Use your centimeter ruler. Measure each horizontal line segment below by marking and counting 1-cm lengths.

1. \[ \text{6 cm} \]
2. \[ \text{9 cm} \]
3. \[ \text{7 cm} \]

4. Draw a line segment 8 cm long. Mark and count 1-cm lengths to check the length.

Measure each vertical line segment below by marking and counting 1-cm lengths.

5. \[ \text{3 cm} \]
6. \[ \text{5 cm} \]
7. \[ \text{2 cm} \]
Remembering

Make a ten to find the total.

1. \(4 + 7 = \boxed{11}\)  \(4 + 8 = \boxed{12}\)  \(9 + 5 = \boxed{14}\)

2. \(8 + 5 = \boxed{13}\)  \(7 + 9 = \boxed{16}\)  \(6 + 7 = \boxed{13}\)

Draw lines to make pairs.
Write odd or even.

3. [Drawings of even and odd pairs]

4. [More drawings of even and odd pairs]

Add.

5. \(30 + 60 = \boxed{90}\)  \(50 + 20 = \boxed{70}\)  \(10 + 90 = \boxed{100}\)

\(3 + 6 = \boxed{9}\)  \(5 + 2 = \boxed{7}\)  \(1 + 9 = \boxed{10}\)

6. **Stretch Your Thinking**  Ryan measures the length of his pen. He places the end of the pen at the 1-inch mark of a ruler. Tell why the measurement will be wrong.

Ryan should put the end of the pen at the 0 mark of the ruler. If he starts at the 1, he’s adding 1 inch to the measurement.
Look for shapes in your home and neighborhood.

1. List or draw objects that show squares.
   
   Answers or drawings will vary.
   Possible answers: checkerboards, waffles, windows

2. List or draw objects that show rectangles.
   
   Answers or drawings will vary.
   Possible answers: tabletops, paper, beds, street signs, flags, doors

3. List or draw objects that show triangles.
   
   Answers or drawings will vary.
   Possible answers: crackers, street signs, parts of a roof

4. List or draw objects that show pentagons.
   
   Answers or drawings will vary.
   Possible answers: the government building, shapes on soccer balls

5. List or draw objects that show hexagons.
   
   Answers or drawings will vary.
   Possible answers: floor tiles, beehives
Find the unknown addend (unknown partner).

1. \(4 + \boxed{8} = 12\) \(8 + \boxed{7} = 15\) \(14 - \boxed{5} = 9\)

2. \(6 + \boxed{6} = 12\) \(5 + \boxed{6} = 11\) \(13 - \boxed{6} = 7\)

Find the total or partner.

3. \(7 + 4 = 11\) \(6 + 8 = 14\) \(9 + 4 = 13\) \(16 - 8 = 8\) \(12 - 3 = 9\) \(17 - 9 = 8\)

What numbers are shown?

4. \(_{1}H_{2}T_{3}O_{123} = 100 + 20 + 3\)

5. \(_{1}H_{6}T_{7}O_{167} = 100 + 60 + 7\)

6. **Stretch Your Thinking** Ian has 2 long straws and 2 short straws. How can he use all of the straws to make a triangle?

   Possible answer: Ian can put the two short straws together for one side and use each long straw for the other two sides.
Use a centimeter ruler. Find the distance around each shape.

1. 

\[ \text{\(2\ cm + 2\ cm + 2\ cm + 2\ cm\)} \]
\[ = \text{\(8\ cm\)} \]

2. 

\[ \text{\(3\ cm + 2\ cm + 3\ cm + 2\ cm\)} \]
\[ = \text{\(10\ cm\)} \]

Estimate and then measure each side. Then find the distance around the rectangle.

3. a. Complete the table. Use a centimeter ruler to measure.

