

# Area and perimeter

## Notes and guidance

Building on the previous step and reinforcing learning from Year 5, in this small step children find the areas and perimeters of rectangles and rectilinear shapes.

Children explore methods for finding the perimeters and areas of rectangles and rectilinear shapes and compare their efficiency. When finding the area of a rectilinear shape, encourage children to look for the most efficient way to split the shape rather than always splitting it the same way. They should pay close attention when calculating unknown side lengths, and explain how they know whether they need to add or subtract. They can also explore when it may be efficient to find the area of a rectilinear shape by subtracting the missing part from the area of a whole rectangle.

### Things to look out for

- Children may confuse area and perimeter.
- When finding the area of a rectilinear shape, children may not split the shape in the most efficient way.
- When calculating the perimeter, children may not use efficient strategies, instead relying on adding lengths in order.
- Children may struggle to work out missing side lengths or forget to do so.

## Key questions

- What is perimeter? What is area?
- How can you find the perimeter of the rectangle?
- How can you find the area of the rectangle?
- What is the formula to find the area of a rectangle?
- How can you split the rectilinear shape into rectangles? Is there more than one way?
- How is finding the area/perimeter of a rectilinear shape different to finding the area/perimeter of a rectangle? How is it similar?
- How can you work out the other side lengths?

## Possible sentence stems

- The formula to find the area of a rectangle is ...
- To find the perimeter of a rectangle, I ...

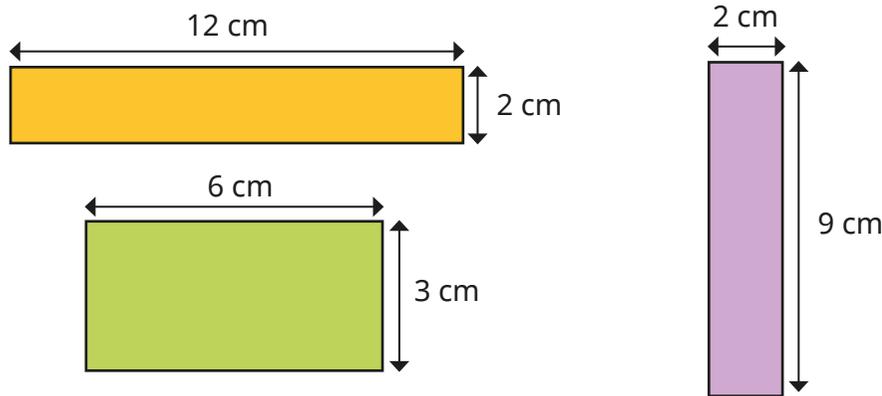
### National Curriculum links

- Recognise that shapes with the same areas can have different perimeters and vice versa
- Recognise when it is possible to use formulae for area and volume of shapes

# Area and perimeter

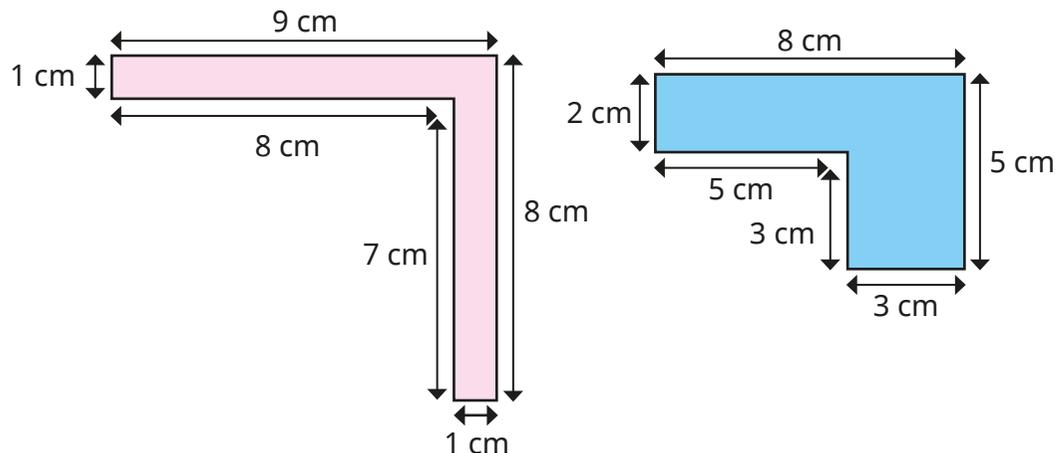
## Key learning

- Find the area and perimeter of each rectangle.

