

Discussion Problems

Step 4: Perimeter of Rectilinear Shapes

National Curriculum Objectives:

Mathematics Year 4: (4M7a) [Measure and calculate the perimeter of a rectilinear figure \(including squares\) in centimetres and metres](#)

About this resource:

This resource has been designed for pupils who understand the concepts within [this step](#). It provides pupils with more opportunities to enhance their reasoning and problem solving skills through more challenging problems. Pupils can work in pairs or small groups to discuss with each other about how best to tackle the problem, as there is often more than one answer or more than one way to work through the problem.

There may be various answers for each problem. Where this is the case, we have provided one example answer to guide discussion.

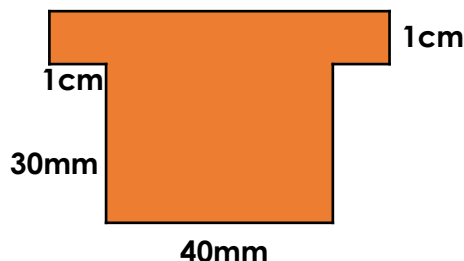
We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

More [Year 4 Length and Perimeter](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

Perimeter of Rectilinear Shapes

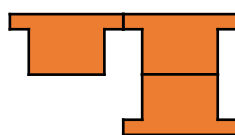
1. Find the missing values to calculate the perimeter of the shape below.



not to scale

Join three of the same shape together making sure the sides that join are the same length. Calculate the perimeter of your new shape.

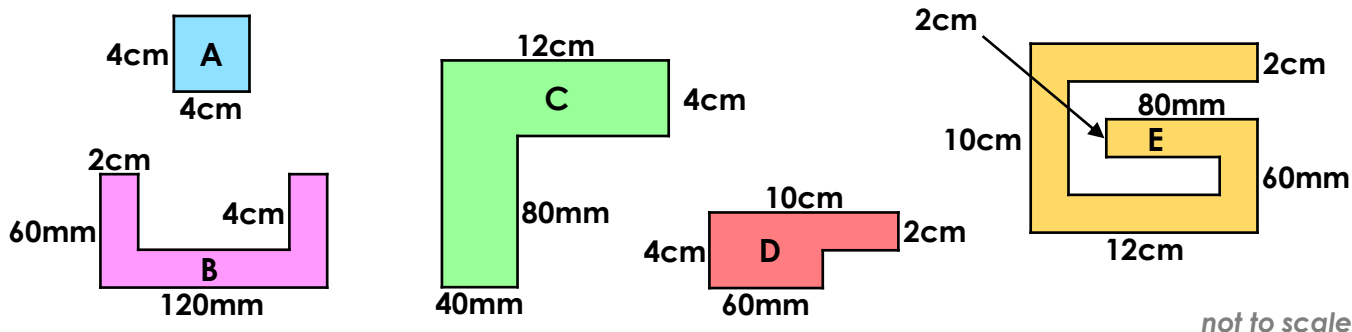
An example has been done for you below. What is the perimeter of this shape?



Investigate the different perimeters you can make by joining three of the above shape together.

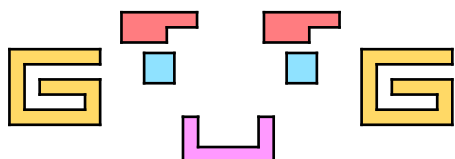
DP

2. Use the shapes below to create a picture. You can use each shape up to twice. You must use at least 5 shapes but no more than 8 shapes in your picture.



not to scale

Here is an example:



Hint: Find the missing values to calculate the perimeter of each shape.

The total perimeter is 300cm.

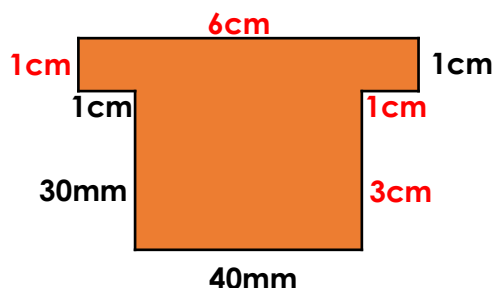
Explore how you could design a picture with the smallest and largest perimeters.

DP

Perimeter of Rectilinear Shapes

1. Find the missing values to calculate the perimeter of the shape below.

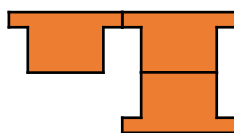
The perimeter is 20cm.



not to scale

Join three of the same shape together making sure the sides that join are the same length. Calculate the perimeter of your new shape.

An example has been done for you below. What is the perimeter of this shape? 50cm



Investigate the different perimeters you can make by joining three of the above shape together.

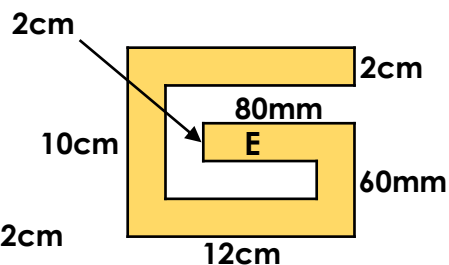
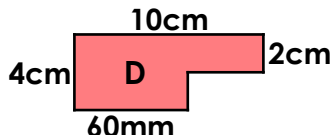
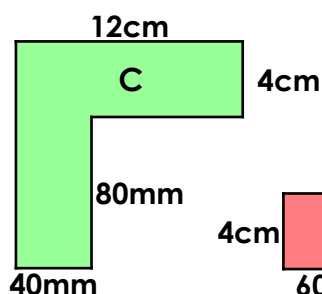
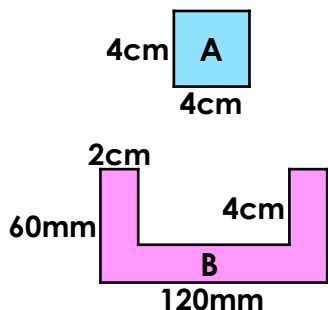
Various answers, for example: 56cm



DP

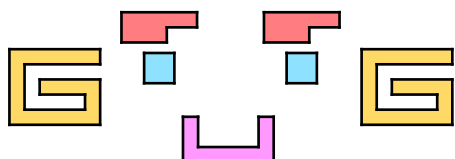
2. Use the shapes below to create a picture. You can use each shape up to twice. You must use at least 5 shapes but no more than 8 shapes in your picture.

Perimeters: A: 16cm; B: 44cm; C: 48cm; D: 28cm; E: 84cm



not to scale

Here is an example:



Hint: Find the missing values to calculate the perimeter of each shape.

The total perimeter is 300cm.

Explore how you could design a picture with the smallest and largest perimeters.

Smallest perimeter 132cm; largest perimeter 408cm.

DP