Chapter 16

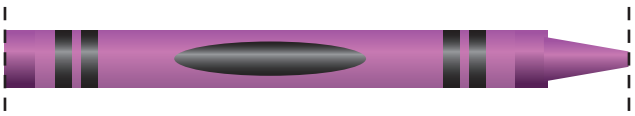
Name _____

Convert Units of Measure

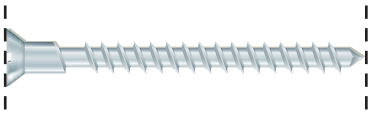
Show What You Know

Measure Length to the Nearest Inch

Use an inch ruler. Measure the length to the nearest inch.

1. 

about _____ inches

2. 

about _____ inches

Multiply and Divide by 10, 100, and 1,000 **Use mental math.**

3. $1 \times 5.98 = 5.98$
$10 \times 5.98 = 59.8$

$100 \times 5.98 =$ _____

$1{,}000 \times 5.98 =$ _____

4. $235 \div 1 = 235$
$235 \div 10 = 23.5$

$235 \div 100 =$ _____

$235 \div 1{,}000 =$ _____

Choose Customary Units **Write the appropriate unit to measure each. Write *inch, foot, yard,* or *mile*.**

5. length of a pencil _____

6. length of a football field _____

MATH in the Real World

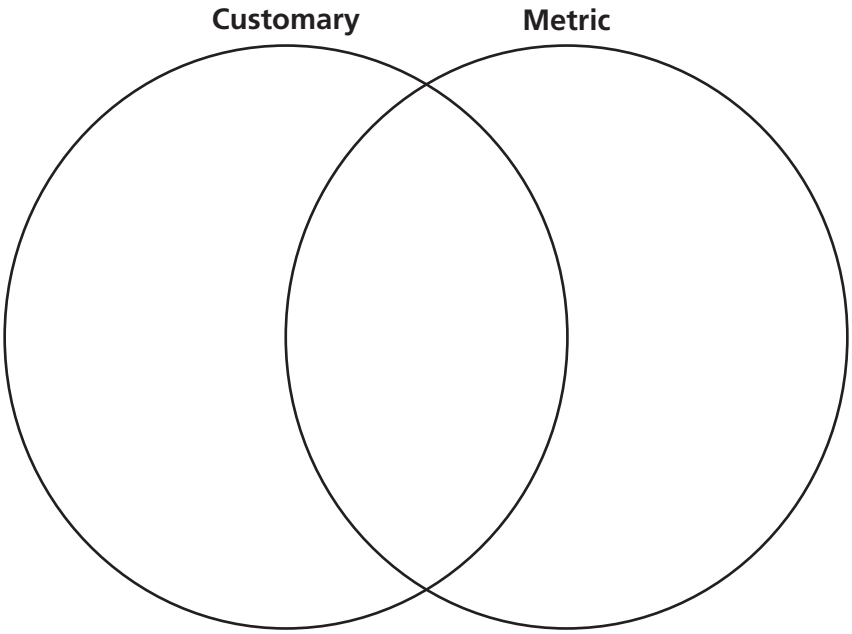
You can step out distances of 5 feet by using an estimate. Two steps or 2 paces is about 5 feet. Act out the directions on the map to find a treasure. About how many feet from start to finish is the path to the treasure?

Vocabulary Builder

Go Online For more help

Visualize It

Sort the review words into the Venn diagram.



Connect to Vocabulary

Review Words

- ✓ decimeter
- ✓ gallon
- ✓ length
- ✓ liter
- ✓ meter
- ✓ mile
- ✓ milliliter
- ✓ millimeter
- ✓ capacity
- ✓ dekameter

Understand Vocabulary

Complete the sentences.

1. A metric unit of length that is equal to one tenth of a meter is a _____.
2. A metric unit of length that is equal to one thousandth of a meter is a _____.
3. A metric unit of capacity that is equal to one thousandth of a liter is a _____.
4. A metric unit of length that is equal to 10 meters is a _____.
5. _____ is how much a container holds.

