

Add and Subtract Lengths

Name: _____

Prerequisite: Compare Two Lengths

Study the example showing how to compare two lengths.
Then solve Problems 1–6.

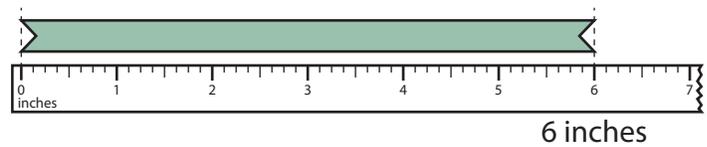
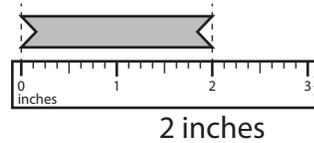
Example

How much shorter is the gray ribbon than the green ribbon?

Write a number sentence.

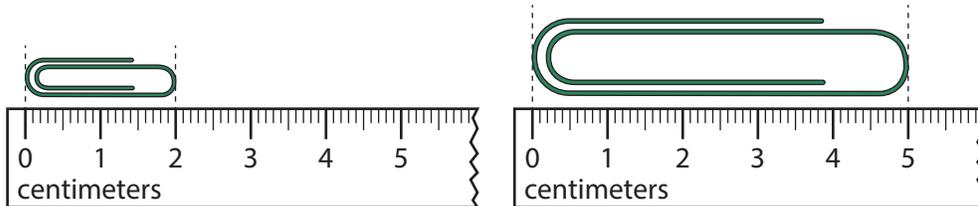
$$6 - 2 = ? \text{ or } 2 + ? = 6$$

The gray ribbon is 4 inches shorter.



The rulers in the Example are not life-sized.

- 1 Write the length of each paper clip.



_____ centimeters

_____ centimeters

- 2 Complete the number sentence to compare the lengths.

$$\underline{\hspace{2cm}} + ? = \underline{\hspace{2cm}} \text{ and } \underline{\hspace{2cm}} - \underline{\hspace{2cm}} = ?$$

- 3 How much longer is the large paper clip than the small one?

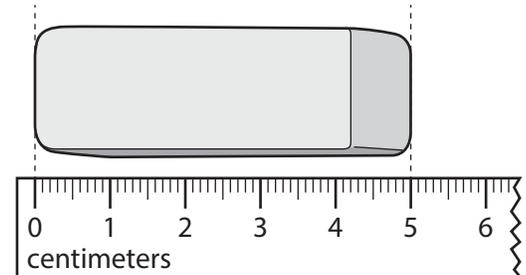
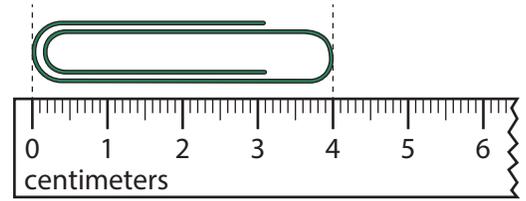
_____ centimeters

Solve.

- 4 How many centimeters longer is the eraser than the paper clip?

Show your work.

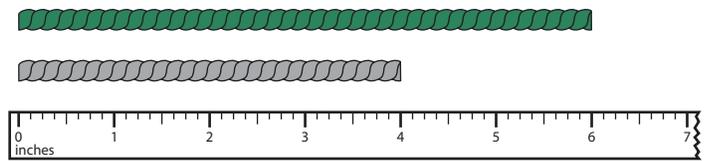
Answer: _____



- 5 How many inches shorter is the gray yarn than the green yarn?

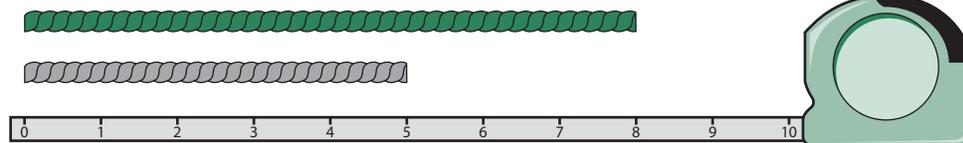
Show your work.

Answer: _____



This ruler is not life-sized.

- 6 What is the difference in the lengths of the ropes? The tape measure below them shows feet.



This tape measure is not life-sized.

Show your work.

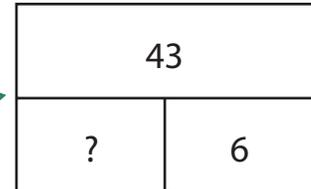
Answer: _____

Solve Problems About Length

Study the example showing how to solve a problem about length. Then solve Problems 1–7.

Example

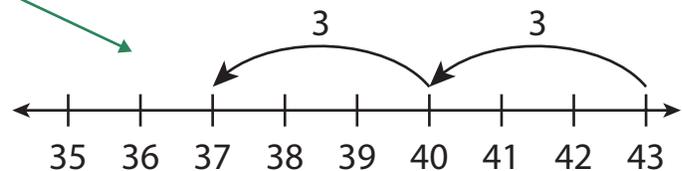
Judy has a ribbon 43 centimeters long. She cuts off 6 centimeters. How long is the ribbon now?



- Make a bar model.
- Write a number sentence.
- Use a number line.

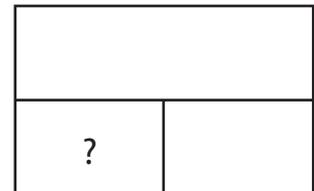
$$43 - 6 = ? \quad \text{or} \quad ? + 6 = 43$$

The ribbon is now 37 centimeters long.