<table>
<thead>
<tr>
<th>Side</th>
<th>Estimate</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>HI</td>
<td>Estimates</td>
<td>1 cm</td>
</tr>
<tr>
<td>IJ</td>
<td>may</td>
<td>4 cm</td>
</tr>
<tr>
<td>JK</td>
<td>vary.</td>
<td>1 cm</td>
</tr>
<tr>
<td>KH</td>
<td></td>
<td>4 cm</td>
</tr>
</tbody>
</table>

b. Find the distance around the rectangle.

\[ \text{\(1\ cm + 4\ cm + 1\ cm + 4\ cm = 10\ cm\)} \]
Write the unknown addend (unknown partner).

1. \(5 + \boxed{8} = 13\)  \(4 + \boxed{8} = 12\)  \(13 - \boxed{6} = 7\)

2. \(8 + \boxed{6} = 14\)  \(8 + \boxed{9} = 17\)  \(16 - \boxed{9} = 7\)

Solve. Make a proof drawing. Show your work.

3. Coach Walker gets a shipment of 153 uniforms. He puts them in boxes of 10. How many boxes can he fill? How many uniforms will be left over?

   \[15\] boxes  \[3\] uniforms left over

4. Draw a line segment 7 cm long. Mark and count 1-cm lengths to check the length.

   

5. **Stretch Your Thinking** Alex has a small notebook that is shaped like a rectangle. She knows one side is 6 cm and another side is 4 cm. Explain how to find the distance around the notebook without using a ruler.

   Since the notebook is a rectangle, the other two sides will also measure 6 cm and 4 cm. Alex can add the lengths of the four sides. \(6 \text{ cm} + 4 \text{ cm} + 6 \text{ cm} + 4 \text{ cm} = 20 \text{ cm}; 20 \text{ cm}\)
Estimate and measure each side. Then find the distance around the triangle.

1. a. Complete the table.

<table>
<thead>
<tr>
<th>Side</th>
<th>Estimate</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB</td>
<td>Estimates</td>
<td>3 cm</td>
</tr>
<tr>
<td>BC</td>
<td>may</td>
<td>3 cm</td>
</tr>
<tr>
<td>CA</td>
<td>vary.</td>
<td>3 cm</td>
</tr>
</tbody>
</table>

b. Find the distance around the triangle.

\[ 3 \text{ cm} + 3 \text{ cm} + 3 \text{ cm} = 9 \text{ cm} \]

2. a. Complete the table.

<table>
<thead>
<tr>
<th>Side</th>
<th>Estimate</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE</td>
<td>Estimates</td>
<td>4 cm</td>
</tr>
<tr>
<td>EF</td>
<td>may</td>
<td>2 cm</td>
</tr>
<tr>
<td>FD</td>
<td>vary.</td>
<td>4 cm</td>
</tr>
</tbody>
</table>

b. Find the distance around the triangle.

\[ 4 \text{ cm} + 2 \text{ cm} + 4 \text{ cm} = 10 \text{ cm} \]

3. a. Complete the table.

<table>
<thead>
<tr>
<th>Side</th>
<th>Estimate</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>JK</td>
<td>Estimates</td>
<td>1 cm</td>
</tr>
<tr>
<td>KL</td>
<td>may</td>
<td>3 cm</td>
</tr>
<tr>
<td>LJ</td>
<td>vary.</td>
<td>3 cm</td>
</tr>
</tbody>
</table>

b. Find the distance around the triangle.

\[ 1 \text{ cm} + 3 \text{ cm} + 3 \text{ cm} = 7 \text{ cm} \]
Find the total or partner.

1. \[ \begin{align*}
8 &+ 5 = 13 \\
4 &+ 7 = 11 \\
6 &+ 6 = 12 \\
14 &- 5 = 9 \\
13 &- 7 = 6 \\
16 &- 9 = 7
\end{align*} \]

Make a drawing for each number. Write <, >, or =.

2. 131 \(>\) 122

3. 27 \(<\) 35

4. List or draw objects that show rectangles.
   Answers or drawings will vary. Possible answers: book, sign, card, picture frame

5. **Stretch Your Thinking** Draw and label two different triangles. Each shape should have a distance around it of 12 cm.

   Possible drawings shown.
Name the shapes using the words in the box.

cube  quadrilateral  pentagon  hexagon

1. hexagon

2. quadrilateral

3. pentagon

4. hexagon

5. cube

6. pentagon

7. quadrilateral

8. cube
Make a drawing. Write an equation. Solve the problem.

