

Perimeter of rectilinear shapes

Notes and guidance

This small step continues to build children's understanding of perimeter by exploring more rectilinear shapes, both with and without grids.

Children know that a rectilinear shape has straight lines that meet at right angles. In this step, it is useful for children to measure the perimeter practically before they find the perimeter of a shape on a grid or from a shape with all side lengths labelled. When calculating, children should mark the sides they have already counted to avoid duplication or omission.

At this stage, children do not need to calculate unknown side lengths as this will be covered in the next step.

Things to look out for

- Children may make arithmetical errors when adding the side lengths.
- Children may omit sides or count them more than once.
- When working on a grid, children may count the number of squares around the shape rather than the side lengths.
- Children may add the side lengths and double them, as they did when calculating the perimeters of rectangles.

Key questions

- What is a rectilinear shape?
- How many sides does the shape have?
- Are any of the sides equal in length?
- What strategies can you use to find the perimeter?
- How can you be sure you have included all the sides?
- How can you check your answer?
- How many rectilinear shapes can you draw with a perimeter of _____ cm?

Possible sentence stems

- The calculation I need to do to work out the perimeter is ...
- The shape has _____ sides, so I need to add together _____ lengths to find the perimeter.
- The perimeter of the shape is _____ mm/cm/m.

National Curriculum links

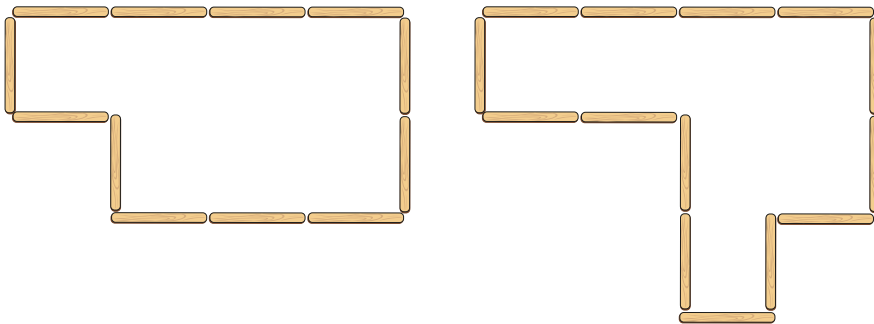
- Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres

Perimeter of rectilinear shapes

Key learning

- Annie has made some shapes using lolly sticks.

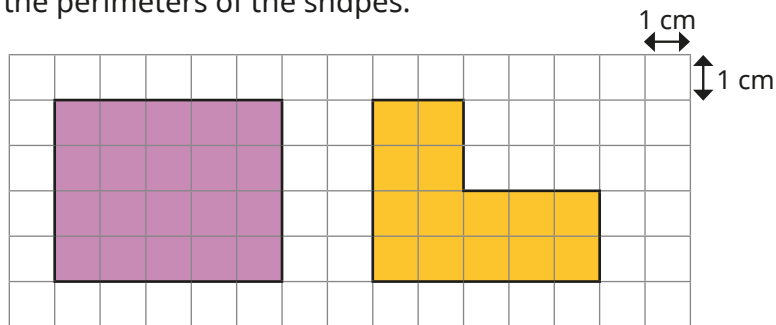
How many lolly sticks have been used to make each shape?



Which shape has the greater perimeter?

