

Area and perimeter

Exam questions

Foundation and Higher tiers

Please write clearly in block capitals.

Name

Class

Teacher

Time allowed: 75 minutes

Materials

For this booklet you need a black pen, a pencil, a ruler, a rubber and a calculator for Section B.

Instructions

- Use black ink or black ballpoint pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer all questions in the spaces provided.
- **Section A** (questions 1 to 11): you must not use a calculator.
- **Section B** (questions 12 to 23): you may use a calculator.
- Do all rough work in this booklet. Cross through any work you do not want marked.

Information

- The marks for each question are shown in brackets.
- The maximum mark for this booklet is 68.

Advice

- Read each question carefully.
- In all calculations, show clearly how you work out your answer.

For teacher's use

Q	Mark	Q	Mark
1		13	
2		14	
3		15	
4		16	
5		17	
6		18	
7		19	
8		20	
9		21	
10		22	
11		23	
12			
TOTAL			

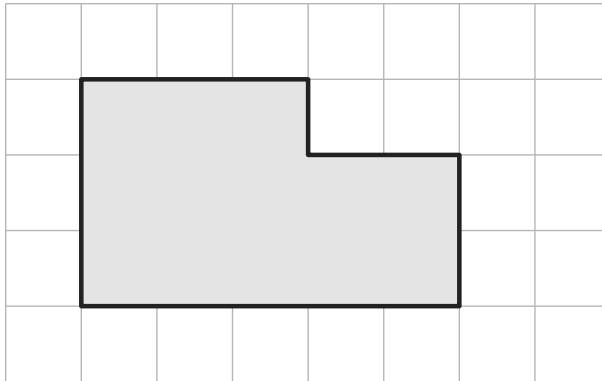
Section A



You must not use a calculator

Do not
write
outside
the box

- 1 The shape is drawn on a centimetre grid.



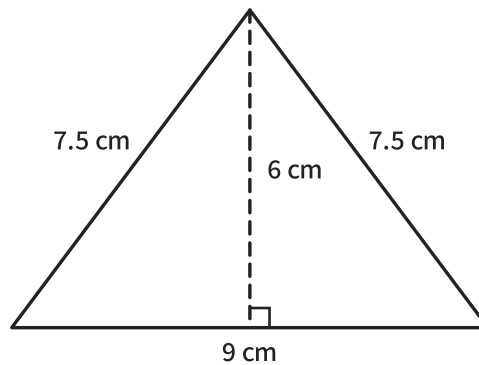
- (a) Work out the area of the shape.

Answer _____ cm^2
[1 mark]

- (b) Work out the perimeter of the shape.

Answer _____ cm
[1 mark]

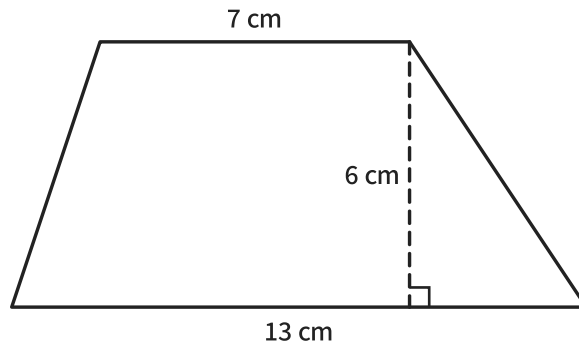
- 2 Work out the area of the triangle.



Not drawn accurately

Answer _____ cm^2
[2 marks]

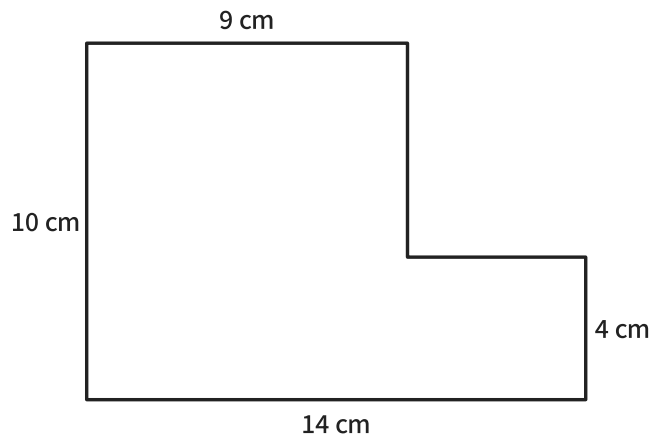
- 3 Work out the area of the trapezium.



