

11+ Maths Practice Paper

Year 5 · Intermediate

Lesson 6.3: Perimeter and area of 2D polygons

Read this with your child:

1. This paper has **24 questions** in two parts. Work through them in order. The questions get harder as you go.
2. **Part 1** is multiple choice. Choose **one** answer, A, B, C, D or E, and mark it on the separate answer sheet by drawing a firm line through the box next to its letter. If you change your mind, rub the line out completely and mark your new answer.
3. **Part 2** asks you to write your answer. Write it in the boxes on the answer sheet, **one digit in each box**, starting from the left.
4. If a question is hard, leave it and come back to it at the end.
5. You may use rough paper for working out. You may **not** use a calculator.
6. Suggested time: **30 minutes**.

The answer sheet is after the questions. The answers, with a short explanation of each, are at the back for a parent to mark with.

These are original practice questions written by Elite Learners in the style of 11+ entrance tests. They are not produced by, or connected with, GL Assessment or Cambridge University Press & Assessment (CEM).

Example

What is the area of a rectangle 7 cm long and 3 cm wide?

- A** 21 cm² **B** 20 cm² **C** 10 cm² **D** 24 cm² **E** 14 cm²

Answer: A Area = length $\times$ width: $7 \times 3 = 21 \text{ cm}^2$.

The answer, A, has already been marked on your answer sheet.

Now turn over and start Part 1.

Part 1: Multiple choice

1

What is the area of a rectangle 9 cm long and 6 cm wide?

- A 30 cm^2 B 54 cm^2 C 15 cm^2 D 45 cm^2 E 63 cm^2
-

2

What is the perimeter of a rectangle 11 m long and 4 m wide?

- A 15 m B 44 m C 26 m D 34 m E 30 m
-

3

What is the area of a square with sides of 8 m?

- A 32 m^2 B 16 m^2 C 56 m^2 D 64 m^2 E 72 m^2
-

4

A rectangle has an area of 42 cm^2 . It is 7 cm long.

How wide is it?

- A 6 cm B 35 cm C 5 cm D 8 cm E 49 cm
-

5

A square has a perimeter of 36 cm.

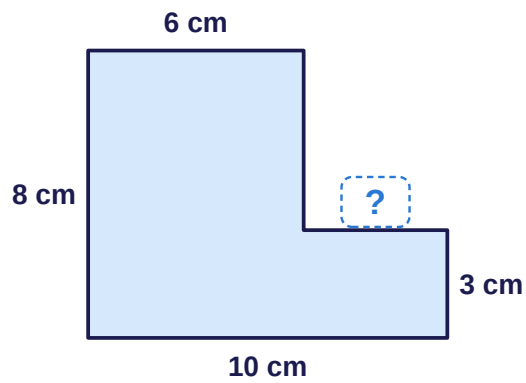
What is its area?

- A 36 cm^2 B 144 cm^2 C 81 cm^2 D 18 cm^2 E 72 cm^2
-

6

All the corners are right angles.

How long is the side marked ?

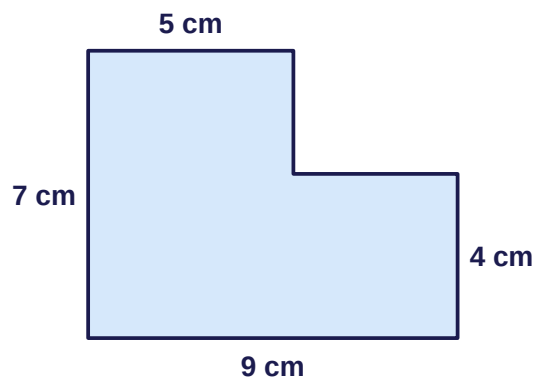


- A** 4 cm **B** 6 cm **C** 16 cm **D** 3 cm **E** 5 cm

7

All the corners are right angles.

What is the perimeter of the shape?

