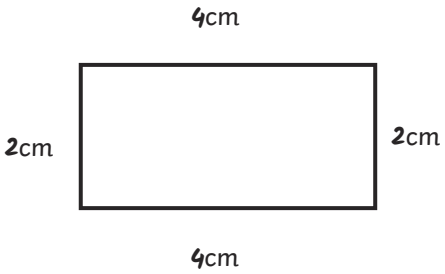
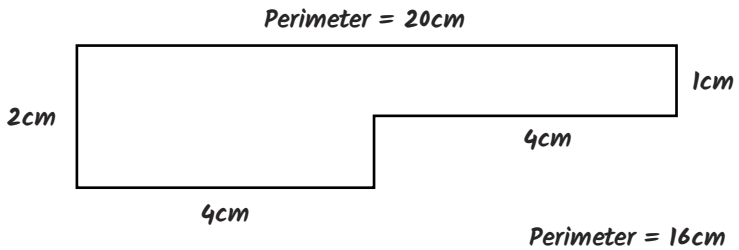
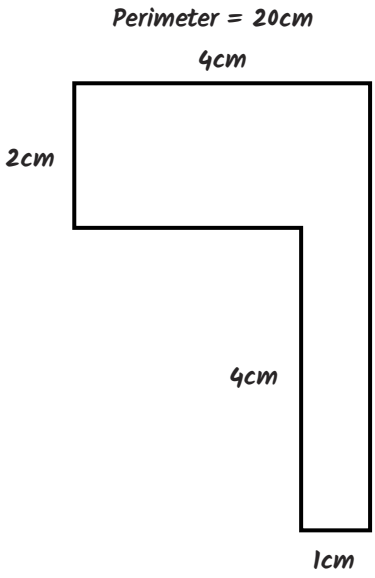
1) a) 10cm
   b) 6cm
   c) 16cm

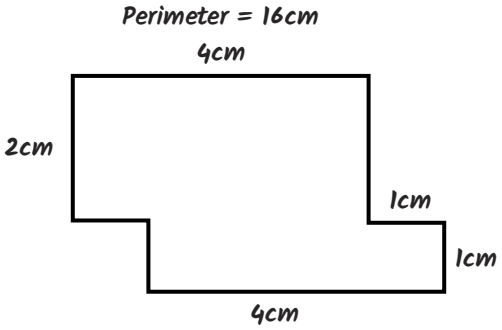
2) a)



b) Example answers:







1) Meera is incorrect as shape A has a perimeter of 24cm and shape B has a perimeter of 19cm.
2) David is correct. The compound shape has a perimeter of 24cm, which is the same as the rectangle he has described.

1) There are 15 different possible rectangles, with the following measurements: 1cm by 29cm, 2cm by 28cm, 3cm by 27cm, 4cm by 26cm, 5cm by 25cm, 6cm by 24cm, 7cm by 23cm, 8cm by 22cm, 9cm by 21cm, 10cm by 20cm, 11cm by 19cm, 12cm by 18cm, 13cm by 17cm, 14cm by 16cm and 15cm by 15cm.
2) The field has a perimeter of 37cm which scales up to 370m.

Wooden Fencing	Electric Fencing
250m	120m
245m	125m
240m	130m
235m	135m
230m	140m
225m	145m
220m	150m

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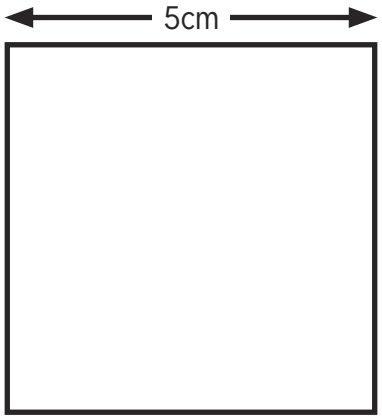
Adobe Reader or Adobe Acrobat

- Adobe Reader is a free PDF viewer, from Adobe. To install a copy of Adobe Reader, go to https://get.adobe.com/uk/reader/.
- Once Adobe Reader is installed, open your PDF.
- Go to File>Print.
- Under 'Page Sizing & Handling', select 'Size'.
- From here, make sure that 'Actual Size' is selected.
- Print this page as a test, making sure that the shape below is the correct size once printed.
- If the test print is correct, print your PDF.

Foxit Reader

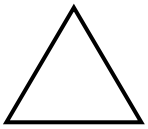
- Go to File>Print.



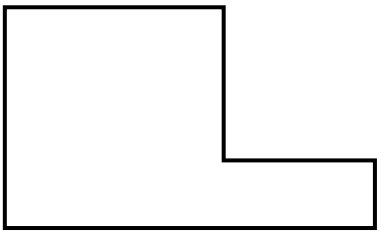
1) Find the perimeter of these shapes in centimetres.
Make sure you use a ruler carefully so that your measurements are accurate.

a) Perimeter = _____

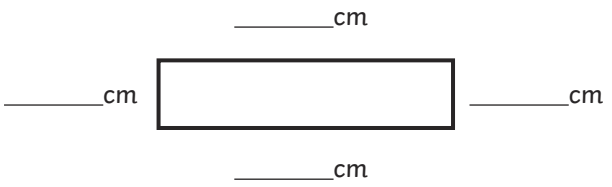
b) Perimeter = _____

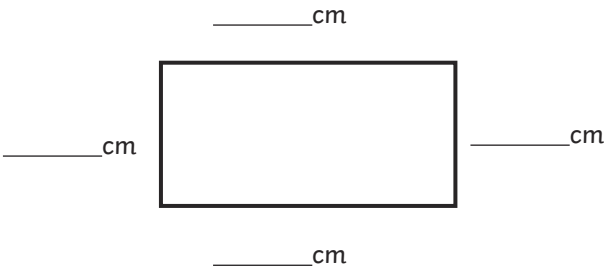


c) Perimeter = _____



2) **a)** Measure and label the sides of these rectangles in centimetres.