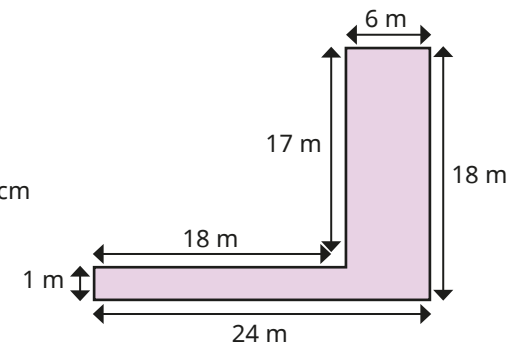
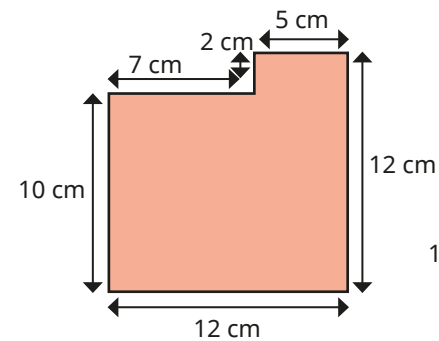
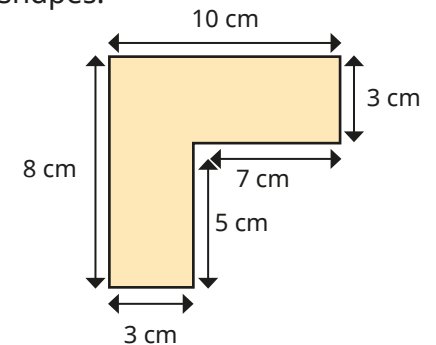
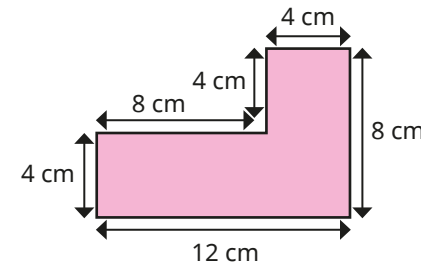
Use 12 lolly sticks to create different rectilinear shapes.

- Work out the perimeters of the shapes.



What do you notice?

- Work out the perimeters of the shapes.



- How many rectilinear shapes can you draw that have a perimeter of 24 cm?

How many sides do they each have?

What is the length of the longest side of each of your shapes?

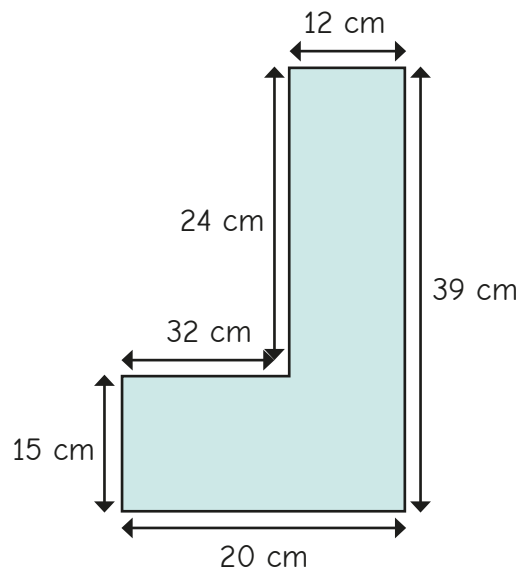
What is the length of the shortest side of each of your shapes?

Perimeter of rectilinear shapes

Reasoning and problem solving



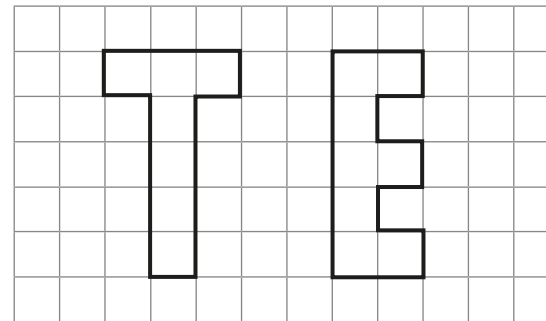
Tiny has measured the lengths of the sides of the shape.



The side labelled 20 cm is longer than the side labelled 32 cm.

How can you tell that Tiny has made a mistake?

Ron has drawn some letters on a grid. Which letter has the greater perimeter?



Explore other letters that can be drawn as rectilinear shapes.

Put them in order from smallest to greatest perimeter.

Compare answers with a partner.



E

E = 18 units,
T = 16 units

multiple possible answers