Name _____

Solve Multi-step Customary Measurement Problems

Florida's B.E.S.T.

- **Measurement** 5.M.1.1
- **Number Sense & Operations** 5.NSO.2.5
- **Mathematical Thinking & Reasoning** MTR.1.1, MTR.2.1, MTR.3.1, MTR.4.1, MTR.5.1, MTR.6.1, MTR.7.1

I Can solve multi-step problems that include measurement conversions.

UNLOCK the Problem Real World

Arun is making fruit punch for a family reunion. He needs to make 120 cups of punch. If he wants to store the fruit punch in gallon containers, how many gallon containers will Arun need?

Use the graphic organizer to help you solve the problem.

Conversion Table

	gal	qt	pt	c
1 gal	1	4	8	16
1 qt	$\frac{1}{4}$	1	2	4
1 pt	$\frac{1}{8}$	$\frac{1}{2}$	1	2
1 c	$\frac{1}{16}$	$\frac{1}{4}$	$\frac{1}{2}$	1

Read the Problem

What do I need to find?

I need to find _____

_____

_____

_____.

What information do I need to use?

I need to use _____

_____

_____.

How will I use the information?

I will make a table to show the relationship between the

number of _____ and

the number of _____.

Solve the Problem

There are _____ cups in 1 gallon. So, each cup is _____ of a gallon.
Complete the table below.

c	1	2	3	4	120
gal	$\frac{1}{16}$	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	

Multiply by _____.

So, Arun needs _____ gallon containers to store the punch.

- MTR Will all the gallon containers Arun uses be filled to capacity? Explain.

_____

Try Another Problem

Sharon is working on a project for art class. She needs to cut strips of wood that are each 1 foot long to complete the project. If Sharon has 7 strips of wood that are each 1 yard long, how many 1-foot strips can she cut?

Conversion Table
1 foot = 12 inches
1 yard = 3 feet

Read the Problem

What do I need to find?	What information do I need to use?	How will I use the information?

Solve the Problem

So, Sharon can cut _____ 1-foot lengths to complete her project.

- MTR What relationship does the table you made show? _____

_____

Math Talk

MTR 2.1 Demonstrate understanding in multiple ways.

How could you use a diagram to solve this problem?

Name _____

Share and Show

Math Board

1. Edgardo has a drink cooler that holds 10 gallons of water. He is filling the cooler with a 1-quart container. How many times will he have to fill the quart container to fill the cooler?

   First, make a table to show the relationship between gallons and quarts. You can use a conversion table to find how many quarts are in a gallon.

gal	1	2	3	4	10
qt	4				

   Then, look for a rule to help you complete your table.

   number of gallons × _____ = number of quarts

   Finally, use the table to solve the problem.

   Edgardo will need to fill the quart container _____ times.

2. What if Edgardo fills the cooler with only 32 quarts of water. How can you use your table to find how many gallons that is?

_____

_____

_____

_____

3. How would the number of times Edgardo uses a container to fill the 10-gallon cooler change if he uses a 1-cup container? Explain.

_____

_____

_____

_____

Show the Math

Demonstrate Your Thinking

On Your Own

Solve.

4. A science teacher collects 18 pints of lake water for a lab she is teaching. The lab requires each student to use 4 fluid ounces of lake water. If 68 students are participating, how many pints of lake water will the teacher have left over?

5. MTR A string of decorative lights is 28 feet long. The first light on the string is 16 inches from the plug. If the lights on the string are spaced 4 inches apart, how many lights are there on the string? Draw a picture to help you solve the problem.

6. When Elena's car moves forward such that each tire makes one full rotation, the car has traveled 72 inches. How many full rotations will the tires need to make for Elena's car to travel 10 yards?

7. Kei is making a picture frame. He has a piece of trim that is 4 feet long. How many 14-inch-long pieces can Kei cut from the trim? How much of a foot will he have left over?