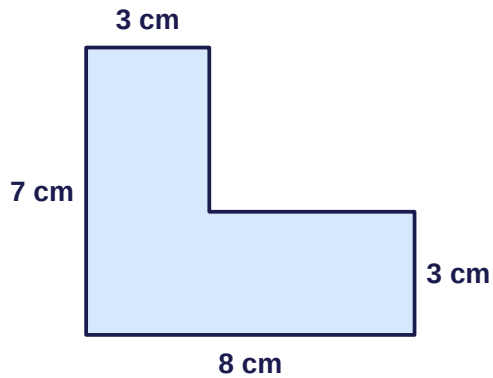


- A** 32 cm **B** 25 cm **C** 63 cm **D** 30 cm **E** 28 cm

8

All the corners are right angles.

What is the area of the shape?



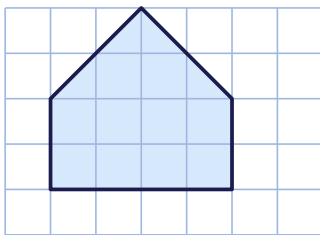
- A** 56 cm^2 **B** 30 cm^2 **C** 33 cm^2 **D** 36 cm^2 **E** 45 cm^2

9

Each square is 1 cm^2 .

The sloping sides cut squares exactly in half.

What is the area of the shaded shape?



- A** 10 cm^2 **B** 12 cm^2 **C** 14 cm^2 **D** 16 cm^2 **E** 11 cm^2

10

Which rectangle has the same area as a rectangle 6 cm long and 4 cm wide?

- A** 5 cm long and 5 cm wide
B 10 cm long and 2 cm wide
C 7 cm long and 3 cm wide
D 8 cm long and 3 cm wide
E 12 cm long and 3 cm wide

11

A rectangle has a perimeter of 24 cm. It is 8 cm long.

How wide is it?

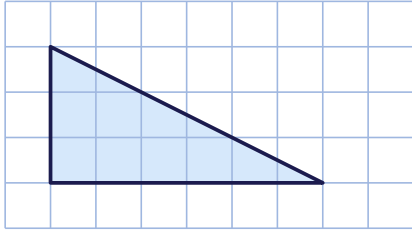
- A** 16 cm **B** 3 cm **C** 2 cm **D** 6 cm **E** 4 cm

12

Each square is 1 cm^2 .

The shaded triangle is half of a rectangle.

What is the area of the triangle?



- A** 18 cm^2 **B** 9 cm^2 **C** 12 cm^2 **D** 10 cm^2 **E** 8 cm^2

13

A field is a rectangle 50 m long and 30 m wide. Fencing costs £4 a metre.

How much does it cost to fence all the way round the field?

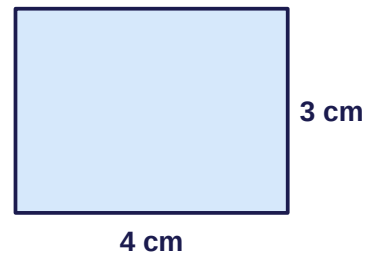
- A** £320 **B** £6000 **C** £600 **D** £160 **E** £640

14

Which of these is true about Shape A and Shape B?



Shape A



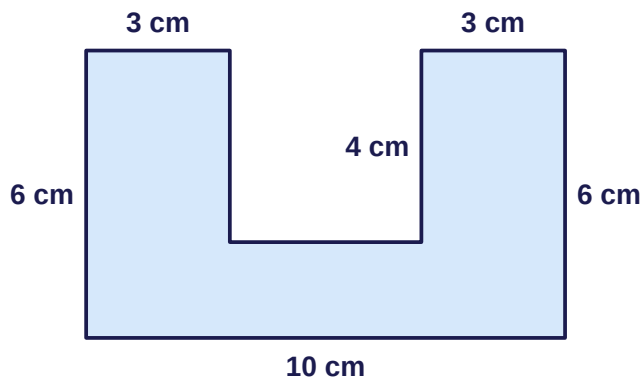
Shape B

- A** Same area; B has the longer perimeter
B Same area; A has the longer perimeter
C Same perimeter; A has the bigger area
D Same perimeter; B has the bigger area
E Same area and same perimeter

15

All the corners are right angles.

What is the perimeter of the shape?



- A** 32 cm **B** 36 cm **C** 40 cm **D** 44 cm **E** 60 cm

16

Square tiles have sides of 10 cm. They cover a rectangle 50 cm long and 30 cm wide with no gaps.

How many tiles are needed?

- A** 150 **B** 8 **C** 15 **D** 16 **E** 1500

17

What is the area of a rectangle 2.5 m long and 4 m wide?