Not drawn accurately

Answer _____ cm^2
[2 marks]

- 4 The diagram shows a shape made from rectangles.
All the corners are right angles.



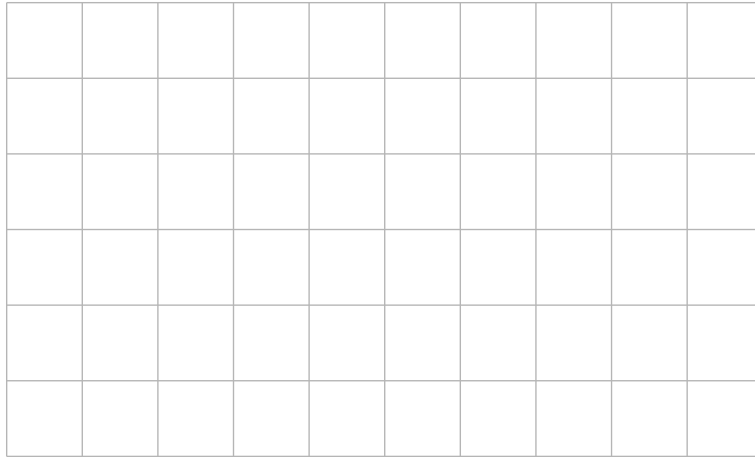
Not drawn accurately

Work out the perimeter of the shape.

Answer _____ cm
[3 marks]

5

On the centimetre grid, draw a parallelogram with an area of 12 cm^2 .
Your parallelogram must not be a rectangle.

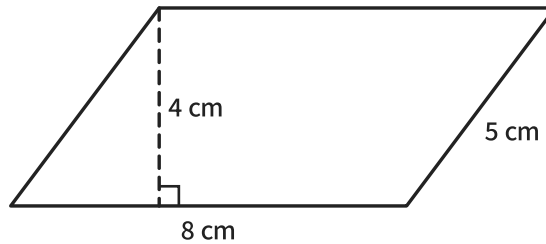


[2 marks]

6

Lucy works out the area of this parallelogram.
Here is her working.

$$\text{Area} = 8 \times 5 = 40 \text{ cm}^2$$



Not drawn accurately

(a) Explain the mistake Lucy has made.

[1 mark]

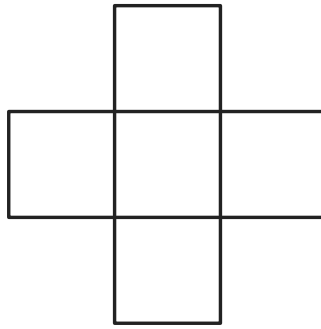
(b) Work out the area of the parallelogram.

Answer _____ cm^2

[1 mark]

Do not
write
outside
the box

- 7 This shape is made from five identical squares.
The perimeter of the shape is 72 cm

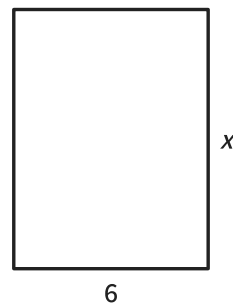
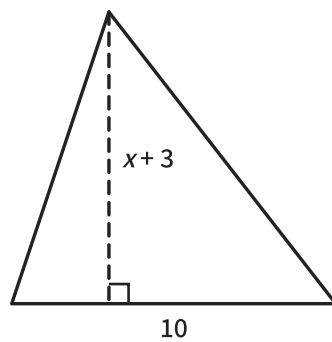


Not drawn accurately

Work out the area of the shape.

Answer _____ cm^2
[3 marks]

- 8 The triangle and the rectangle have the same area.
All lengths are in centimetres.



Not drawn accurately

Work out the value of x .

