



**Caroline saves the same amount of money each month.  
She saves £420 in 3 months.**



**How much does she save in a year?**

Mo and Annie are each thinking of a number.

$\frac{2}{3}$  of Mo's number is equal to  $\frac{2}{5}$  of Annie's number.

The difference between their numbers is 72

What is the sum of their numbers?

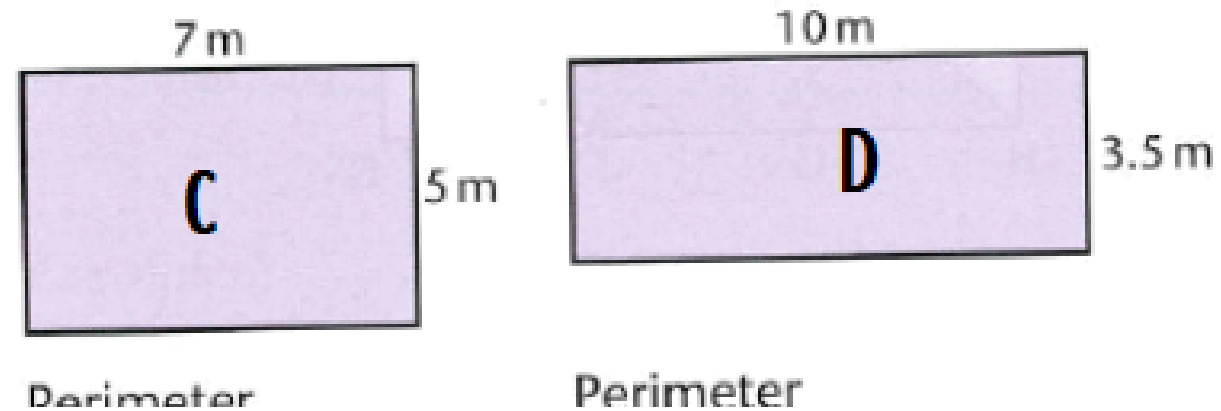
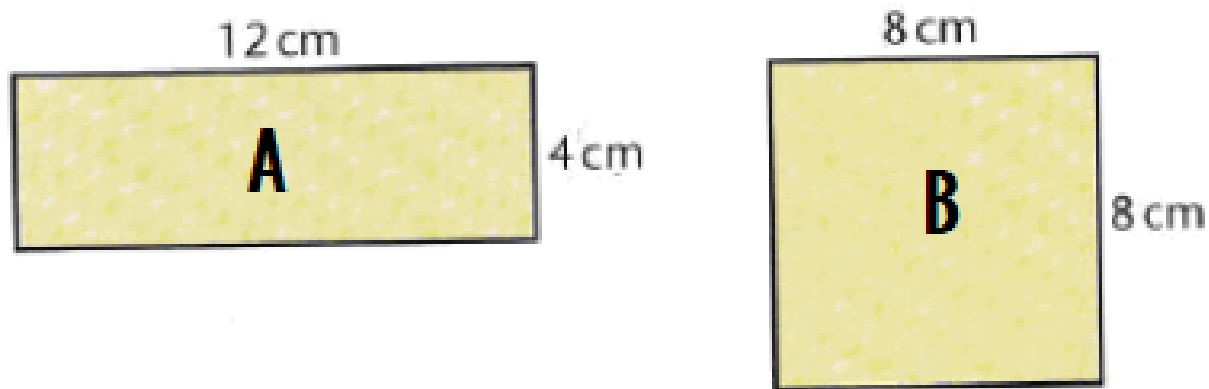
# L.O. Investigate links between area and perimeter.

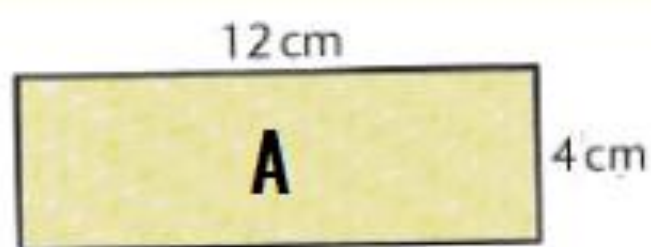
What is area?

What is perimeter?

How can we calculate these?

What is the formula?

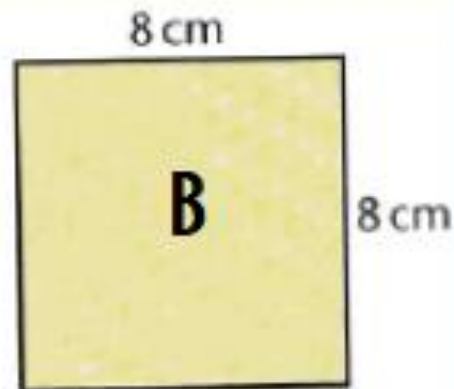




Perimeter  
 $2(12 + 4) \text{ cm}$   
 $2 \times 16 \text{ cm}$   
 $32 \text{ cm}$

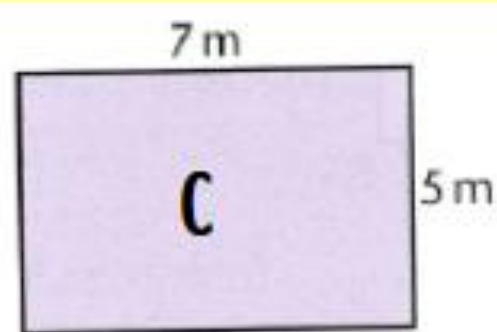
Area  
 $(12 \times 4) \text{ cm}^2$   
 $48 \text{ cm}^2$

The square and the rectangle have the same perimeter but different areas.