8. Tariq cuts an 8-yard string into 3 equal pieces. How many inches long is each piece of string?

9. Carla uses 2.75 cups of whole milk and 1.375 cups skim milk in her yogurt. How many ounces does she use in all?

10. Nek is painting his house. He uses 2 quarts of paint per hour. Nek paints for 8 hours. How many gallons of paint did he use? Show your work.

Name _____

Solve Multi-step Customary Measurement Problems

Go Online
Interactive Examples

Solve.

1. A cable company has 5 miles of cable to install. How many 100-yard lengths of cable can be cut?

Think: 1,760 yards = 1 mile
So, the cable company has 5 × 1,760, or 8,800 yards of cable.

Divide. 8,800 ÷ 100 = 88

88 lengths

2. Afton makes chicken dishes for her neighbors. She bakes four 3-quart dishes. Then she gives 2 pints to each neighbor. How many neighbors can she take the chicken dish to?

3. A jar contains 26 fluid ounces of spaghetti sauce. How many cups of spaghetti sauce do 4 jars contain?

4. Coach Kent brings 3 quarts of sports drink to soccer practice. He gives the same amount of the drink to each of his 16 players. How many ounces of the drink does each player get?

5. Zola needs 324 inches of fringe to put around the edge of a tablecloth. The fringe comes in lengths of 10 yards. If Zola buys 1 package of fringe, how many feet of fringe will she have left over?

6. A company is shipping a case of bottled water to a store. There are 64 bottles of water in each case. If each water bottle holds $3\frac{1}{2}$ cups of water, how many gallons of water are in a case of water?

Problem Solving Real World

7. A pitcher contains 40 fluid ounces of iced tea. Dharma pours 3 cups of iced tea. How many pints of iced tea are left in the pitcher?

8. Avel ties $2\frac{1}{2}$ feet of ribbon onto one balloon. How many yards of ribbon does Avel need for 18 balloons?

9. WRITE Math An object moves on a conveyor belt at a speed of 60 inches per second. Explain how you could convert the speed to feet per minute.

Lesson Check

10. Charu is buying curtains for her bedroom window. She wants the curtains to hang from the top of the window to the floor. The window is 4 feet high. The bottom of the window is $2\frac{1}{2}$ feet above the floor. How many inches long should Charu's curtains be?

11. Feroz buys 3 gallons of fertilizer for his lawn. After he finishes spraying the lawn, he has 1 quart of fertilizer left over. How many quarts of fertilizer did Feroz spray on the lawn?

Spiral Review

12. Order the numbers from least to greatest.

34.519, 43.509, 34.905, 39.41

13. Evaluate.

$3 \times (8 + 7) - 5$

14. Round 4.697 to the nearest hundredth.

15. A farmer divides 20 acres of land into $\frac{1}{4}$-acre sections. Into how many sections does the farmer divide her land?

Name _____

Solve Multi-step Metric Measurement Problems

Florida's B.E.S.T.

- **Measurement** 5.M.1.1
- **Number Sense & Operations** 5.NSO.2.5
- **Mathematical Thinking & Reasoning** MTR.1.1, MTR.2.1, MTR.3.1, MTR.4.1, MTR.5.1, MTR.6.1, MTR.7.1

I Can solve multi-step problems that include measurement conversions.

UNLOCK the Problem

Real World

Using a map, Rem estimates the distance between his house and his grandparent's house to be about 15,000 meters. About how many kilometers away from his grandparent's house does Rem live?

- Underline the sentence that tells you what you are trying to find.
- Circle the measurement you need to convert.

The metric system is based on place value. Each unit is related to the next largest or next smallest unit by a power of 10.

One Way Convert 15,000 meters to kilometers.

kilo- **(k)**	hecto- **(h)**	deka- **(da)**	meter **(m)** liter **(L)** gram **(g)**	deci- **(d)**	centi- **(c)**	milli- **(m)**

power of 10 power of 10 power of 10

STEP 1 Find the relationship between the units.

Meters are _____ powers of 10 smaller than kilometers.

There are _____ meters in 1 kilometer.

STEP 2 Determine the operation to be used.