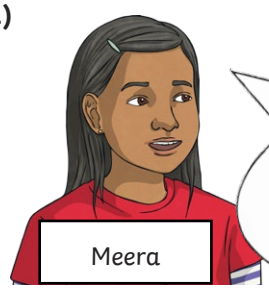


b) Use two rectangles identical to these to draw a compound rectilinear shape.

What is the perimeter of your shape?

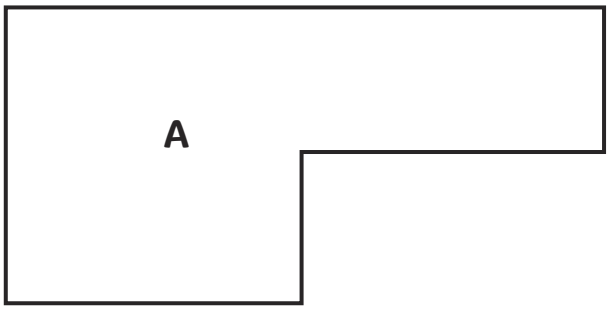
Does the perimeter change when you use the same rectangles to make a different compound rectilinear shape?

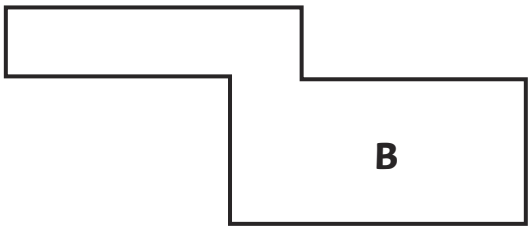
1)



Meera

I think shape B has a longer perimeter than shape A because it has more sides.



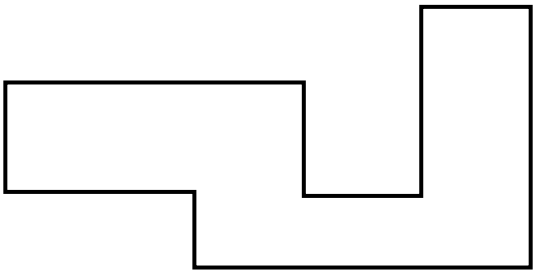


Do you agree with Meera? Explain your reasoning.

2)

David

A rectangle with one side measuring 7.5cm and the adjacent side measuring 4.5cm would have the same perimeter as this compound rectilinear shape.



Do you agree with David? Explain your reasoning.

1) How many different rectangles can you draw that have a perimeter of 60cm? (Each side length needs to be a whole number.)

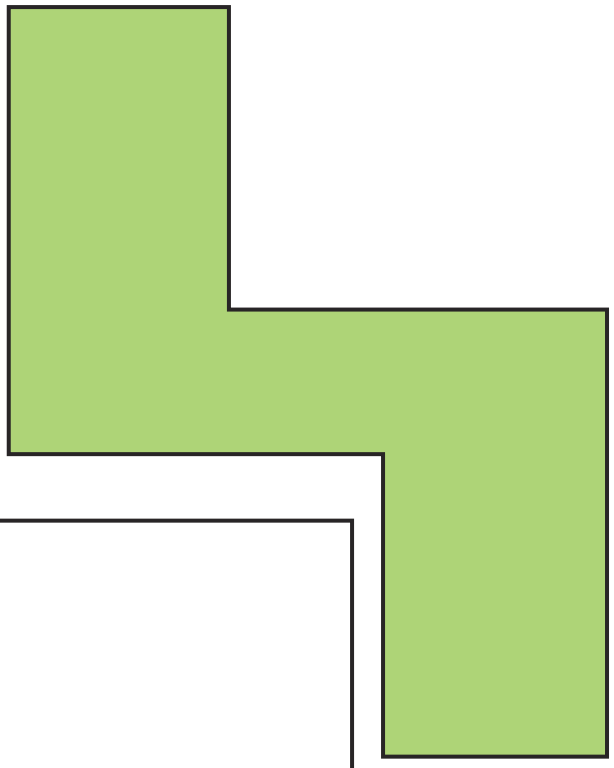
Do you have to draw all your answers or can you find a systematic way of recording the lengths of the sides?