- A** 10 m² **B** 13 m² **C** 8 m² **D** 6.5 m² **E** 100 m²

18

A rectangle has an area of 24 cm² and a perimeter of 22 cm.

How long and how wide is it?

- A** 6 cm long and 4 cm wide
B 12 cm long and 2 cm wide
C 8 cm long and 3 cm wide
D 7 cm long and 4 cm wide
E 24 cm long and 1 cm wide

Part 2: Write your answer

19

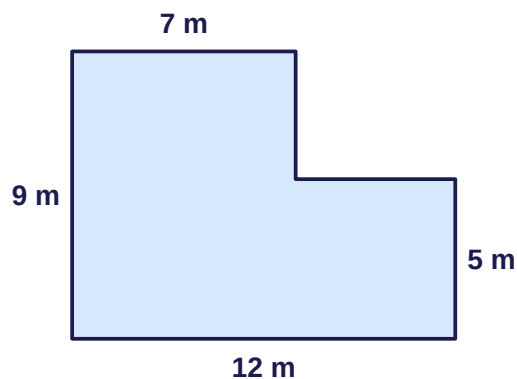
What is the area of a rectangle 15 m long and 6 m wide, in m^2 ?

Write your answer in the boxes on the answer sheet, one digit in each box.

20

All the corners are right angles.

What is the area of the shape, in m^2 ?



Write your answer in the boxes on the answer sheet, one digit in each box.

21

A square has a perimeter of 48 cm.

What is its area, in cm^2 ?

Write your answer in the boxes on the answer sheet, one digit in each box.

22

A rectangle has an area of 60 cm^2 . It is 12 cm long.

What is its perimeter, in cm?

Write your answer in the boxes on the answer sheet, one digit in each box.

23

A patio is a rectangle 9 m long and 7 m wide. It is covered with square slabs 1 m long and 1 m wide.

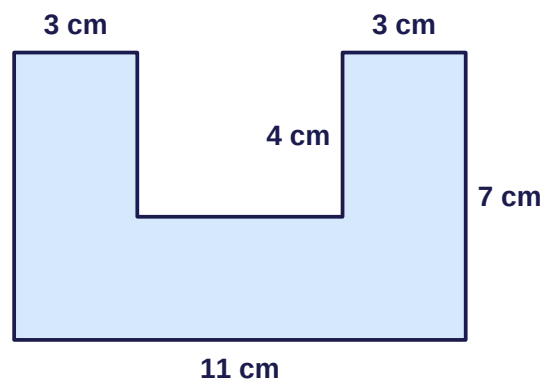
How many slabs are needed?

Write your answer in the boxes on the answer sheet, one digit in each box.

24

All the corners are right angles.

What is the area of the shape, in cm^2 ?



Write your answer in the boxes on the answer sheet, one digit in each box.

Answer sheet

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Name

Draw a firm line through the box next to your answer, like the example.

Part 1: Multiple choice

Ex	A ☒	B ☐	C ☐	D ☐	E ☐
1	A ☐	B ☐	C ☐	D ☐	E ☐
2	A ☐	B ☐	C ☐	D ☐	E ☐
3	A ☐	B ☐	C ☐	D ☐	E ☐
4	A ☐	B ☐	C ☐	D ☐	E ☐
5	A ☐	B ☐	C ☐	D ☐	E ☐
6	A ☐	B ☐	C ☐	D ☐	E ☐
7	A ☐	B ☐	C ☐	D ☐	E ☐
8	A ☐	B ☐	C ☐	D ☐	E ☐
9	A ☐	B ☐	C ☐	D ☐	E ☐
10	A ☐	B ☐	C ☐	D ☐	E ☐
11	A ☐	B ☐	C ☐	D ☐	E ☐
12	A ☐	B ☐	C ☐	D ☐	E ☐
13	A ☐	B ☐	C ☐	D ☐	E ☐
14	A ☐	B ☐	C ☐	D ☐	E ☐
15	A ☐	B ☐	C ☐	D ☐	E ☐
16	A ☐	B ☐	C ☐	D ☐	E ☐
17	A ☐	B ☐	C ☐	D ☐	E ☐
18	A ☐	B ☐	C ☐	D ☐	E ☐

Part 2: Write your answer, one digit in each box

19		22	
20		23	
21		24	

Answers

For a parent to mark with. One mark for each question: the paper is out of 24. Talk through any your child got wrong, using the explanation.