I am converting from a _____ unit to a

_____ unit, so I will _____.

STEP 3 Convert.

number of meters		meters in 1 kilometer		number of kilometers
↓		↓		↓
15,000	◯	_____	=	_____

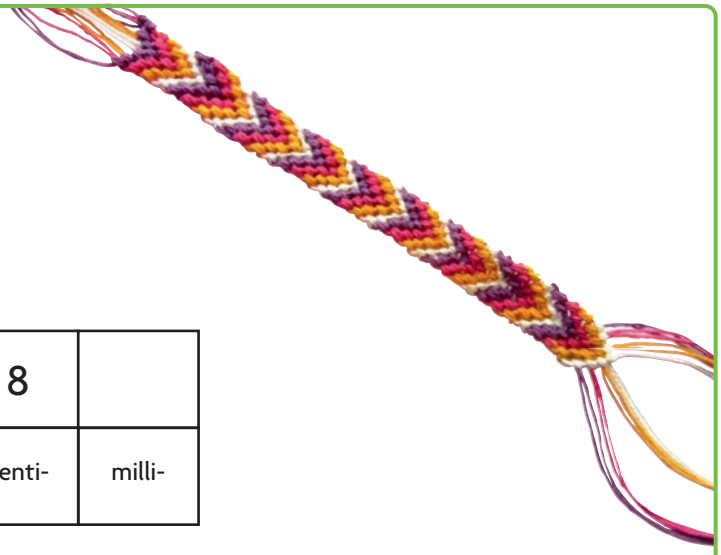
So, Rem's house is _____ kilometers from his grandparent's house.

Math Talk MTR 5.1 Use patterns and structure.

Choose two units in the chart. Explain how you use 10 to describe how the two units are related.

Another Way Use a diagram.

Jaime made a bracelet 1.8 decimeters long.
How many millimeters long is Jamie's bracelet?



Convert 1.8 decimeters to millimeters.

				1	8	
kilo-	hecto-	deka-	meter liter gram	deci-	centi-	milli-

STEP 1 Show 1.8 decimeters.

Since the unit is decimeters, place the decimal point to show decimeters as the unit.

STEP 2 Convert.

Cross out the decimal point and place it to show millimeters as the unit. Write zeros to the left of the decimal point as needed.

STEP 3 Record the value with the new units.

1.8 dm = _____ mm

So, Jaime's bracelet is _____ millimeters long.

Try This! Complete the equation to show the conversion.

A Convert 247 millimeters to centimeters, decimeters, and meters.

Are the units being converted to a larger unit or a smaller unit? _____

Should you multiply or divide by powers of 10 to convert? _____

247 mm ◯ 10 = _____ cm

247 mm ◯ 100 = _____ dm

247 mm ◯ 1,000 = _____ m

B Convert 3.9 hectoliters to dekaliters, liters, and deciliters.

Are the units being converted to a larger unit or a smaller unit? _____

Should you multiply or divide by powers of 10 to convert? _____

3.9 hL ◯ 10 = _____ daL

3.9 hL ◯ 100 = _____ L

3.9 hL ◯ 1,000 = _____ dL

Name _____

Share and Show

Math Board

Complete the equation to show the conversion.

1. 8.47 L ◯ 10 = _____ dL

8.47 L ◯ 100 = _____ cL

8.47 L ◯ 1,000 = _____ mL

Think: Are the units being converted to a larger unit or a smaller unit?

2. 9,824 dm ◯ 10 = _____ m

9,824 dm ◯ 100 = _____ dam

9,824 dm ◯ 1,000 = _____ hm

Convert.

3. 4,250 cm = _____ m

4. 6,000 mL = _____ L

5. 4 dL = _____ cL

Math Talk

MTR 3.1 Complete tasks with mathematical fluency.

How can you compare the lengths 4.25 dm and 4.25 cm without converting?

On Your Own

Convert.

6. 7 L = _____ mL

7. 5 km = _____ m

8. 1,521 mL = _____ dL

Compare. Write >, <, or =.