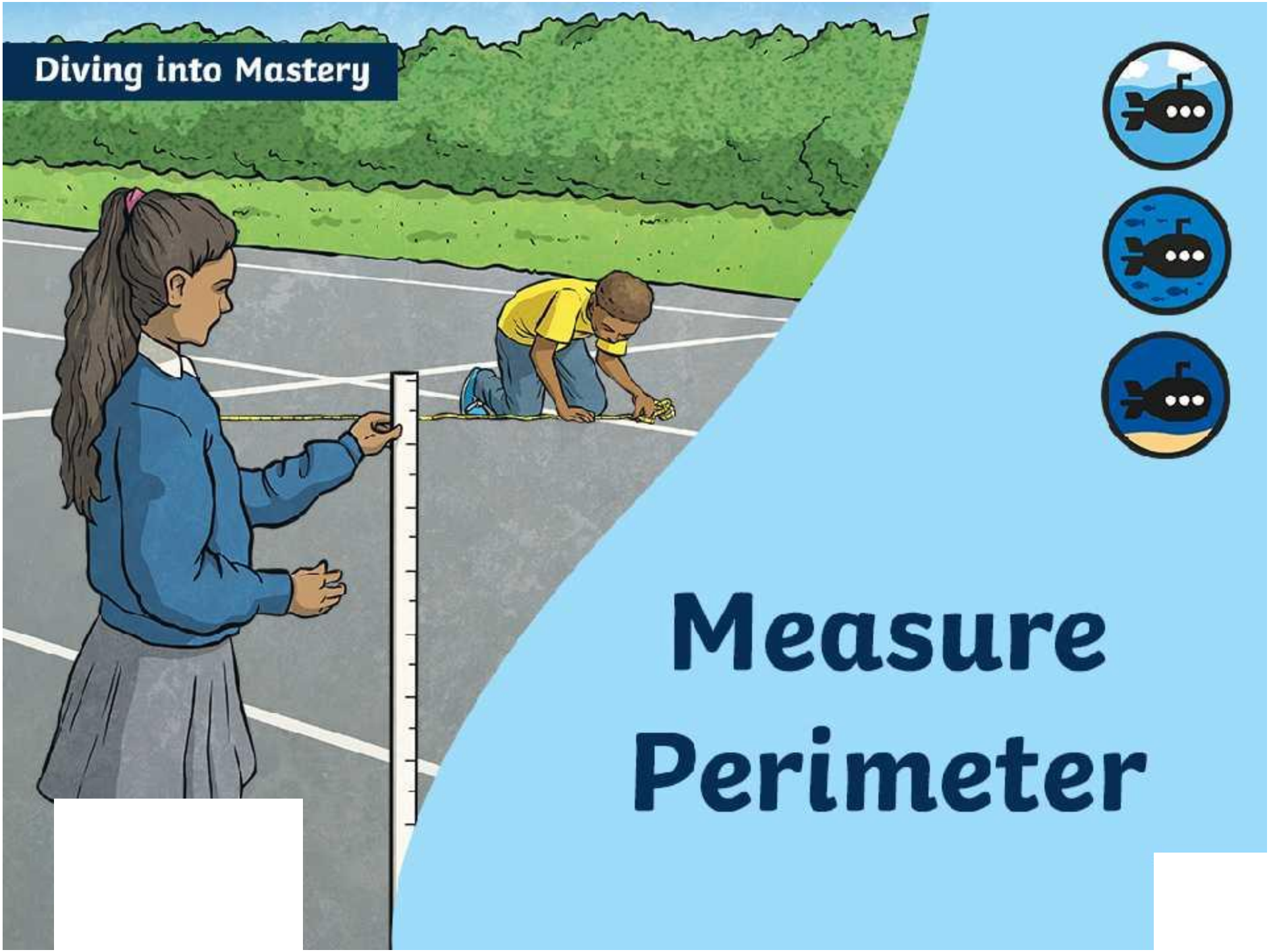
2) Here is the shape of a field. It is drawn to a scale of 1cm:10m. This means that 1cm on the drawing represents 10m in real life.

The farmer has 250m of wooden fencing and 150m of electric fencing to use around the perimeter of the field.

Find all the possible combinations of fencing in multiples of 5m that the farmer can use to completely enclose the field.

Find a systematic way to record your findings.




Diving into Mastery
Measure
Perimeter

Diving into Mastery Guidance for Educators

Each activity sheet is split into three sections, diving, deeper and deepest, which are represented by the following icons:

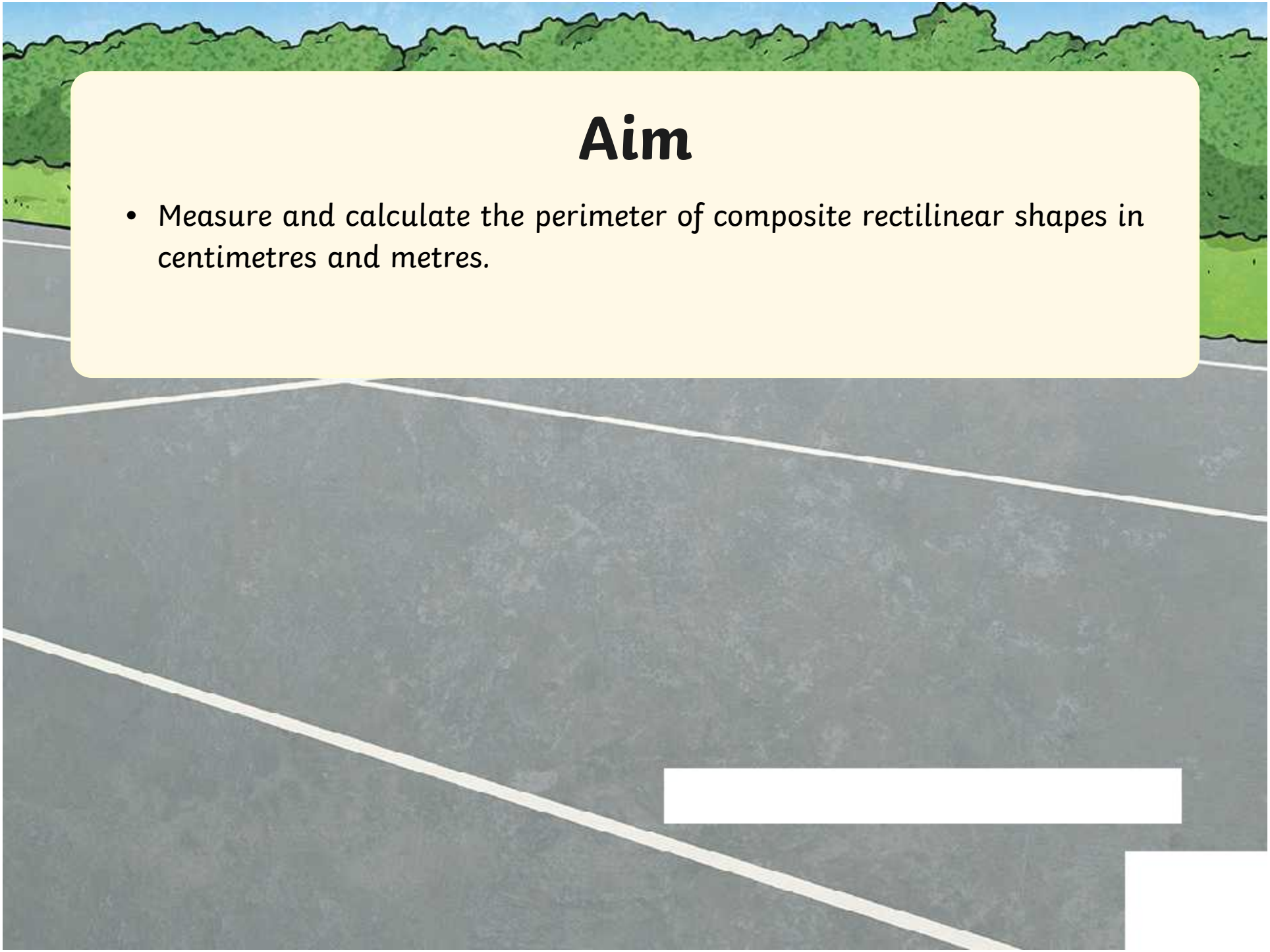
Diving

Deeper

Deepest

These carefully designed activities take your children through a learning journey, initially ensuring they are fluent with the key concept being taught; then applying this to a range of reasoning and problem-solving activities.

These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.

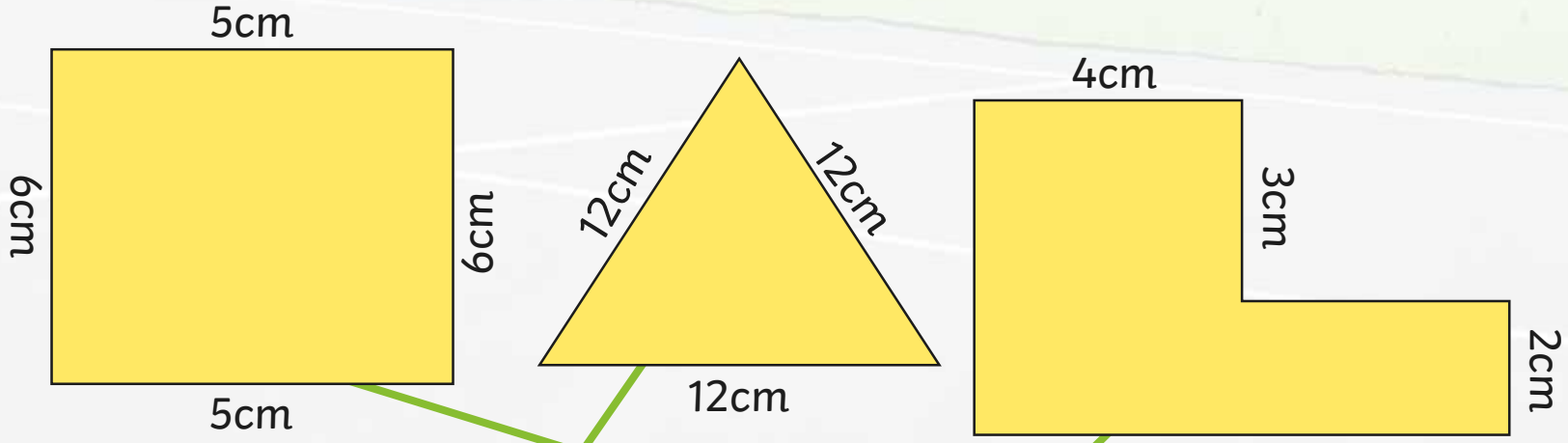


Aim

- Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.

Measure Perimeter | **Diving**

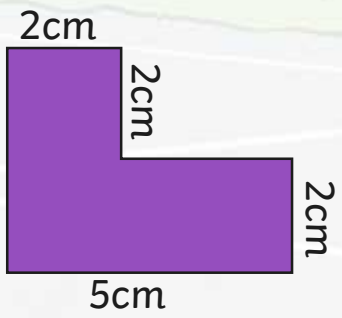
Match the shapes to the correct perimeter. They are not drawn to scale.

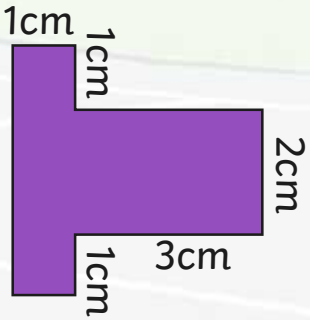


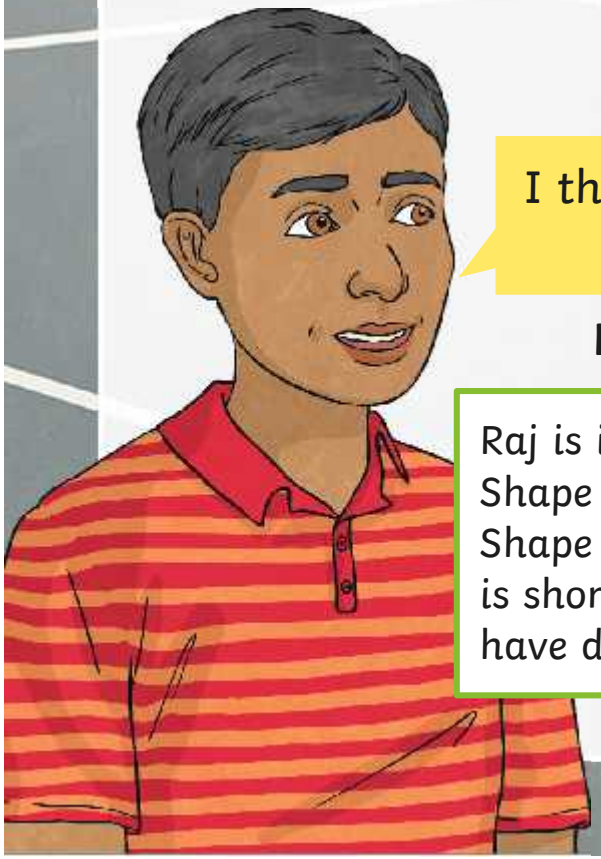
36cm	26cm	22cm

Measure Perimeter | **Deeper**

Look carefully at these rectilinear shapes. They are not drawn to scale.







