



PROBLEM SOLVING Lesson 4.4

Name _____

Problem Solving • Add and Subtract Lengths

Essential Question How can drawing a diagram help when solving problems about lengths?



Measurement and Data—
2.MD.B.6, 2.MD.B.5

MATHEMATICAL PRACTICES
MP1, MP2, MP4

Nate had 23 centimeters of string.
He gave 9 centimeters of string to Myra.
How much string does Nate have now?

Unlock the Problem

What do I need to find?

how much string

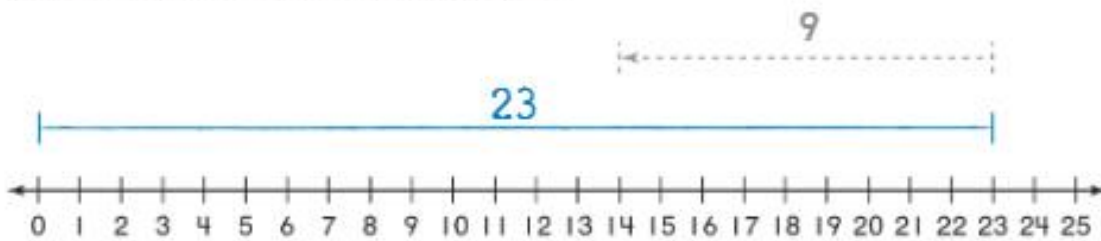
Nate has now

What information do I need to use?

Nate had _____ centimeters of string.

He gave _____ centimeters of string to Myra.

Show how to solve the problem.




Nate has _____ centimeters of string now.

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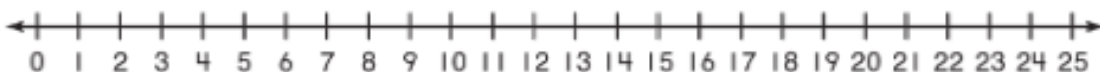
HOME CONNECTION • Your child drew a diagram to represent a problem about lengths. The diagram can be used to choose the operation for solving the problem.

Try Another Problem


-  Draw a diagram. Write a number sentence using a \square for the unknown number. Then solve.

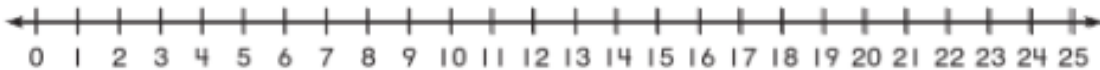
- What do I need to find?
- What information do I need to use?

-  1. Ellie has a ribbon that is 12 centimeters long. Gwen has a ribbon that is 9 centimeters long. How many centimeters of ribbon do they have?



They have _____ centimeters of ribbon.

-  2. A string is 24 centimeters long. Justin cuts 8 centimeters off. How long is the string now?



Now the string is _____ centimeters long.

Math Talk

MATHEMATICAL PRACTICES 4

Explain how your diagram shows what happened in the first problem.

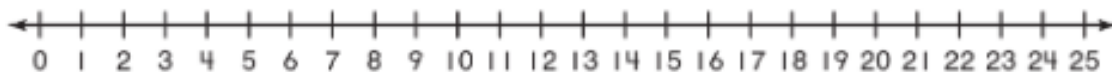


Name _____

Share and Show

2 Draw a diagram. Write a number sentence using a \square for the unknown number. Then solve.

3. A chain of paper clips is 18 centimeters long. Sondra adds 6 centimeters of paper clips to the chain. How long is the chain now?



The chain is _____ centimeters long now.

4. **THINK SMARTER** A ribbon was 22 centimeters long. Then Martha cut a piece off to give to Tao. Now the ribbon is 5 centimeters long. How many centimeters of ribbon did Martha give to Tao?



Martha gave _____ centimeters of ribbon to Tao.

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TAKE HOME ACTIVITY • Have your child explain how he or she used a diagram to solve one problem in this lesson.

Name _____

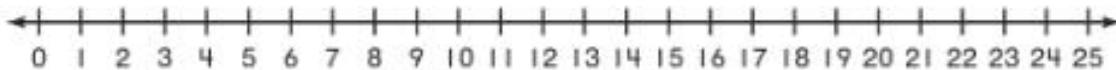
Problem Solving • Add and Subtract Lengths



COMMON CORE STANDARDS—2.MD.B.6, 2.MD.B.5 *Relate addition and subtraction to length.*

1 Draw a diagram. Write a number sentence using a \square for the unknown number. Then solve.

- 1** A straw is 20 centimeters long. Mr. Jones cuts 8 centimeters off the straw. How long is the straw now?



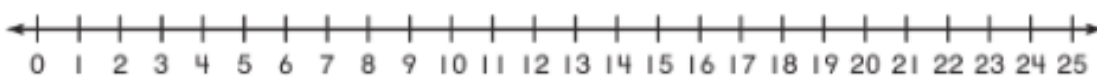
The straw is _____ centimeters long now.