9. 32 hm ◯ 3.2 km

10. 6 km ◯ 660 m

11. 525 mL ◯ 525 cL

12. MTR Are there less than 1 million, exactly 1 million, or greater than 1 million millimeters in 1 kilometer? Explain how you know.

_____

_____

_____

13. Ivan ran 100 meters, 1 kilometer, and 5,000 centimeters. How many meters did he run altogether?

_____

Problem Solving · Applications

For Problems 14 and 15, use the table.

Food for Camping	
Item	**Amount**
1 can of juice	150 mL
1 bottle of juice	2 L
1 batch of pancakes	200 g
raisin & pretzel snack mix	1,425 g

14. Kelly plans to take juice on her camping trip. Which will hold more juice: 8 cans or 2 bottles? How much more?

MATH on the Spot

15. Siona also plans to take juice on her camping trip. She plans to take 3 bottles, but the store only has cans. How many cans will she need to buy?

16. Magan's water bottle holds 600 milliliters of water. Dylan's water bottle holds 1 liter of water. Whose water bottle holds more water? How much more water?

17. Liz and Alana each participated in the high jump at the track meet. Liz's high jump was 1 meter. Alana's high jump was 132 centimeters. Who jumped higher? How much higher?

18. Lida has 426 millimeters of fabric. How many centimeters of fabric does Lida have? Use the numbers and symbols on the tiles to write an equation to show the conversion.

426	4.26	42.6	0.426
×	÷	=	
10	100	1,000	

Show the Math

Demonstrate Your Thinking

Name _____

Solve Multi-step Metric Measurement Problems

Go Online
Interactive Examples

Convert.

1. 16 m = 16,000 mm

number of meters → 16; millimeters in 1 meter → 1,000; number of millimeters → 16,000

16 × 1,000 = 16,000

16 m = 16,000 mm

2. 6,500 cL = _____ L

3. 15 cm = _____ mm

4. 3,200 L = _____ kL

5. 12 L = _____ mL

6. 200 cm = _____ m

7. 70,000 m = _____ km

8. 100 dL = _____ L

9. 60 m = _____ mm

Compare. Write <, >, or =.

10. 900 cm ◯ 9,000 mm

11. 600 km ◯ 5 m

12. 5,000 cm ◯ 5 m

13. 18,000 L ◯ 10 kL

14. 8,456 mL ◯ 9 L

15. 2 m ◯ 275 cm

Problem Solving Real World

16. Bria ordered 145 centimeters of fabric. Jayleen ordered 1.5 meters of fabric. Who ordered more fabric?

_____

17. Ed fills his sports bottle with 1.2 liters of water. After his bike ride, he drinks 200 milliliters of the water. How much water is left in Ed's sports bottle?

_____

18. WRITE Math Explain the relationship between multiplying and dividing by 10, 100, and 1,000 and moving the decimal point to the right or to the left.

_____

Lesson Check

19. Quan bought 8.6 meters of fabric. How many centimeters of fabric did he buy?

20. Kem takes 2 centiliters of medicine. How many milliliters is this?

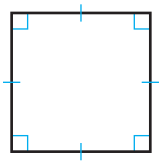
Spiral Review

21. Yolanda needs 5 pounds of ground beef to make lasagna for a family reunion. One package of ground beef weighs $2\frac{1}{2}$ pounds. Another package weighs $2\frac{3}{5}$ pounds. How much ground beef will Yolanda have left over after making the lasagna?

22. A soup recipe calls for $2\frac{3}{4}$ quarts of vegetable broth. An open can of broth contains $\frac{1}{2}$ quart of broth. How much more broth do you need to make the soup?

23. What is the volume of a rectangular prism with a length of 6 feet, width of 4 feet, and height of $2\frac{1}{2}$ feet?

24. List all the possible names for the polygon.



Name _____

Solve Multi-step Measurement Problems

Florida's B.E.S.T.

- **Measurement** 5.M.1.1
- **Number Sense & Operations** 5.NSO.2.5
- **Mathematical Thinking & Reasoning** MTR.1.1, MTR.2.1, MTR.3.1, MTR.4.1, MTR.5.1, MTR.6.1, MTR.7.1

I Can solve multi-step measurement problems with conversions.

