





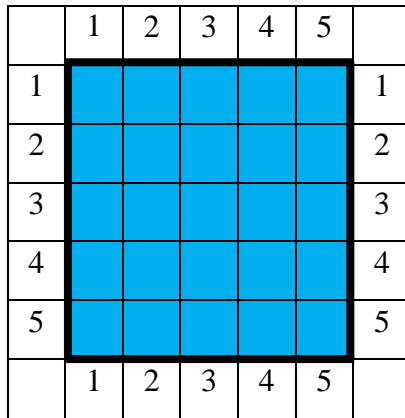
**Subject: Mathematics**  
**Level: Standard Four**  
**Strand: Measurement**  
**Topic: Perimeter**


**Key Points:**

-  Perimeter is the measurement of the total distance around an enclosed shape.
-  The perimeter of any shape can be calculated by adding the measurement of all the sides.
-  Perimeter of a square =  $S \times 4$
-  Perimeter of a rectangle =  $(L + W) \times 2$  or  $2L + 2W$

Here are some examples.

EXAMPLE 1:



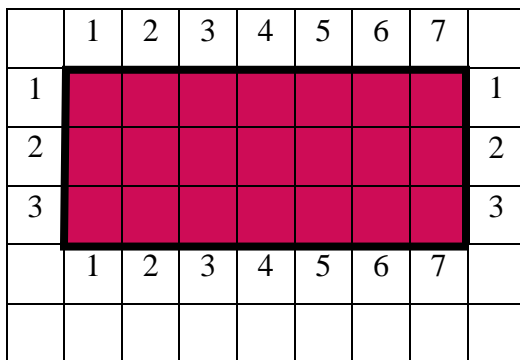
Each side of one  is 1 cm


In the blue square above, the length is of each side is 5 cm.

To calculate the perimeter of the blue square, use the formula  $\text{Side} \times 4$ .

$$\begin{aligned} \text{Perimeter} &= S \times 4 \\ &= 5 \text{ cm} \times 4 \\ &= 20 \text{ cm} \end{aligned}$$

EXAMPLE 2:



Each side of one  is 1 cm

In the pink rectangle above, the length is 7 cm and the width is 3 cm.

To calculate the perimeter of the pink rectangle, use either the following formulas:

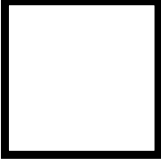


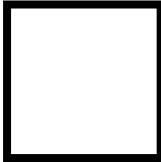

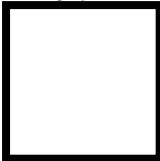
$(\text{Length} + \text{Width}) \times 2$  or  $2 \text{ Lengths} + 2 \text{ Widths}$ .

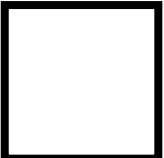

$$\begin{aligned} \text{Perimeter} &= (L + W) \times 2 \\ &= (7 \text{ cm} + 3 \text{ cm}) \times 2 \\ &= 10 \times 2 \\ &= 20 \text{ cm} \end{aligned}$$

$$\begin{aligned} \text{Perimeter} &= 2L + 2W \\ &= 2 \times 7\text{cm} + 2 \times 3\text{cm} \\ &= 14 \text{ cm} + 6 \text{ cm} \\ &= 20 \text{ cm} \end{aligned}$$

## PRACTICE EXERCISE

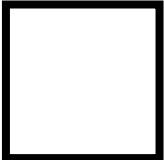
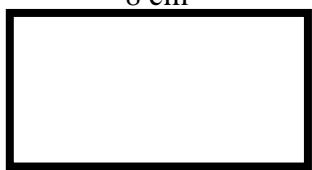

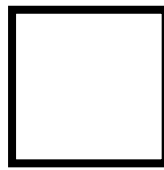
For each shape below, not drawn to scale, calculate its perimeter.

|   |  |
|---|--|
| <p>1)</p>  <p>5 cm</p> <p>Area = <math>S \times 4</math><br/>= <math>5 \text{ cm} \times 4</math><br/>= ____ cm</p>                  | <p>2)</p>  <p>8 cm</p> <p>3 cm</p> <p>Area = <math>(L + W) \times 2</math><br/>= <math>(8 \text{ cm} + 3 \text{ cm}) \times 2</math><br/>= <math>11 \text{ cm} \times 2</math><br/>= ____ cm</p> |
| <p>3)</p>  <p>5 cm</p> <p>9 cm</p> <p>Area = <math>2L + 2W</math><br/>= <math>18 \text{ cm} + 10 \text{ cm}</math><br/>= ____ cm</p> | <p>4)</p>  <p>8 cm</p>   |
| <p>5)</p>  <p>10 cm</p> <p>6 cm</p>  | <p>6)</p>  <p>10 cm</p>  |

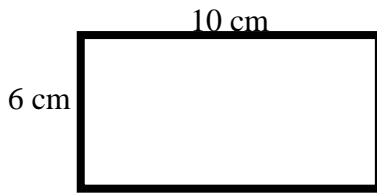
|   |   |
|---|---|
| <p>7)</p> <div style="text-align: center;">  <p>15 cm</p> </div> | <p>8)</p> <div style="text-align: center;">  <p>12 cm</p> <p>20 cm</p> </div> |
|---|---|

**ANSWERS** (For the rectangles, pupils are free to select the formula that they prefer)

For each shape below, not drawn to scale, calculate its perimeter.