Marie kicked a ball 68 feet. Liam kicked a ball that went 17 feet less than that. How far did Liam kick the ball?

- 1** Fill in the two empty boxes in the bar model to show this problem.



- 2** Complete the number sentences.

$$68 - \underline{\quad\quad} = ? \quad ? + \underline{\quad\quad} = 68$$

- 3** How far did Liam kick the ball? _____

Solve.

- 4 Ms. Rom puts together two hoses. One hose is 24 meters long. When she puts the hoses together, they are 76 meters long.

Complete the number sentences to help Ms. Rom find the length of the other hose.

$$\underline{\hspace{2cm}} - 24 = ? \qquad 24 + ? = \underline{\hspace{2cm}}$$

- 5 In Problem 4, what is the length of the other hose?

- 6 Mr. Becker builds a fence that is 14 feet long. Mrs. Vega builds a fence 37 feet long. How much shorter is Mr. Becker's fence than Mrs. Vega's fence?

Show your work.

Answer: _____

- 7 Jackson has a piece of yarn that is 89 centimeters long. He cuts off 19 centimeters to make it the right length for a craft project. How long is the piece of yarn now?

Show your work.

Answer: _____

Solve Two-Step Problems About Length

Study the example showing how to solve a two-step problem about length. Then solve Problems 1–7.

Example

Fay makes a paper chain that is 34 inches long. Liz makes a paper chain that is 6 inches longer than Fay's. They put their chains together. How long is the paper chain now?

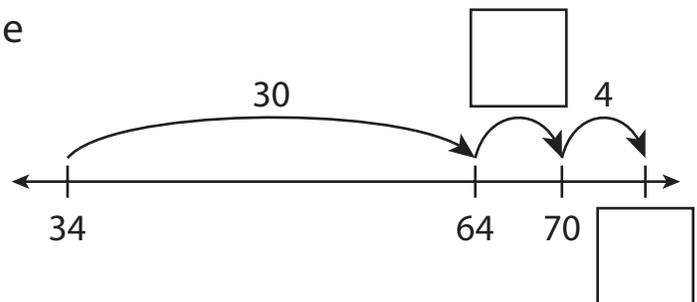
- Make a bar model.
- Write a number sentence.



The paper chain is now 74 inches long.

$$\begin{array}{r}
 34 + 34 + 6 \\
 \downarrow \quad \downarrow \quad \downarrow \\
 34 + 40 = 74
 \end{array}$$

- 1** Fill in the boxes on the number line to model the Example.



Lester makes a string of beads 17 inches long. Jill makes a string of beads that is 3 inches longer than Lester's. They put their strings together.

- 2** Complete the number sentence to find the total length of the string of beads.

$17 + \underline{\hspace{2cm}} = ?$

- 3** How long is the string of beads now?

_____ inches

Solve.

- 4 Olga has 13 meters of ribbon. She uses 4 meters. Then she uses 2 meters.

Complete the number sentences below to help Olga find out how much ribbon she has left.

$$13 - \underline{\hspace{2cm}} = 9 \quad \text{and} \quad 9 - 2 = \underline{\hspace{2cm}}$$

- 5 In Problem 4, how much ribbon is left? _____ meters

- 6 Raj has a paper strip that is 19 inches long. He uses 5 inches. Then he uses 6 inches. How much of the paper strip is left?

Show your work.

Answer: _____

- 7 Al wants his toy train tracks to be 30 inches long. Al has one track that is 12 inches long. He has another track that is 3 inches longer than the first one. Together, are these two tracks long enough? Explain.

Show your work.

Add and Subtract Lengths

Solve the problems.

- 1** Mina had 11 yards of ribbon. She used 3 yards to tie onto balloons and 2 yards to wrap presents. How much ribbon is left? Circle the correct answer.

A 16 yards **C** 8 yards
B 14 yards **D** 6 yards

Dennis chose **A**. This is wrong. How did Dennis get his answer?

To find how much is left, should you add or subtract the ribbon that Mina uses?



- 2** Stu's block tower is 39 inches tall. Jen's block tower is 17 inches shorter than Stu's. How tall is Jen's block tower? Which number sentences can you use to solve the problem? Circle all the correct answers.

A $39 - ? = 17$ **C** $17 + 39 = ?$
B $39 - 17 = ?$ **D** $17 + ? = 39$

Can you use a model to help you solve the problem?



Solve.

- 3** Ed has two dog leashes. The purple leash is 84 inches long. The red leash is 75 inches long. How much shorter is the red leash?

Show your work.

Answer: _____

When you compare you find the difference.



- 4** Anjali crossed a playground that was 45 meters long. First she walked for 5 meters. Then she skipped for 23 meters. She ran the rest of the way. How many meters did Anjali run?

Circle all the number sentences that show a step in solving the problem.

- A** $45 + 5 = ?$ **C** $23 + 45 = ?$
B $45 - 5 = ?$ **D** $40 - 23 = ?$

After Anjali walked 5 meters, how much of the playground did she have left to cross?



- 5** Ms. Bard uses 24 centimeters of thread to sew a button. Then she uses 31 centimeters of thread to sew another button. She has 9 centimeters of thread left. How much thread did Ms. Bard start with?

Show your work.

Answer: _____

To find the amount Ms. Bard started with, should you add or subtract the amount she used?