UNLOCK the Problem Real World

A leaky faucet in Justice's house drips 1 cup of water each hour. After 3 weeks of dripping, the faucet is fixed. If it dripped the same amount each hour, how many quarts of water dripped from Justice's leaky faucet in 3 weeks?

Use the steps to solve the multistep problem.

STEP 1

Record the information you are given.

The faucet drips _____ cup of water each hour.

The faucet drips for _____ weeks.

STEP 2

Find the total amount of water dripped in 3 weeks.

Since you are given the amount of water dripped each hour, you must convert 3 weeks into days and multiply.

Think: There are 7 days in 1 week.

cups each hour		hours in 1 day		days in 3 weeks		total cups
↓		↓		↓		↓
1	×	_____	×	_____	=	_____

The faucet drips _____ cups in 3 weeks.

STEP 3

Convert from cups to quarts.

Think: There are 2 cups in 1 pint.

There are 2 pints in 1 quart.

_____ cups = _____ pints

_____ pints = _____ quarts

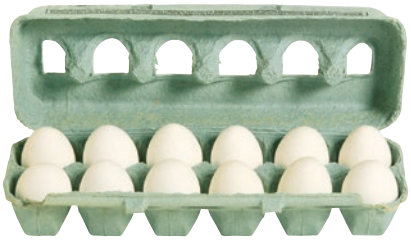
So, Justice's leaky faucet drips _____ quarts of water in 3 weeks.

- What if the faucet dripped for 4 weeks before it was fixed? How many quarts of water would have leaked?

_____

Examples

A carton of large, Grade A eggs holds a dozen eggs. If each egg is about 45 mL, what is the total volume of the eggs in 8 cartons in liters?



STEP 1

Find the total volume of the eggs in the cartons.

Think: 8 cartons = _____ eggs

Multiply to find the total volume.

volume per egg		number of eggs		total mL
↓		↓		↓
45	×	_____	=	_____

The volume of the eggs is about _____ milliliters.

STEP 2

Find the volume of the eggs in liters.

Think: 1 liter = _____ milliliters

I am converting from a _____ unit to a _____ unit, so I will _____.

total milliliters		milliliters in 1 liter		number of liters
↓		↓		↓
4,320	÷	_____	=	_____

The volume of the eggs in 8 cartons is about _____ liters.

Share and Show

Math Board

Solve.

1. After each soccer practice, Luka runs 4 sprints of 20 yards each. If he continues his routine, how many practices will it take for Luka to have sprinted a total of 2 miles combined?

Luka sprints _____ yards each practice.

Since there are _____ yards in 2 miles, he will need to continue his routine for

_____ practices.

2. A worker at a mill is loading 2,500-gram bags of flour into boxes to deliver to a local warehouse. Each box holds 12 bags of flour. If the warehouse orders 9,000 kilograms of flour, how many boxes are needed to fulfill the order?

3. Ty brings five 1-gallon jugs of juice to serve during parent night at his school. If the paper cups he is using for drinks can hold 8 fluid ounces, how many drinks can Ty serve for parent night?

Math Talk

MTR 3.1 Complete tasks with mathematical fluency.

Explain the steps you took to solve Problem 2.

Name _____

On Your Own

4. Maria put trim around a banner that is the shape of a triangle. Each side is 22 inches long. Maria has $\frac{1}{2}$ foot of trim left. What was the length of the trim when she started? Write your answer in yards.

_____

5. A car's gas tank can hold $16\frac{3}{4}$ gallons of unleaded gasoline. How many pints of gasoline would be used to fill 2 of these car's tanks?

_____

6. Jacques is framing a mirror. He has a piece of trim that is 6 feet long. How many 16-inch-long pieces can Jacques cut from the trim? How much of a foot will he have left over?

_____

_____

7. MTR Explain how you could find the number of cups in five gallons of water.

_____

_____

_____

_____

8. Regina uses $2\frac{3}{4}$ cups of whole-wheat flour and $1\frac{3}{8}$ cups of rye flour in her bread recipe. How many cups does she use in all?