1. Tanya bakes 12 muffins. She sells 9 of them at the bake sale. How many muffins does she have now?

\[ 12 - 9 = 3 \]

2. Add.

\[
\begin{align*}
2. & \quad 53 + 28 \\
\phantom{2.} & \quad 81 \\
3. & \quad 87 + 45 \\
\phantom{3.} & \quad 132 \\
4. & \quad 36 + 79 \\
\phantom{4.} & \quad 115
\end{align*}
\]

Estimate and then measure each side. Then find the distance around the rectangle.

5. a. Complete the table. Use a centimeter ruler to measure.

<table>
<thead>
<tr>
<th>Side</th>
<th>Estimate</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB</td>
<td>Estimates</td>
<td>3 cm</td>
</tr>
<tr>
<td>BC</td>
<td>may</td>
<td>1 cm</td>
</tr>
<tr>
<td>CD</td>
<td>vary</td>
<td>3 cm</td>
</tr>
<tr>
<td>DA</td>
<td></td>
<td>1 cm</td>
</tr>
</tbody>
</table>

b. Find the distance around the rectangle.

\[ 3 \text{ cm} + 1 \text{ cm} + 3 \text{ cm} + 1 \text{ cm} = 8 \text{ cm} \]

6. Stretch Your Thinking Write all the names you can think of that could describe a four-sided shape.

Possible answers: square, rectangle, quadrilateral
Complete the table. Estimate the height of six people, pets, or objects. Find the actual heights. Choose the nearest centimeter endpoint. Then, measure the difference between your estimate and the actual measurement.  **Answers will vary.**

<table>
<thead>
<tr>
<th>Person, Pet, or Object</th>
<th>Estimated Height (cm)</th>
<th>Actual Height (cm)</th>
<th>Difference Between Estimated and Actual Height (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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</tr>
</tbody>
</table>
Make a drawing. Write an equation. Solve the problem.

1. Chase has some music CDs. 9 of them are rock music. The other 8 are pop music. How many CDs does Chase have?

\[ 9 + 8 = 17 \]

Add. Use any method.

2. \[ 68 + 35 = 103 \]
3. \[ 52 + 79 = 131 \]
4. \[ 84 + 86 = 170 \]

Estimate and then measure each side. Then find the distance around the triangle.

5. \( a. \) Complete the table.

<table>
<thead>
<tr>
<th>Side</th>
<th>Estimate</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>( AB )</td>
<td>Estimates</td>
<td>3 cm</td>
</tr>
<tr>
<td>( BC )</td>
<td>may</td>
<td>3 cm</td>
</tr>
<tr>
<td>( CA )</td>
<td>vary.</td>
<td>2 cm</td>
</tr>
</tbody>
</table>

b. Find the distance around the triangle.

\[ 3 \text{ cm} + 3 \text{ cm} + 2 \text{ cm} = 8 \text{ cm} \]

6. Stretch Your Thinking  Find two items in the classroom whose lengths you estimate to have a difference of 3 cm. Then measure each item. Answers will vary. Check measurements.

Item 1 Estimate: ________ cm  Measure: ________ cm

Item 2 Estimate: ________ cm  Measure: ________ cm

Difference between Item 1 and Item 2: ________ cm
1. Find five objects at home to measure in inches. Choose objects that are less than 1 yard (36 in.) long. Estimate and measure the length of each object. Measure to the nearest inch. Complete the table. Answers will vary.

<table>
<thead>
<tr>
<th>Object</th>
<th>Estimated Length (in.)</th>
<th>Measured Length (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

2. Plot the data from the last column in Exercise 1 on the line plot. Answers will vary.

```
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36
```

Length of Objects (inches)

3. Find five objects at home to measure in feet or yards. Complete the table. Remember to include units with your measurements. Answers will vary.

<table>
<thead>
<tr>
<th>Object</th>
<th>Estimated Length</th>
<th>Measured Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Make a matching drawing or draw comparison bars. Solve the problem. Sample drawing is shown.