I think shape A has the shorter perimeter because it has fewer sides.

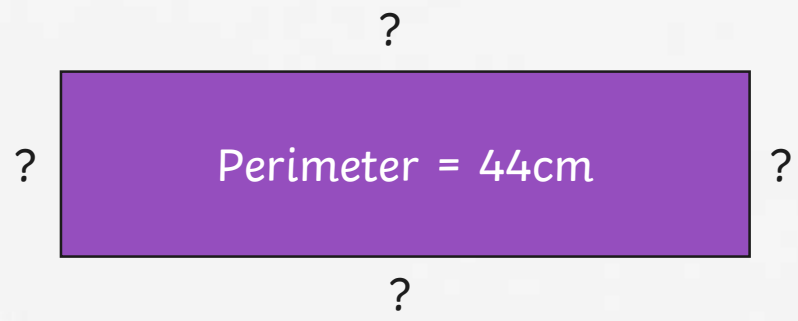
Do you agree with Raj? Explain your reasoning.

Raj is incorrect.
Shape A has 6 sides and a perimeter of 18cm.
Shape B has more sides - 8 sides - but its perimeter is 16cm, which is shorter than A's. Comparing the number of sides that shapes have does not tell us which has the longer or shorter perimeter.

Measure Perimeter | **Deepest**

How many different rectangles are there with a perimeter of 44cm?

(Each side length needs to be a whole number.) Find a systematic way of recording the lengths of sides.

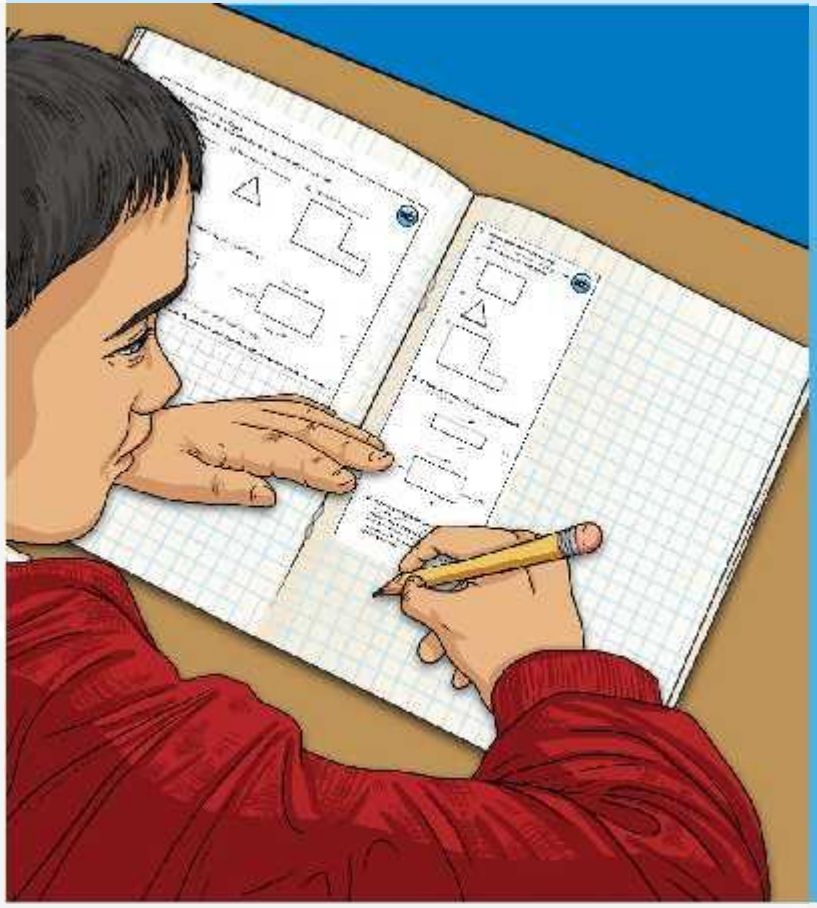


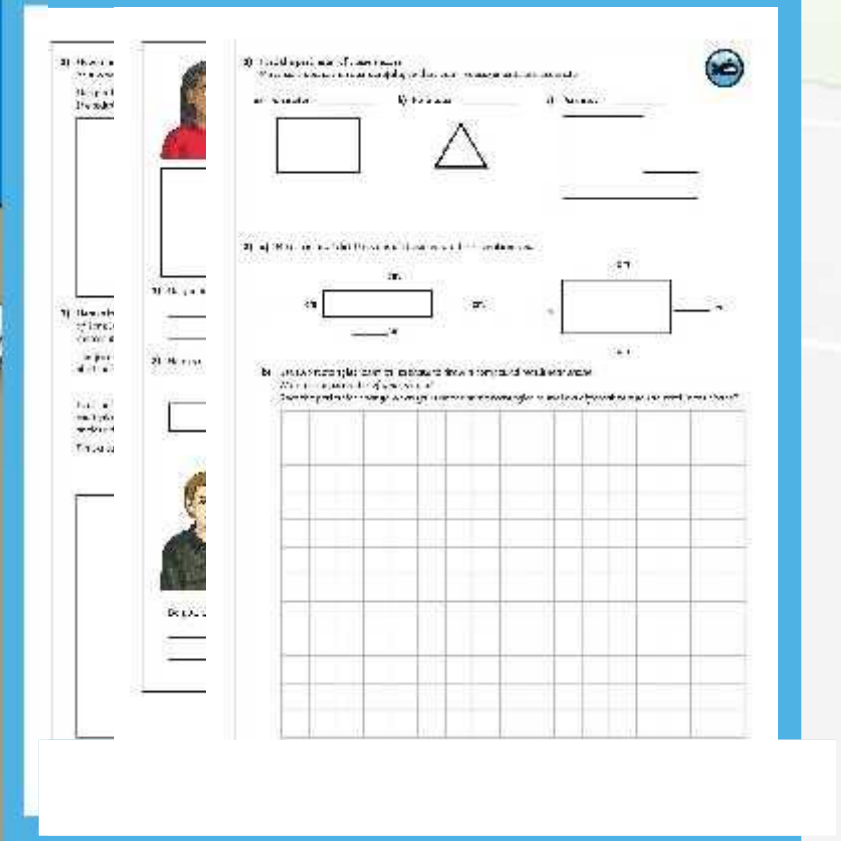
Length	Width
1cm	21cm
2cm	20cm
3cm	19cm
4cm	18cm
5cm	17cm
6cm	16cm
7cm	15cm
8cm	14cm
9cm	13cm
10cm	12cm
11cm	11cm