_____

9. A large pot holds 12 gallons of soup. Jared has 1-pint containers of chicken broth. Complete the table to help you find the number of 1-pint containers of chicken broth Jared will need to fill the pot.

gallon	2	4	6	8	10	12
pint						

Jared will need _____ 1-pint containers to fill the pot.

Name _____

Solve Multi-step Measurement Problems

Go Online
Interactive Examples

Solve each problem by making a table.

1. Terrance is making soup. His soup pot holds 8 quarts of soup. How many 1-cup servings of soup will Terrance make?

Number of quarts	1	2	3	4	8
Number of cups	4	8	12	16	32

32 1-cup servings

2. Rian has a water bottle that holds 2.5 liters of water. What is the volume of the water bottle in milliliters?

3. Alex lives 500 yards from the park. How many inches does Alex live from the park?

4. The art display case is 3,500 centimeters long. How many meters long is the display case?

5. WRITE Math Explain how you could use a conversion table to convert 700 centimeters to meters.

Lesson Check

6. At the hairdresser, Jenny had 27 centimeters cut off her hair. How many decimeters of hair did Jenny have cut off?

7. Marcus needs 108 inches of wood to make a frame. How many feet of wood does Marcus need for the frame?

Spiral Review

8. Amira lives 35,000 meters from her grandparents. How many kilometers does Amira live from her grandparents?

9. Write 24.506 in expanded form.

10. A carpenter is cutting dowels from a piece of wood that is 10 inches long. How many $\frac{1}{2}$-inch dowels can the carpenter cut?

11. Evaluate the expression.

$29 - (3 + 2 \times 6)$

Name _____

Chapter 16

Chapter Review

1. The library is 5 miles from the post office. How many yards is the library from the post office?

_____ yards

2. Brody made 3 gallons of juice for a picnic. He said that he made $\frac{3}{4}$ quart of juice. Explain Brody's mistake.

3. The Drama Club is showing a video of their recent play. The first act is 65 minutes long. Intermission is 20 minutes long, and the second act continues for another hour.

Part A

How long is the video in minutes?

_____ minutes

Part B

How long is the video in seconds?

_____ seconds

Part C

How long is the video in hours and minutes?

_____ hours and _____ minutes

Problem Solving • Applications

10. At a local animal shelter there are 12 small-sized dogs and 5 medium-sized dogs. Every day, the small-sized dogs are each given about $1\frac{1}{2}$ cups of water and the medium dogs are given about 8 cups of water. How many quarts of water do the dogs at the shelter drink each day?

MATH on the Spot

a. What are you asked to find? _____

_____

b. What information will you use? _____

_____

_____

c. What conversion will you need to do to solve the problem?

_____

_____

d. Show the steps you use to solve the problem.

e. Complete the sentences. The small-sized dogs drink a total of _____ cups of water each day.

The medium-sized dogs drink a total of _____ cups of water each day.

The shelter serves _____ cups, or _____ quarts, of water each day.

11. After each track practice, Hanna jogs 5 laps of 400 meters. If she continues this routine, how many practices will it take her to jog 50 kilometers?

_____ practices

4. Fergus bought 4 liters of liquid laundry detergent, 3,250 milliliters of fabric softener, and 2.5 liters of bleach. For 4a–4e, select True or False for each statement.

4a.	Fergus bought 75 milliliters more fabric softener than bleach.	○ True	○ False
4b.	Fergus bought 1.75 liters more laundry detergent than bleach.	○ True	○ False
4c.	Fergus bought 750 milliliters more fabric softener than bleach.	○ True	○ False
4d.	Fergus bought 150 milliliters more laundry detergent than bleach.	○ True	○ False
4e.	Fergus bought 0.75 liters more laundry detergent than fabric softener.	○ True	○ False

5. Efrem sprinted for 100 meters. How many kilometers did he sprint?

_____ kilometer

6. Amar and his friends went to a movie that was 1 hour 35 minutes long.

Part A

How long was the movie in seconds?

