 20 minutes

2. Ilsa is measuring the length of her pencil. Which unit of measure should she use?

   (A) inches

   (B) feet

   (C) grams

   (D) ounces

3. Select the measures that are equal. Mark all that apply.

   (A) 6 feet

   (B) 15 yards

   (C) 45 feet

   (D) 600 inches

   (E) 12 feet

   (F) 540 inches

4. Jackie made 6 quarts of lemonade. Jackie says she made 3 pints of lemonade. Explain Jackie's error. Then find the correct number of pints of lemonade.

5. Jose is building a patio for an outdoor school common grounds. The patio has two sections. The seating area is 15 feet 7 inches long. The open area is 8 feet 2 inches long.

Part A

Explain how you could find the total length of the patio in inches.

Part B

How long is the seating area of the patio in inches? Show your work.

Part C

How long is the open area in inches. Show your work.

Part D

What is the total length of the patio in inches?

_____ inches

6. Circle the correct word to complete the sentence.

Juan brings a water bottle with him to soccer practice.

A full water bottle holds about | 1 liter / 10 milliliters / 1 meter | of water.

Name _____

7. Write the symbol that compares the weights correctly.

<	=	>

128 ounces _____ 8 pounds

8,000 pounds _____ 3 tons

8. Dwayne bought 5 yards of wrapping paper. How many inches of wrapping paper did he buy?

_____ inches

9. A sack of potatoes weighs 14 pounds 9 ounces. After Wendy makes potato salad for a picnic, the sack weighs 9 pounds 14 ounces. What is the weight of the potatoes Wendy used for the potato salad? Write the numbers to show the correct subtraction.

4	5	11	13	19	25	39

	14 pounds	9 ounces
	− 9 pounds	14 ounces
☐	pounds	ounces ☐

10. Sabita made this table to relate two customary units of liquid volume.

_____	_____
1	2
2	4
3	6
4	8
5	10

Part A

List the number pairs for the table. Then describe the relationship between the numbers in each pair.

Part B

Label the columns of the table. Explain your answer.

11. Maria buys 3 pounds 4 ounces of pineapples. She buys 5 pounds 2 ounces of peaches.

11a. What is the weight of the pineapples and peaches?

_____ pounds _____ ounces

11b. If Maria buys 1 pound 9 ounces of bananas, what is the total weight of all her fruit?

_____ pounds _____ ounces

11c. During the week, Maria eats 2 pounds 7 ounces of fruit. What is the total weight of the fruit that is left?

_____ pounds _____ ounces

12. An elephant living in a wildlife park weighs 4 tons. How many pounds does the elephant weigh?

_____ pounds

13. Katia bought two melons. She says the difference in mass between the melons is 5,000 grams. Which two melons did Katia buy?

Ⓐ watermelon: 8 kilograms

Ⓑ cantaloupe: 5 kilograms

Ⓒ honeydew: 3 kilograms

Ⓓ casaba melon: 2 kilograms

Ⓔ crenshaw melon: 1 kilogram

14. Write the equivalent measurements in each column.

3,000 millimeters	300 centimeters	30 centimeters
3 decimeters	350 millimeters	30 decimeters

3 meters	35 centimeters	300 millimeters

Name _____

15. Cheryl is making a mixed fruit drink for a party. She mixes 7 pints each of apple juice and cranberry juice. How many fluid ounces of mixed fruit drink does Cheryl make?

_____ fluid ounces

16. Li has a blue ribbon that is 3 feet 5 inches long and a yellow ribbon that is 42 inches long. Which statement is true?

Ⓐ The blue ribbon is longer than the yellow ribbon because 41 inches $<$ 42 inches.

Ⓑ The blue ribbon is longer than the yellow ribbon because 63 inches $>$ 42 inches.

Ⓒ The yellow ribbon is longer than the blue ribbon because 41 inches $<$ 42 inches.

Ⓓ The yellow ribbon is longer than the blue ribbon because 63 inches $>$ 42 inches.

17. For Problems 17a–17e, Choose Yes or No to tell whether the measurements are equivalent.

17a.	7,000 grams and 7 kilograms	○ Yes	○ No
17b.	200 milliliters and 2 liters	○ Yes	○ No
17c.	6 grams and 6,000 kilograms	○ Yes	○ No
17d.	5 liters and 5,000 milliliters	○ Yes	○ No
17e.	2 milliliters and 2,000 liters	○ Yes	○ No

18. Hamid can carry 6 kilograms in his backpack. Which 3 items can he pack in his backpack so that he is carrying the maximum weight?

Ⓐ tent: 4,500 grams

Ⓑ pan: 800 grams

Ⓒ sleeping mat: 1,200 grams

Ⓓ coat: 900 grams

Ⓔ fruit box: 3,000 grams

Ⓕ granola bars: 1,800 grams

19. The tables show patterns for some units of measurement. Write the correct labels in each table.

Pints | Pounds | Feet | Cups | Ounces | Yards | Inches | Quarts

	Feet
1	3
2	6
3	9
4	12

Pounds	
1	16
2	32
3	48
4	64

1	4
2	8
3	12
4	16

20. An Olympic swimming pool is 25 meters wide. How many decimeters wide is an Olympic swimming pool?

_____ decimeters wide