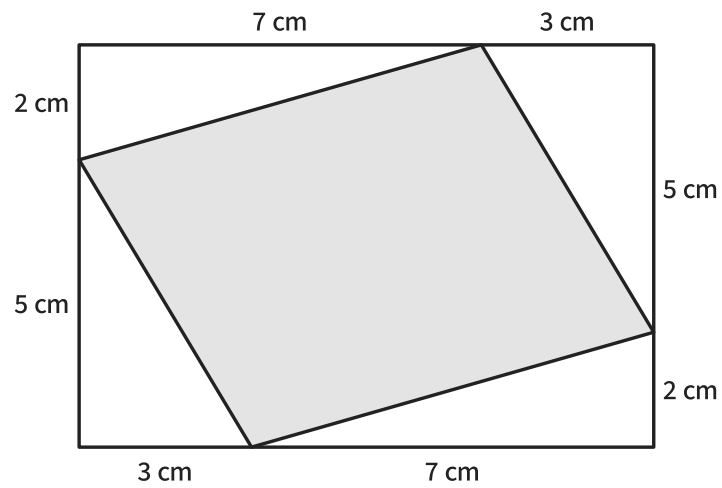
Answer _____
[3 marks]

Do not
write
outside
the box

9

A badge is a rectangle 10 cm by 7 cm.

The shaded parallelogram has its corners on the sides of the rectangle.



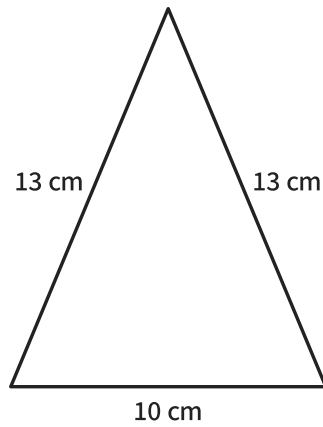
Not drawn accurately

Show that the area of the shaded parallelogram is 41 cm^2

Do not
write
outside
the box

[3 marks]

- 10** Work out the area of the isosceles triangle.



Not drawn accurately

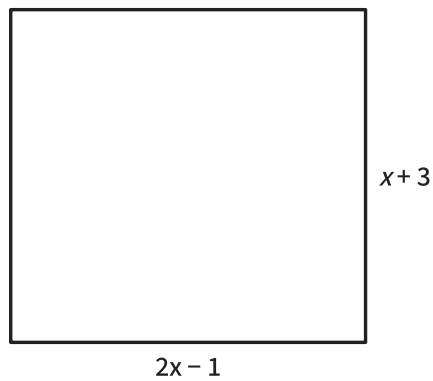
Do not
write
outside
the box

Answer _____ cm^2

[3 marks]

11

The area of the rectangle is 60 cm^2
All lengths are in centimetres.



Not drawn accurately

Work out the perimeter of the rectangle.

Answer _____ cm

[5 marks]

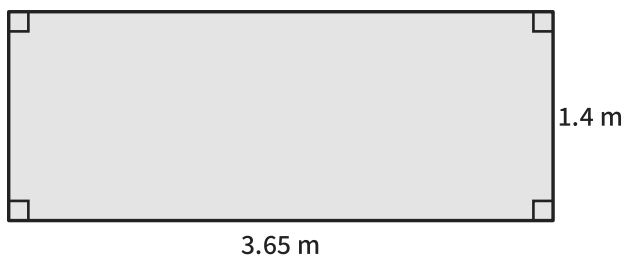
Do not
write
outside
the box

Section B

You may use a calculator

Do not
write
outside
the box

- 12** Leon has a rectangular vegetable bed.
He is going to put wooden edging all the way round the bed.
The edging costs £4.80 per metre.



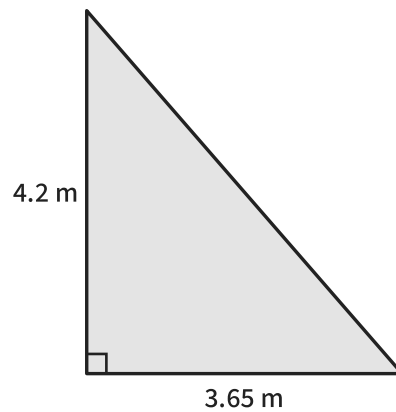
Not drawn accurately

Work out the cost of the edging.