_____ seconds

Part B

Amar got home 45 minutes after the movie ended. How many minutes after the start of the movie did he get home? Explain.

_____ minutes

Name _____

7. Select the objects that hold the same amount of liquid as a 96-fluid-ounce jug. Mark all that apply.

Ⓐ three 1-quart bottles

Ⓑ two 1-quart bottles

Ⓒ two 1-quart bottles and two 1-pint bottles

Ⓓ one 1-quart bottle and eight 8-fluid ounce glasses

Ⓔ two 8-fluid ounce glasses and two 1-pint bottles

8. A tank holds 3,000 liters of water. How many kiloliters of water does it hold?

_____ kiloliters

9. Ricardo walks every day for exercise at a rate of 1 kilometer every 12 minutes.

Part A

At this rate, how many meters can Ricardo walk in 1 hour? Explain how you found your answer.

Part B

Suppose Ricardo walks 1 kilometer every 10 minutes. How many meters further can he walk in 1 hour at this new rate? Explain how you found your answer.

10. Davina filled 32 jars with paint. If each jar holds 1 pint of paint, how many gallons of paint did Davina use?

_____ gallons

11. Griffin's driveway is 36 feet long. Choose the word and number to complete the sentence correctly.

To convert 36 feet to yards, | add / subtract / multiply / divide | 36 by | 3 / 12 / 1,760 / 5,280 | .

12. Guillermo went to the store to buy four liters of punch. The punch comes in 350-milliliter containers. How many 350-milliliter containers does Guillermo need to buy?

_____ containers

13. Chandler has 824 millimeters of fabric. How many centimeters of fabric does Chandler have? Use the numbers and symbols on the tiles to write an equation to show the conversion.

824	8.24	82.4	0.824
×	÷	=	
10	100	1,000	

Chandler has _____ centimeters of fabric.

14. Glenn needs to cut pieces of ribbon that are each 1 meter long to make ribbon key chains. If he has 3 pieces of ribbon that are each 1 dekameter long, how many 1-meter pieces of ribbon can he cut?

_____ pieces

Name _____

15. A large pot holds 8 quarts of spaghetti sauce. Eleanor has 1-pint containers of spaghetti sauce. Complete the table to help you find the number of 1-pint containers of spaghetti sauce Eleanor will need to fill the pot.

Quarts	2	4	6	8
Pints				

Eleanor will need ☐ 1-pint containers to fill the pot.

16. Finley bought 48 yards of fabric to make curtains. How many inches of fabric did Finley buy?

_____ inches

17. Hera is having a party. She wants to make punch. The recipe for punch uses 3 pints of pineapple juice, 5 cups of orange juice, $\frac{1}{4}$ gallon of lemonade, and 1 quart of apricot nectar.

Part A

Hera says her recipe will make 20 cups of punch. Is Hera correct? Explain your answer.

Part B

Hera decides to pour her punch into 1-quart containers to fit into her refrigerator until the party starts. She has four 1-quart containers. Will all of her punch fit into the containers? Explain.

18. Sam is practicing long track speed skating at an ice skating rink. The distance around the rink is 250 yards. Sam has skated around the rink 6 times so far. How many more yards does Sam need to skate around the rink to complete 3 miles?

_____ yards

19. Maria spent 15 days traveling in South America. How many hours did she spend traveling in South America?

_____ hours

20. To make a pompom, Jariah is cutting 6-inch pieces of yarn. If she has a piece of yarn that is $24\frac{1}{2}$ feet long, how many pieces can she cut?

_____ pieces

21. A plumber has a piece of pipe that is 2 meters long. He needs to cut it into sections that are 10 centimeters long. How many sections will he be able to cut? Show your work. Explain how you found your answer.

22. For problems 22a–22d, select True or False for each statement.

22a.	400 millimeters = 4 kilometers	○ True	○ False
22b.	3 weeks = 21 days	○ True	○ False
22c.	5 liters =500 centiliters	○ True	○ False
22d.	24 yards = 8 feet	○ True	○ False