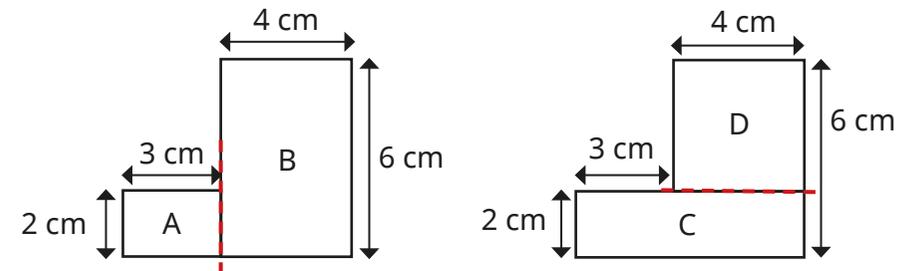


Compare methods with a partner.

- Work out the perimeters of the rectilinear shapes.



- Both of these rectilinear shapes are made from two rectangles.

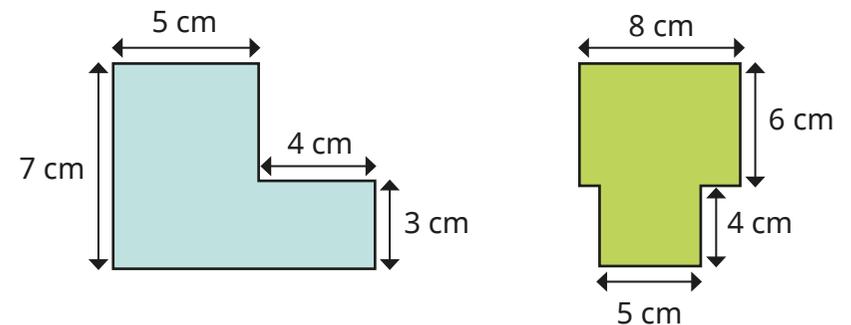


Work out the areas of the rectangles to work out the areas of the rectilinear shapes.

What do you notice?

Why does this happen?

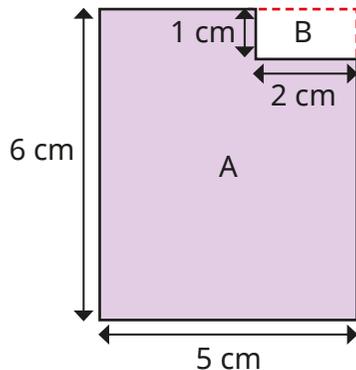
- Find the area and perimeter of each shape.



# Area and perimeter

## Reasoning and problem solving

Tiny is finding the area of this shape.



$$\begin{aligned} \text{Area of A} &= 6 \text{ cm} \times 5 \text{ cm} \\ &= 30 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} \text{Area of B} &= 1 \text{ cm} \times 2 \text{ cm} \\ &= 2 \text{ cm}^2 \end{aligned}$$

$$\text{Total area} = 32 \text{ cm}^2$$



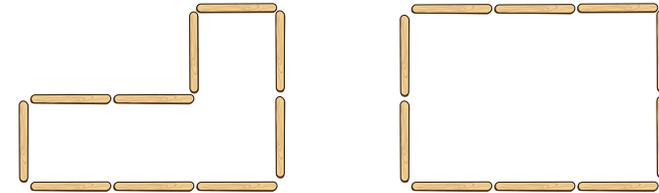
The area is  $32 \text{ cm}^2$

Do you agree with Tiny?

Explain your answer.

No

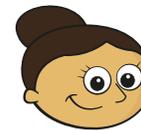
Dora has made two rectilinear shapes using lolly sticks.



The length of each lolly stick is 10 cm.

Work out the perimeter of each shape.

What do you notice?



If I cut a rectangle out of the corner of another rectangle, the perimeter of the rectilinear shape will always be the same as the perimeter of the rectangle I started with.

Do you agree with Dora?

Talk about it with a partner.

both 60 cm

Yes