- 2** **WRITE** **Math** Draw and describe a diagram for a problem about the total length of two ribbons, 13 centimeters long and 5 centimeters long.



Lesson Check (2.MD.B.6, 2.MD.B.5)

1. Tina has a paper clip chain that is 25 centimeters long. She takes off 8 centimeters of the chain. How long is the chain now?



_____ centimeters

Spiral Review (2.NBT.B.7, 2.MD.C.7, 2.MD.C.8)

2. What is the sum?

$$\begin{array}{r} 327 \\ +145 \\ \hline \end{array}$$

3. What is another way to write the time half past 7?

_____ : _____

4. Molly has these coins in her pocket. How much money does she have in her pocket?



_____ or _____ cents



Name _____

Mid-Chapter Checkpoint



Concepts and Skills

- Use a unit cube. Measure the length in centimeters. (2.MD.A.1)

1.



about _____ centimeters

2.



about _____ centimeters

3. The pencil is about 11 centimeters long. Circle the best estimate for the length of the string. (2.MD.A.3)



7 centimeters



10 centimeters

16 centimeters

4. **THINK SMARTER** Use a centimeter ruler. What is the length of this ribbon to the nearest centimeter? (2.MD.A.1)



_____ centimeters

HANDS ON Lesson 9.5

Name _____

Centimeters and Meters

Essential Question How is measuring in meters different from measuring in centimeters?

Common
Core

Measurement and Data—
2.MD.A.2

MATHEMATICAL PRACTICES
MP1, MP5, MP7

Listen and Draw



Draw or write to describe how you did each measurement.

1st measurement

2nd measurement

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FOR THE TEACHER • Have each small group use a 1-meter piece of yarn to measure a distance marked on the floor with masking tape. Then have them measure the same distance using a sheet of paper folded in half lengthwise.

Math
Talk

MATHEMATICAL PRACTICES 1

Describe how the lengths of the yarn and the sheet of paper are different.

Model and Draw

1 **meter** is the same as 100 centimeters.




The real door is about 200 centimeters tall.
The real door is also about 2 meters tall.



Share and Show



Measure to the nearest centimeter.
Then measure to the nearest meter.




Find the real object.	Measure.
<p>1. </p>	<p>_____ centimeters _____ meters</p>
<p>2. </p>	<p>_____ centimeters _____ meters</p>
<p>3. </p>	<p>_____ centimeters _____ meters</p>

628 six hundred twenty-eight

Name _____

On Your Own

Measure to the nearest centimeter.
Then measure to the nearest meter.

	Find the real object.	Measure.
4.	<p>chalkboard</p> 	<p>_____ centimeters</p> <p>_____ meters</p>
5.	<p>bookshelf</p> 	<p>_____ centimeters</p> <p>_____ meters</p>
6.	<p>table</p> 	<p>_____ centimeters</p> <p>_____ meters</p>

7. **GO DEEPER** Write these lengths in order from shortest to longest.

200 centimeters
10 meters
1 meter



Name _____

Centimeters and Meters




COMMON CORE STANDARD—2.MD.A.2
Measure and estimate lengths in standard units.

**Measure to the nearest centimeter.
Then measure to the nearest meter.**

Find the real object.	Measure.
<p>1. bookcase</p> 	<p>_____ centimeters</p> <p>_____ meters</p>
<p>2. window</p> 	<p>_____ centimeters</p> <p>_____ meters</p>

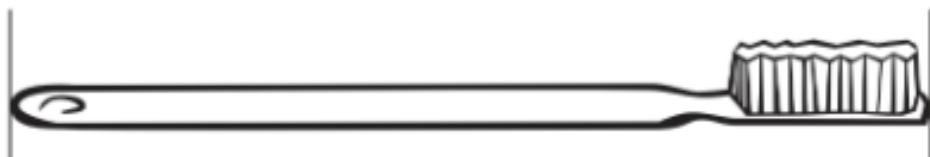
Problem Solving 

3. Sally will measure the length of a wall in both centimeters and meters. Will there be fewer centimeters or fewer meters? Explain.

4.  **Math** Would you measure the length of a bench in centimeters or in meters? Explain your choice.

Lesson Check (2.MD.A.2)

1. Use a centimeter ruler. What is the length of the toothbrush to the nearest centimeter?



_____ centimeters

Spiral Review (2.NBT.B.7, 2.MD.A.2, 2.MD.C.8)

2. Draw and label a group of coins that has a total value of 65 cents.
3. Janet has a poster that is about 3 feet long. Write **inches** or **feet** in each blank to make the statement true.

3 _____ is longer than

12 _____.

4. Last week, 483 children checked books out from the library. This week, only 162 children checked books out from the library. How many children checked out library books in the last two weeks?

$$\begin{array}{r} 483 \\ + 162 \\ \hline \end{array}$$

5. Draw and label a group of coins that has a total value of \$1.00.

632 six hundred thirty-two