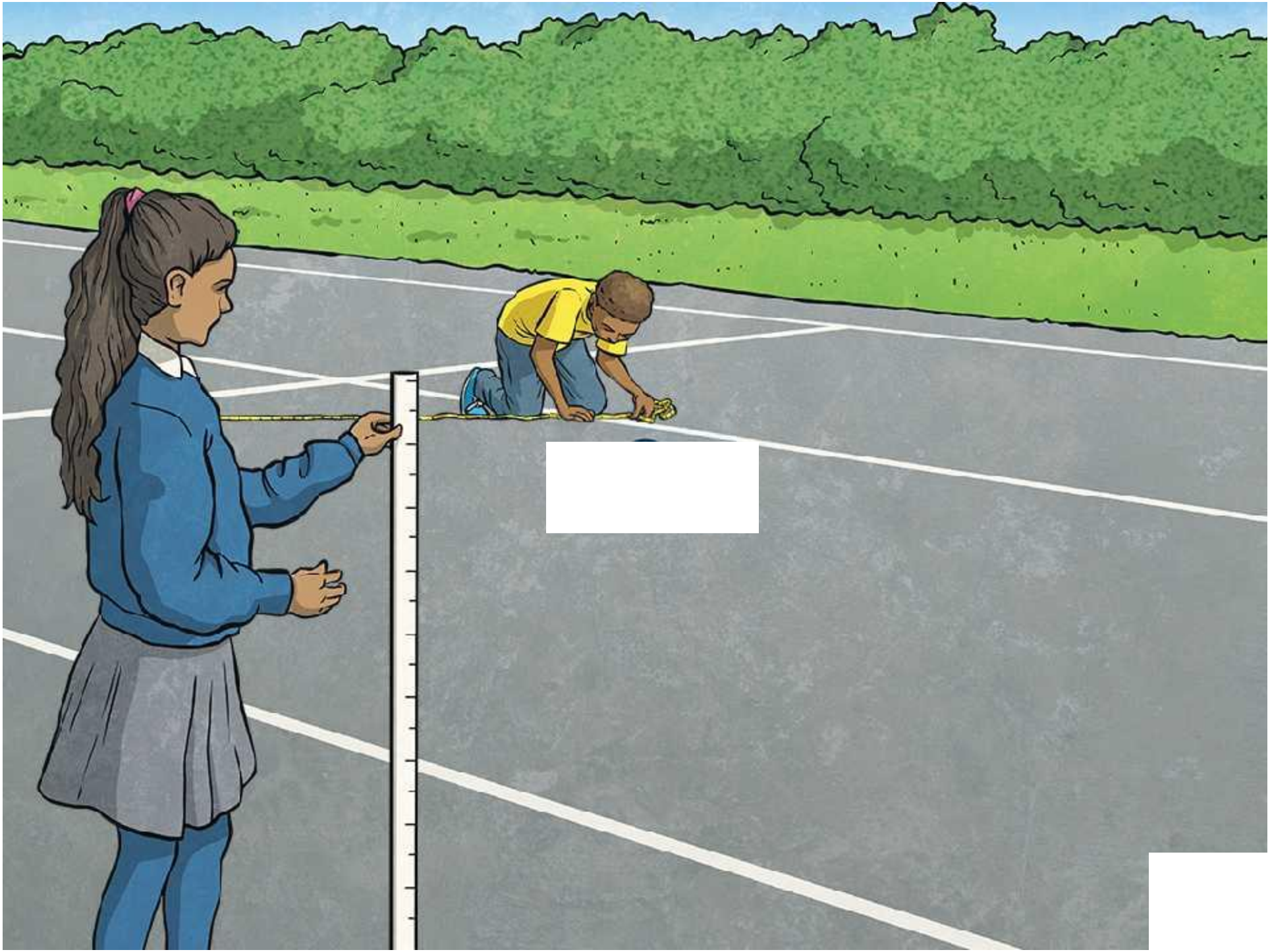
There are 11 different rectangles (including a square, which is a special kind of rectangle) with a perimeter of 44cm.

Measure Perimeter

Dive in by completing your own activity!







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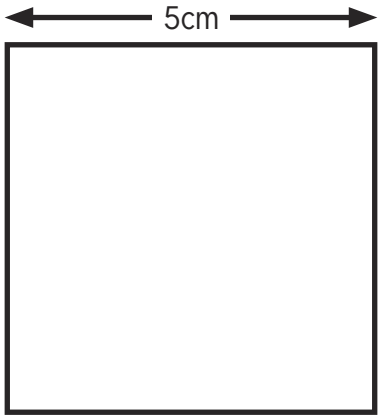
- If the test print is correct, print your PDF.

Foxit Reader

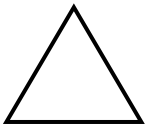
- Go to File>Print.



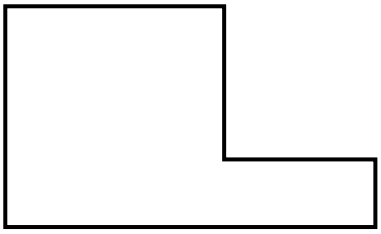
1) Find the perimeter of these shapes in centimetres. Make sure you use a ruler carefully so that your measurements are accurate.

a)

b)



c)



2) **a)** Measure and label the sides of these rectangles in centimetres.

