Reteach

Chapter 13
Lesson 2  Reteach

Perimeter

The perimeter is the distance around the outside of a figure or shape. To find perimeter, add the lengths of the sides.

To find the perimeter of this triangle, add the lengths of the 3 sides.

```
5 m + 5 m + 3 m = 13 m
```

The perimeter is 13 meters.

To find the perimeter of this rectangle, add the lengths of the 4 sides.

```
10 yd + 4 yd + 10 yd + 4 yd = 28 yd
```

The perimeter is 28 yards.

Complete the sentences.

1. The trapezoid has _______ sides.
2. To find the perimeter of the trapezoid, I must _______ the lengths of the sides.
3. The lengths of its sides are ________, ________, ________, and ________.
4. Find the perimeter. 2 cm + 2 cm + 2 cm + 5 cm = _______ cm

Find the perimeter of each figure.

5. 

```
3 ft
```

6. 

```
3 in. 5 in.
```

7. 

```
3 cm 2 cm
```

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Lesson 4  Reteach

Measure Area

The number of square units needed to cover a figure without overlapping is called area. You can use grid paper to help you find the area of a figure.

Count the units.  
The area of this rectangle is 10 square units.

Count the units.  
The area of this figure is 8 square units.

Find the area of each figure.

1.  
   The rectangle has _____ square units. It has an area of _____ square units.

2.  
   The shaded figure has _____ square units. It has an area of _____ square units.

Find the area of each figure.

3.  

4.  

5.  

Grade 3 • Chapter 13  Perimeter and Area
Lesson 6  Reteach

Area of Rectangles

Area is the number of square units needed to cover a figure.

Find the area of this figure.

There are two ways to find the area of a rectangle.

- Count the number of square units.
  There are 12 square units.
  The area is 12 square units.
- Multiply the length times the width.
  \[4 \times 3 = 12\]
  The area is 12 square units.

Find the area of each rectangle.

1. 
   \[
   \begin{array}{|c|c|c|c|}
   \hline
   \ & \ & \ & \\
   \hline
   \ & \ & \ & \\
   \hline
   \ & \ & \ & \\
   \hline
   \end{array}
   \]
   length: _____ units
   width: _____ units
   area: _____ square units

2. 
   \[
   \begin{array}{|c|c|c|c|}
   \hline
   \ & \ & \ & \\
   \hline
   \ & \ & \ & \\
   \hline
   \ & \ & \ & \\
   \hline
   \end{array}
   \]
   length: _____ units
   width: _____ units
   area: _____ square units

3. 
   \[
   \begin{array}{|c|c|c|c|c|}
   \hline
   \ & \ & \ & \ & \\
   \hline
   \ & \ & \ & \ & \\
   \hline
   \ & \ & \ & \ & \\
   \hline
   \ & \ & \ & \ & \\
   \hline
   \end{array}
   \]
   length: _____ units
   width: _____ units
   area: _____ square units

4. 
   \[
   \begin{array}{|c|c|c|c|c|c|}
   \hline
   \ & \ & \ & \ & \ & \\
   \hline
   \ & \ & \ & \ & \ & \\
   \hline
   \ & \ & \ & \ & \ & \\
   \hline
   \ & \ & \ & \ & \ & \\
   \hline
   \end{array}
   \]
   length: _____ units
   width: _____ units
   area: _____ square units
Lesson 8  Reteach

Area of Composite Figures

A composite figure is made up of two or more shapes. You can find the area of a composite figure by breaking it into smaller parts.

Find the area of this figure.

1. Divide the composite figure into smaller rectangles.

2. Find the area of each smaller rectangle.
   - 6 in. \times 7 in. = 42 square in.
   - 3 in. \times 10 in. = 30 square in.

3. Add the areas of the smaller rectangles.
   - 42 square in. + 30 square in. = 72 square in.

So, the area of the figure is 72 square inches.

Find the area of each figure.

1. 8 ft  
   - area of 4 \times 4 rectangle = _______
   - area of 4 \times 6 rectangle = _______
   - total area = _______

2. 9 yd  
   - area of 10 \times 9 rectangle = _______
   - area of 3 \times 2 rectangle = _______
   - total area = _______
Rectangles can have the same area but different perimeters. Two rectangles can also have the same perimeter, but different areas. The rectangles below each have an area of 32 square inches. Find the perimeter for each rectangle.

**Rectangle A**
- 2 in. + 16 in. + 2 in. + 16 in. = 36 in.

**Rectangle B**
- 4 in. + 8 in. + 4 in. + 8 in. = 24 in.

So, both rectangles have an area of 32 square inches, but Rectangle A has a perimeter of 36 inches, and Rectangle B has a perimeter of 24 inches.

**Find the area and perimeter of each pair of rectangles.**

<table>
<thead>
<tr>
<th>Rectangle A</th>
<th>Rectangle B</th>
</tr>
</thead>
<tbody>
<tr>
<td>area = 32 sq. in.</td>
<td>area = 32 sq. in.</td>
</tr>
<tr>
<td>perimeter = 36 in.</td>
<td>perimeter = 24 in.</td>
</tr>
</tbody>
</table>

1. | 3 ft | 10 ft |
   | 2 yd | 15 ft |
   | 5 yd | 15 ft |

2. | 5 ft | 6 ft |
   | 4 ft | 10 ft |
   | 3 yd | 9 ft |

3. | 2 yd | 2 yd |
   | 5 yd | 5 yd |

4. | 4 yd | 4 yd |
   | 3 yd | 3 yd |
Lesson 10  Reteach

Problem Solving: Draw a Diagram

Camille is making a rectangular blanket. The blanket will be 7 feet by 5 feet. What will be the perimeter of the blanket?

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Be sure you understand the problem.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand</td>
<td>Read carefully.</td>
</tr>
<tr>
<td></td>
<td>What facts do you know?</td>
</tr>
<tr>
<td></td>
<td>• The blanket will be _____ feet by _____ feet.</td>
</tr>
<tr>
<td></td>
<td>What do you need to find?</td>
</tr>
<tr>
<td></td>
<td>• The perimeter of the blanket</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2</th>
<th>Make a plan.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan</td>
<td>I will draw a diagram to help me solve the problem.</td>
</tr>
</tbody>
</table>
Lesson 10  Reteach

Problem Solving  (continued)

Step 3  Solve

Carry out your plan.

First, draw a diagram of the blanket. Label the length and width.

\[
\begin{array}{c}
5 \text{ ft} \\
7 \text{ ft} \\
5 \text{ ft} \\
7 \text{ ft}
\end{array}
\]

Find the perimeter of the blanket.

\[5 \text{ ft} + 7 \text{ ft} + 5 \text{ ft} + 7 \text{ ft} = \underline{24} \text{ feet}\]

Step 4  Check

Since \((7 + 7) + (5 + 5)\) gives the perimeter,

\[14 + 10 = 24. \text{ So, the answer is correct.}\]

Solve.

1. Tracie’s dad is building a deck around their swimming pool. The deck will have a railing all the way around it. The deck has 8 sides with each side measuring 6 feet. How many feet of wood will Tracie’s dad need for the railing?

2. Honey is making a square picture frame for her grandmother. She is gluing yarn around the outside edge, which measures 4 inches by 4 inches, and the inside edge, which measures 2 inches by 2 inches. How much yarn will she need to go around both edges?