Answer £ _____

[3 marks]

- 13** The diagram shows the sail of a dinghy.
The sail is a right-angled triangle.



Not drawn accurately

Work out the area of the sail.

Answer _____ m^2

[2 marks]

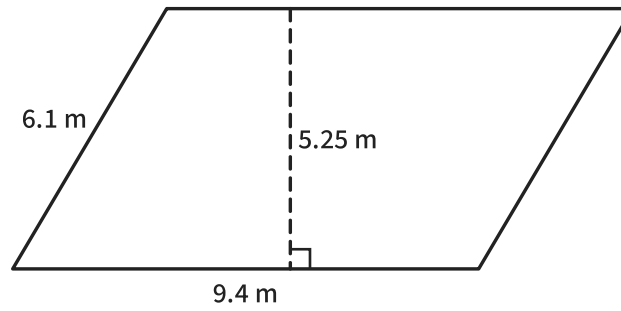
- 14** Sam is putting new turf on a rectangular lawn.
The lawn is 7.25 m long and 4.8 m wide.
Turf costs £3.85 per square metre.

Work out the cost of the turf for the whole lawn.

Answer £ _____

[3 marks]

- 15** A flower bed is in the shape of a parallelogram.



Not drawn accurately

Work out the area of the flower bed.

Answer _____ m^2
[2 marks]

- 16** A rectangular dance floor has an area of 21.06 m^2
The length of the dance floor is 5.4 m

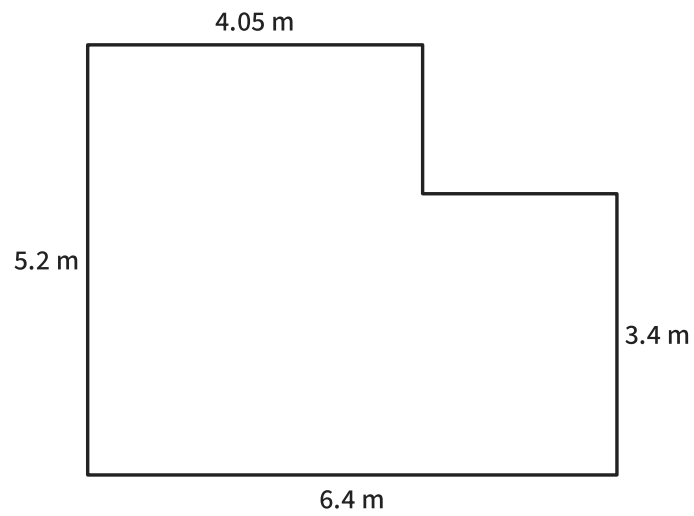
Work out the perimeter of the dance floor.

Answer _____ m
[3 marks]

Do not
write
outside
the box

- 17** The diagram shows the plan of a floor.
All the corners are right angles.

Do not
write
outside
the box



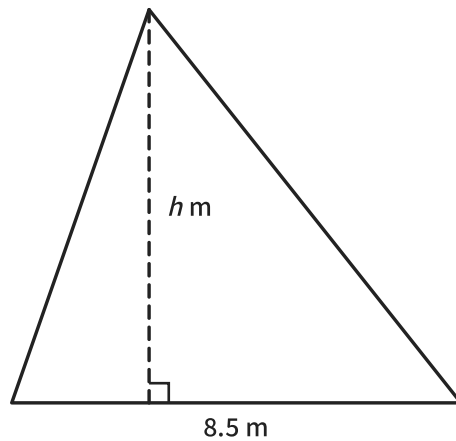
Not drawn accurately

Work out the area of the floor.

Answer _____ m^2

[3 marks]

- 18** A garden designer marks out a triangular flower bed.
The area of the flower bed is 31.62 m^2



Not drawn accurately

Work out the value of h .

Answer _____ m

[3 marks]

- 19** A farmer is putting a fence all the way round a rectangular paddock.
The paddock is 84.5 m long and 52.75 m wide.
The fence is made from panels 2.5 m long.
Panels can be cut to fit.