_____cm

_____cm _____cm

_____cm

_____cm

_____cm _____cm

_____cm

b) Use two rectangles identical to these to draw a compound rectilinear shape.

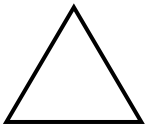
What is the perimeter of your shape?

Does the perimeter change when you use the same rectangles to make a different compound rectilinear shape?

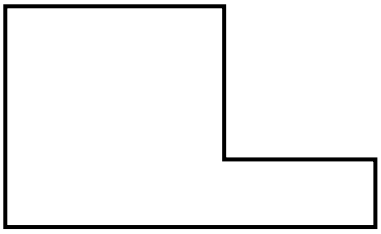
1) Find the perimeter of these shapes in centimetres. Make sure you use a ruler carefully so that your measurements are accurate.

a)

b)



c)



2) **a)** Measure and label the sides of these rectangles in centimetres.

_____cm

_____cm _____cm

_____cm

_____cm

_____cm _____cm

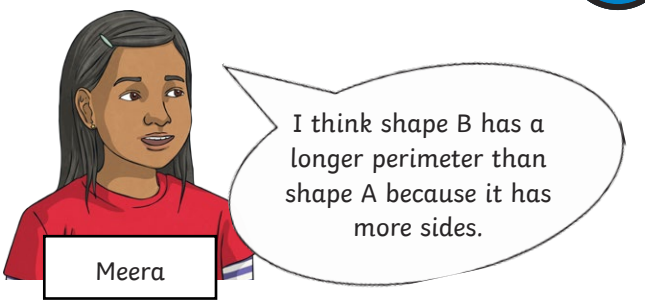
_____cm

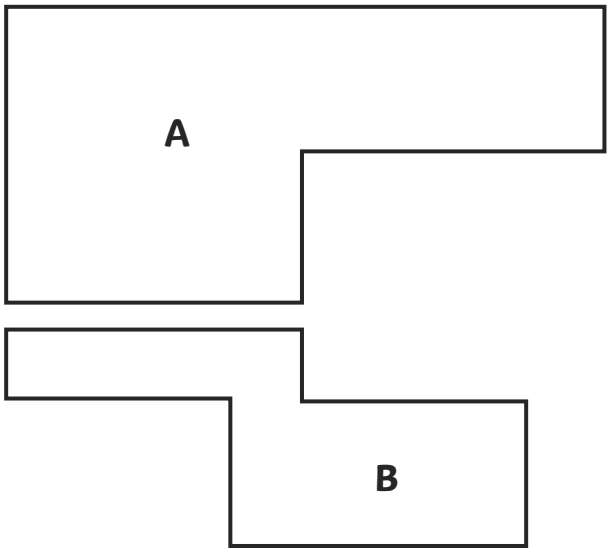
b) Use two rectangles identical to these to draw a compound rectilinear shape.

What is the perimeter of your shape?

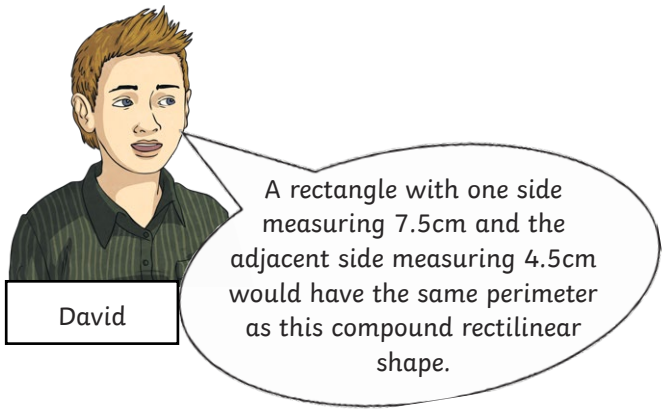
Does the perimeter change when you use the same rectangles to make a different compound rectilinear shape?

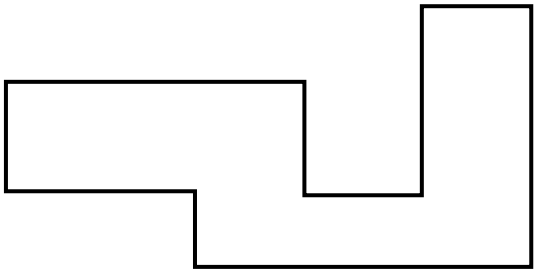
1) Do you agree with Meera? Explain your reasoning.



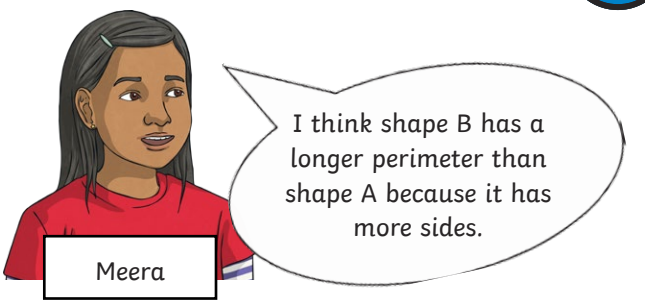


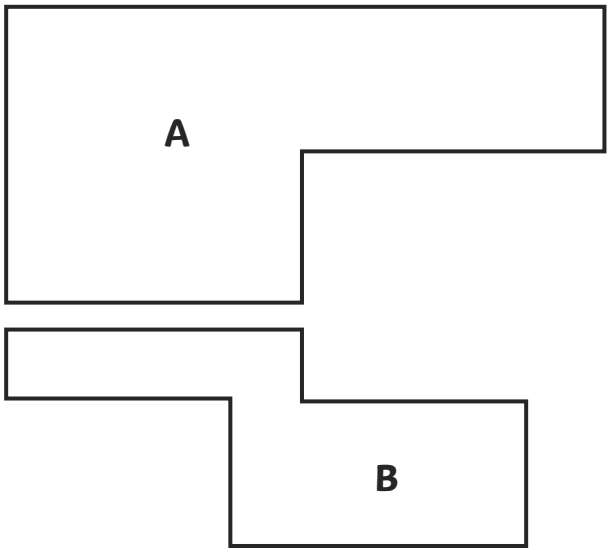
2) Do you agree with David? Explain your reasoning.