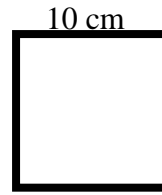
|  |  |  |   |
|--|--|--|---|
| <p>1)</p> <div style="text-align: center;">  <p>5 cm</p> </div> <p>Area = <math>S \times 4</math><br/> <math>= 5 \text{ cm} \times 4</math><br/> <math>= 20 \text{ cm}</math></p>   | <p>2)</p> <div style="text-align: center;">  <p>8 cm</p> <p>3 cm</p> </div> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px solid black; padding: 5px;">           Area = <math>(L + W) \times 2</math><br/> <math>= (8 \text{ cm} + 3 \text{ cm}) \times 2</math><br/> <math>= 11 \text{ cm} \times 2</math><br/> <math>= 22 \text{ cm}</math> </td> <td style="padding: 5px;">           Area = <math>2L + 2W</math><br/> <math>= 16 \text{ cm} + 6 \text{ cm}</math><br/> <math>= 22 \text{ cm}</math> </td> </tr> </table> | Area = $(L + W) \times 2$<br>$= (8 \text{ cm} + 3 \text{ cm}) \times 2$<br>$= 11 \text{ cm} \times 2$<br>$= 22 \text{ cm}$ | Area = $2L + 2W$<br>$= 16 \text{ cm} + 6 \text{ cm}$<br>$= 22 \text{ cm}$   |
| Area = $(L + W) \times 2$<br>$= (8 \text{ cm} + 3 \text{ cm}) \times 2$<br>$= 11 \text{ cm} \times 2$<br>$= 22 \text{ cm}$   | Area = $2L + 2W$<br>$= 16 \text{ cm} + 6 \text{ cm}$<br>$= 22 \text{ cm}$  |  |   |
| <p>3)</p> <div style="text-align: center;">  <p>5 cm</p> <p>9 cm</p> </div> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px solid black; padding: 5px;">           Area = <math>2L + 2W</math><br/> <math>= 18 \text{ cm} + 10 \text{ cm}</math><br/> <math>= 28 \text{ cm}</math> </td> <td style="padding: 5px;">           Area = <math>(L + W) \times 2</math><br/> <math>= (9 \text{ cm} + 5 \text{ cm}) \times 2</math><br/> <math>= 14 \text{ cm} \times 2</math><br/> <math>= 28 \text{ cm}</math> </td> </tr> </table> | Area = $2L + 2W$<br>$= 18 \text{ cm} + 10 \text{ cm}$<br>$= 28 \text{ cm}$   | Area = $(L + W) \times 2$<br>$= (9 \text{ cm} + 5 \text{ cm}) \times 2$<br>$= 14 \text{ cm} \times 2$<br>$= 28 \text{ cm}$ | <p>4)</p> <div style="text-align: center;">  <p>8 cm</p> </div> <p>Area = <math>S \times 4</math><br/> <math>= 8 \text{ cm} \times 4</math><br/> <math>= 32 \text{ cm}</math></p> |
| Area = $2L + 2W$<br>$= 18 \text{ cm} + 10 \text{ cm}$<br>$= 28 \text{ cm}$   | Area = $(L + W) \times 2$<br>$= (9 \text{ cm} + 5 \text{ cm}) \times 2$<br>$= 14 \text{ cm} \times 2$<br>$= 28 \text{ cm}$   |  |   |

5)



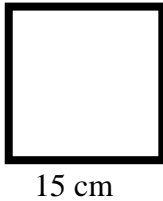
$$\begin{aligned} \text{Area} &= (L + W) \times 2 \\ &= (10 \text{ cm} + 6 \text{ cm}) \times 2 \\ &= 16 \text{ cm} \times 2 \\ &= 32 \text{ cm} \end{aligned} \quad \left| \quad \begin{aligned} \text{Area} &= 2L + 2W \\ &= 20 \text{ cm} + 12 \text{ cm} \\ &= 32 \text{ cm} \end{aligned}$$

6)



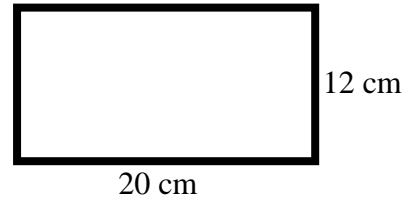
$$\begin{aligned} \text{Area} &= S \times 4 \\ &= 10 \text{ cm} \times 4 \\ &= 40 \text{ cm} \end{aligned}$$

7)



$$\begin{aligned} \text{Area} &= S \times 4 \\ &= 15 \text{ cm} \times 4 \\ &= 60 \text{ cm} \end{aligned}$$

8)



$$\begin{aligned} \text{Area} &= 2L + 2W \\ &= 40 \text{ cm} + 24 \text{ cm} \\ &= 64 \text{ cm} \end{aligned} \quad \left| \quad \begin{aligned} \text{Area} &= (L + W) \times 2 \\ &= (20 \text{ cm} + 12 \text{ cm}) \times 2 \\ &= 32 \text{ cm} \times 2 \\ &= 64 \text{ cm} \end{aligned}$$