Work out the number of panels the farmer needs.

Answer _____

[3 marks]

20

Jas wants to cover a rectangular patio with paving slabs.

The patio is 4.8 m long and 3.6 m wide.

Each slab is a rectangle 60 cm by 40 cm

Slabs are sold in packs of 8

A pack costs £27.50

Work out the cost of the slabs Jas needs.

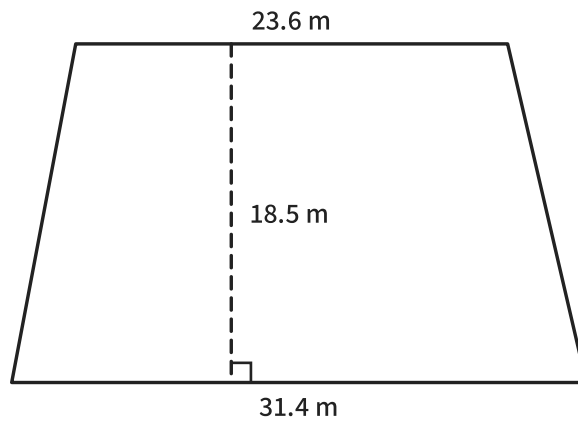
Do not
write
outside
the box

Answer £ _____

[4 marks]

21

Ravi's allotment is in the shape of a trapezium.
He is going to spread fertiliser over all of the allotment.
He uses 40 g of fertiliser for each square metre.
Fertiliser is sold in 5 kg bags.



Not drawn accurately

How many bags of fertiliser does Ravi need?
You must show your working.

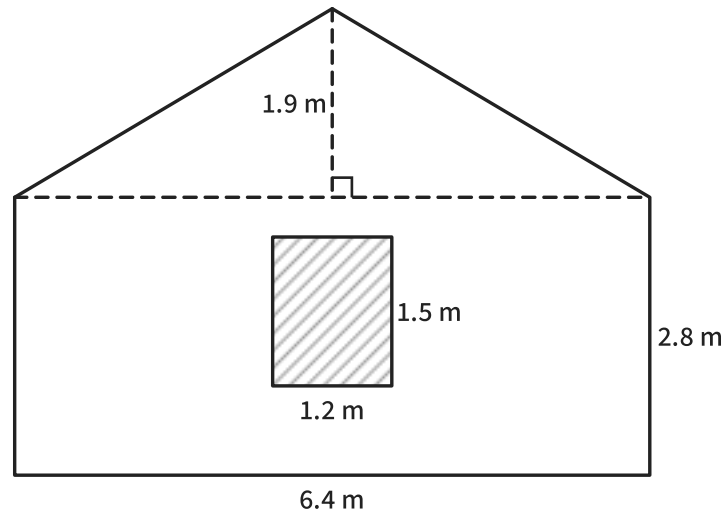
Answer _____

[4 marks]Do not
write
outside
the box

22

The diagram shows the end wall of a garden room.
 Tom is going to paint the wall, but not the window.
 He will give the wall two coats of paint.
 One tin of paint covers 12 m^2
 Tom has 3 tins of paint.

Do not
 write
 outside
 the box



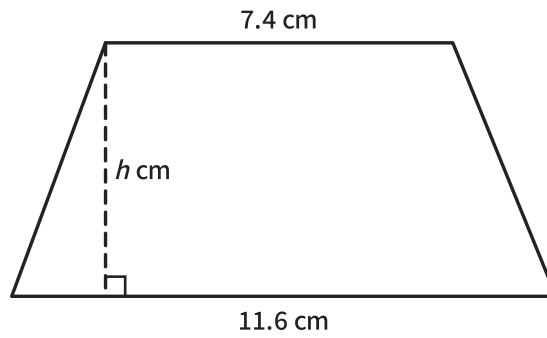
Not drawn accurately

Does Tom have enough paint?
 You must show your working.

[5 marks]

23

The area of the trapezium is 51.3 cm^2



Not drawn accurately

Work out the value of h .

Answer _____ cm

[3 marks]

END OF QUESTIONS

Do not
write
outside
the box