Q	Answer	How to get it
1	B 54 cm ²	$9 \times 6 = 54 \text{ cm}^2$. (30 cm is its perimeter.)
2	E 30 m	$11 + 4 + 11 + 4 = 30 \text{ m}$. (15 m only goes halfway round.)
3	D 64 m ²	$8 \times 8 = 64 \text{ m}^2$.
4	A 6 cm	Length $\times$ width = area, so $7 \times ? = 42$. $42 \div 7 = 6 \text{ cm}$.
5	C 81 cm ²	Each side is $36 \div 4 = 9 \text{ cm}$, so the area is $9 \times 9 = 81 \text{ cm}^2$.
6	A 4 cm	The bottom is 10 cm and the top is 6 cm, so the step across is $10 - 6 = 4 \text{ cm}$.
7	A 32 cm	The missing sides are $9 - 5 = 4 \text{ cm}$ and $7 - 4 = 3 \text{ cm}$. $9 + 4 + 4 + 3 + 5 + 7 = 32 \text{ cm}$.
8	D 36 cm ²	Cut it across: the bottom is $8 \times 3 = 24$, the top is $3 \times (7 - 3) = 3 \times 4 = 12$. $24 + 12 = 36 \text{ cm}^2$.
9	B 12 cm ²	The rectangle part has $4 \times 2 = 8$ squares. The roof has 2 whole squares and 4 half squares, which make 2 more. $8 + 2 + 2 = 12 \text{ cm}^2$.
10	D 8 cm long and 3 cm wide	$6 \times 4 = 24 \text{ cm}^2$, and $8 \times 3 = 24 \text{ cm}^2$ too. The others make 25, 20, 21 and 36.
11	E 4 cm	The two long sides make $8 + 8 = 16 \text{ cm}$. That leaves $24 - 16 = 8 \text{ cm}$ for the two short sides, so each is 4 cm.
12	B 9 cm ²	The rectangle round it is $6 \times 3 = 18$ squares. The triangle is half: $18 \div 2 = 9 \text{ cm}^2$.
13	E £640	A fence goes round the edge: $50 + 30 + 50 + 30 = 160 \text{ m}$. $160 \times £4 = £640$.
14	B Same area; A has the longer perimeter	A: area $6 \times 2 = 12 \text{ cm}^2$, perimeter 16 cm. B: area $4 \times 3 = 12 \text{ cm}^2$, perimeter 14 cm.
15	C 40 cm	The gap at the top is $10 - 3 - 3 = 4 \text{ cm}$ across, and the inside on the left is 4 cm deep, like the right. $10 + 6 + 3 + 4 + 4 + 4 + 3 + 6 = 40 \text{ cm}$.
16	C 15	5 tiles fit along the length and 3 across the width: $5 \times 3 = 15$ tiles.
17	A 10 m ²	$2.5 \times 4 = 10 \text{ m}^2$ (4 lots of 2.5).
18	C 8 cm long and 3 cm wide	$8 \times 3 = 24$ and $8 + 3 + 8 + 3 = 22$. (6 by 4 has the right area, but its perimeter is 20 cm.)
19	90	$15 \times 6 = 90 \text{ m}^2$.
20	88	Cut it across: the bottom is $12 \times 5 = 60$, the top is $7 \times (9 - 5) = 7 \times 4 = 28$. $60 + 28 = 88 \text{ m}^2$.
21	144	Each side is $48 \div 4 = 12 \text{ cm}$, so the area is $12 \times 12 = 144 \text{ cm}^2$.
22	34	The width is $60 \div 12 = 5 \text{ cm}$. The perimeter is $12 + 5 + 12 + 5 = 34 \text{ cm}$.
23	63	9 rows of 7, or $9 \times 7 = 63$ slabs: one for each square metre.

Q	Answer	How to get it
24	57	The big rectangle is $11 \times 7 = 77$. The gap is $11 - 3 - 3 = 5$ cm across and 4 cm deep: $5 \times 4 = 20$. $77 - 20 = 57 \text{ cm}^2$.

Score: out of 24