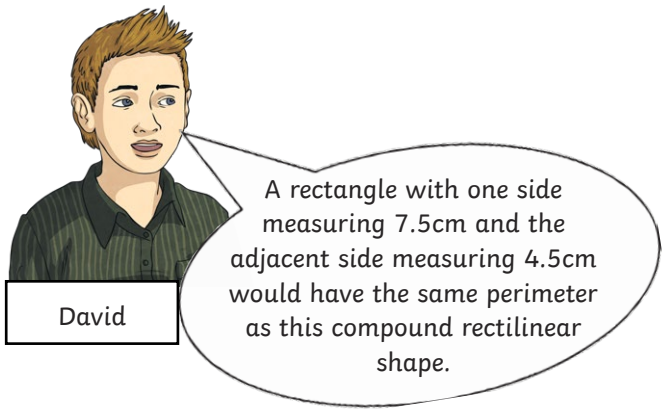


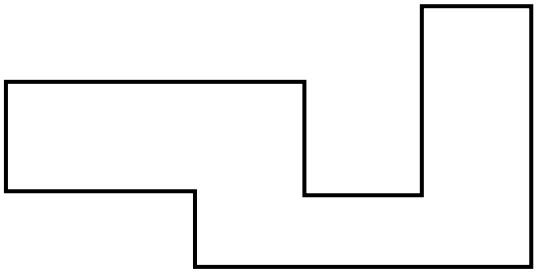
1) Do you agree with Meera? Explain your reasoning.





2) Do you agree with David? Explain your reasoning.



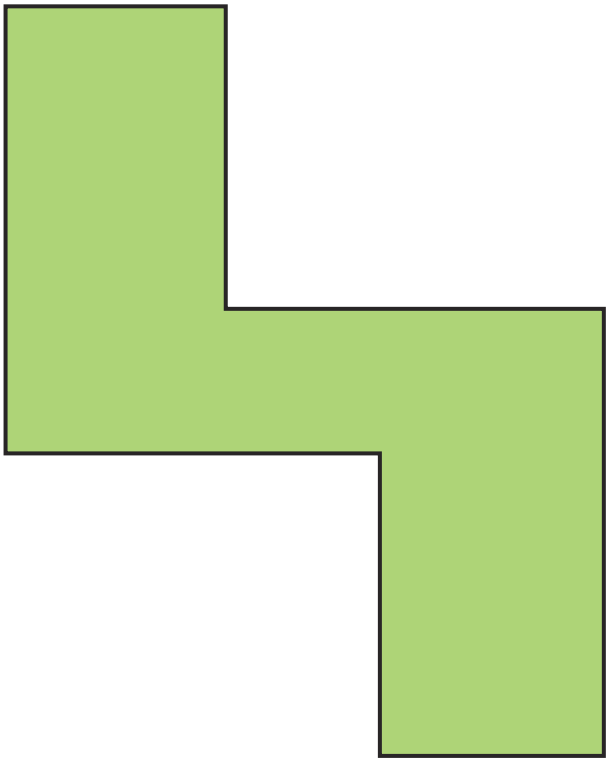


1) How many different rectangles can you draw that have a perimeter of 60cm? (Each side length needs to be a whole number.)

Do you have to draw all your answers or can you find a systematic way of recording the lengths of the sides?

2) Here is the shape of a field. It is drawn to a scale of 1cm:10m. This means that 1cm on the drawing represents 10m in real life.

The farmer has 250m of wooden fencing and 150m of electric fencing to use around the perimeter of the field.



Find all the possible combinations of fencing in multiples of 5m that the farmer can use to completely enclose the field.

Find a systematic way to record your findings.

1) How many different rectangles can you draw that have a perimeter of 60cm? (Each side length needs to be a whole number.)

Do you have to draw all your answers or can you find a systematic way of recording the lengths of the sides?

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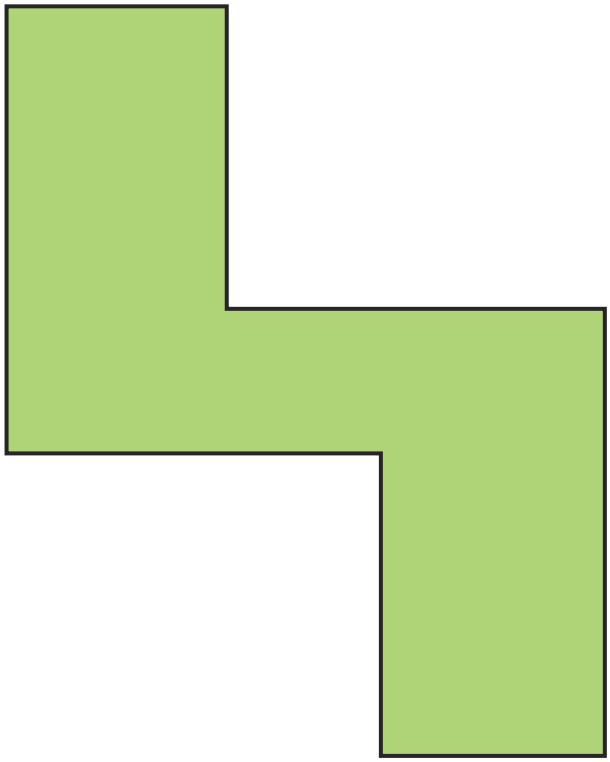

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