1. Erin has 6 grapes. Cody has 8 more grapes than Erin. How many grapes does Cody have?

   \[6 + 8 = 14\]

Under the coins, write the total amount of money so far. Then write the total using $.

2. 

\[
\begin{array}{cccccc}
10\,\text{c} & 10\,\text{c} & 5\,\text{c} & 5\,\text{c} & 1\,\text{c} & 1\,\text{c}
\end{array}
\]

\[
\begin{array}{ccccc}
10\,\text{c} & 20\,\text{c} & 25\,\text{c} & 30\,\text{c} & 31\,\text{c} & 32\,\text{c}
\end{array}
\]

$ \quad \underline{0.32} \quad \underline{2} \quad \underline{\text{total}}$

Label the shapes using the words in the box.

\[
\begin{array}{cccc}
\text{cube} & \text{quadrilateral} & \text{pentagon} & \text{hexagon}
\end{array}
\]

3. hexagon

4. quadrilateral

5. Stretch Your Thinking

Explain why we use rulers instead of hands or fingers to measure things.

Possible answer: If we used our hand to measure, not everyone would get the same answer because hands are different sizes.

With rulers, everyone can get the same answer.
1. Measure each line segment.

|--------------------| 3 in. |
|--------------------| 1 in. |
|--------------------| 4 in. |
|--------------------| 3 in. |
|--------------------| 2 in. |

2. Show the data from Exercise 1 on this line plot.

```
0 1 2 3 4 5 6
Length of Segments (inches)
```

3. Ring more or less.

```
12 centimeters
```

The number of inches will be more than the number of centimeters.
Solve the problem.

1. Mya has a stack of 15 cups. There are 7 short cups and some tall cups in the stack. She uses 3 tall cups. How many tall cups are in the stack now?

   \[ 7 + \boxed{8} = 15 \]
   \[ 8 - 3 = \boxed{5} \]

   [Diagram showing 15 cups, 7 short cups, and 8 tall cups with 3 tall cups removed, leaving 5 tall cups]

Add.

2. \[ 74 + 15 = 89 \]
3. \[ 47 + 26 = 73 \]
4. \[ 58 + 34 = 92 \]

5. Find two objects to measure in inches. Estimate and measure the length of each object. Measure to the nearest inch. Complete the table.

   Answers will vary.

<table>
<thead>
<tr>
<th>Object</th>
<th>Estimated length (in.)</th>
<th>Measured length (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. **Stretch Your Thinking** Juan and Brooke each measured the length of the same paper clip correctly. Juan says the paper clip is about 5. Brooke says it is about 2. Explain how they can both be correct.

   Possible answer: They used different units to measure. Juan was probably using cm and Brooke was probably using inches.
Color the quilt pattern. Use the table below.

<table>
<thead>
<tr>
<th>Shape</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>triangle</td>
<td>green</td>
</tr>
<tr>
<td>quadrilateral</td>
<td>red</td>
</tr>
<tr>
<td>pentagon</td>
<td>purple</td>
</tr>
<tr>
<td>hexagon</td>
<td>yellow</td>
</tr>
</tbody>
</table>

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Make a drawing. Write an equation.
Solve the problem. **Drawings and equations will vary.**

1. Evan has 4 markers. That is 7 fewer markers than Jenna has. How many markers does Jenna have?

   **J**

   **E**

   ![](image)

   \[4 + 7 = 11\]

Add.

2. \(14 + 22 + 57 = 93\)

3. \(36 + 18 + 24 = 78\)

4. Show the data from the table on the line plot.

<table>
<thead>
<tr>
<th>Length of Pencils (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 inches</td>
</tr>
<tr>
<td>2 inches</td>
</tr>
<tr>
<td>4 inches</td>
</tr>
<tr>
<td>3 inches</td>
</tr>
<tr>
<td>5 inches</td>
</tr>
</tbody>
</table>

5. **Stretch Your Thinking** Show an example of how you could put two triangles together to make a larger triangle. Show an example of how you can put two triangles together to make a quadrilateral.

   Possible answers are shown.