Perimeter  
 $2(8 + 8) \text{ cm}$   
 $2 \times 16 \text{ cm}$   
 $32 \text{ cm}$

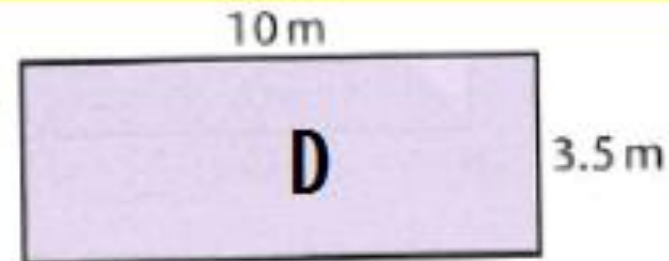
Area  
 $(8 \times 8) \text{ cm}^2$   
 $64 \text{ cm}^2$



Perimeter  
 $2(7 + 5) \text{ m}$   
 $2 \times 12 \text{ m}$   
 $24 \text{ m}$

Area  
 $(7 \times 5) \text{ m}^2$   
 $35 \text{ m}^2$

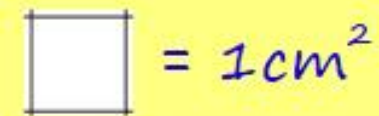
The rectangles have the same area but different perimeters.



Perimeter  
 $2(10 + 3.5) \text{ m}$   
 $2 \times 13.5 \text{ m}$   
 $27 \text{ m}$

Area  
 $(10 \times 3.5) \text{ m}^2$   
 $35 \text{ m}^2$

# L.O. Investigate links between area and perimeter. TYM page 98 & 99



Use 1 cm squared paper.

- Using only the grid lines draw different shapes each with an area of  $16\text{cm}^2$ .  
Work out the perimeter of each shape.

*Examples*



Perimeter 20 cm



Perimeter 18 cm

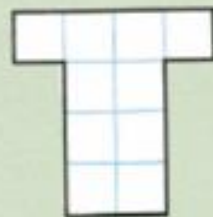
- Which of all the possible shapes has the smallest perimeter?

- Using only the grid lines find ways of drawing shapes with a perimeter of 16 cm.  
Work out the area of each shape.

*Examples*



Area  $12\text{cm}^2$



Area  $10\text{cm}^2$

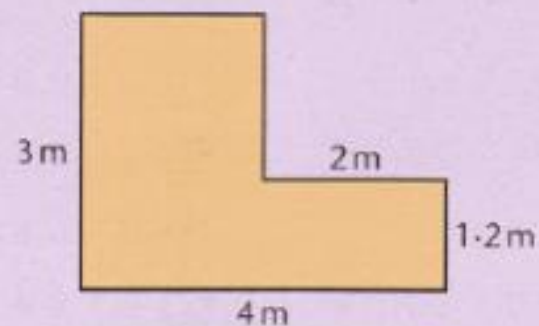
- Which of all the possible shapes has the largest area?

- A farmer has 40 m of fence. What is the maximum area he can enclose using four straight lengths of fence?

- Using 1 cm squared paper, Pabel and Melissa both draw rectangles with an area of  $48\text{cm}^2$ . Pabel's rectangle is 12 cm long. Melissa's rectangle is 4 cm shorter. Give the length and width of both rectangles.



- 5 Use  $1\text{ cm}^2$  paper. Estimate the area of your foot.
- 6 How many square millimetres are there in one square centimetre?
- 7 How many square centimetres are there in one square metre?
- 8 How many square millimetres are there in one square metre?
- 9 A room is 5 metres long by 3 metres wide. It costs £285 to carpet the room. How much does the carpet cost per square metre?
- 10 Each wall tile is 20 cm by 20 cm. How many tiles are needed to cover
- one square metre
  - the area of bathroom wall shown below?



An oblong has a perimeter of 30cm.  
What length could the sides be?



# ANSWERS

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**A**

2 square 4 cm by 4 cm

4 square 4 cm by 4 cm

5 100 m<sup>2</sup>

6 Pavel 12 cm × 4 cm

Melissa 8 cm × 6 cm

**C**

1 (a) 44 cm (b) 92 cm<sup>2</sup>

2 (a) 40 cm (b) 66 cm<sup>2</sup>

3 (a) 46 cm

(b) 76 cm<sup>2</sup> 4 (a) 40 cm

(b) 57 cm<sup>2</sup>

6 100

7 10 000

8 1 000 000 9 £19

10 (a) 25

(b) 210

8.4 m<sup>2</sup>