MME

GCSE MATHEMATICS
AQA | Edexcel | OCR | WJEC

Areas of Shapes

Please write clearly in block capitals

Forename:
Surname:

Materials

For this paper you must have:
- mathematical instruments

You *can* use a calculator.

Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.
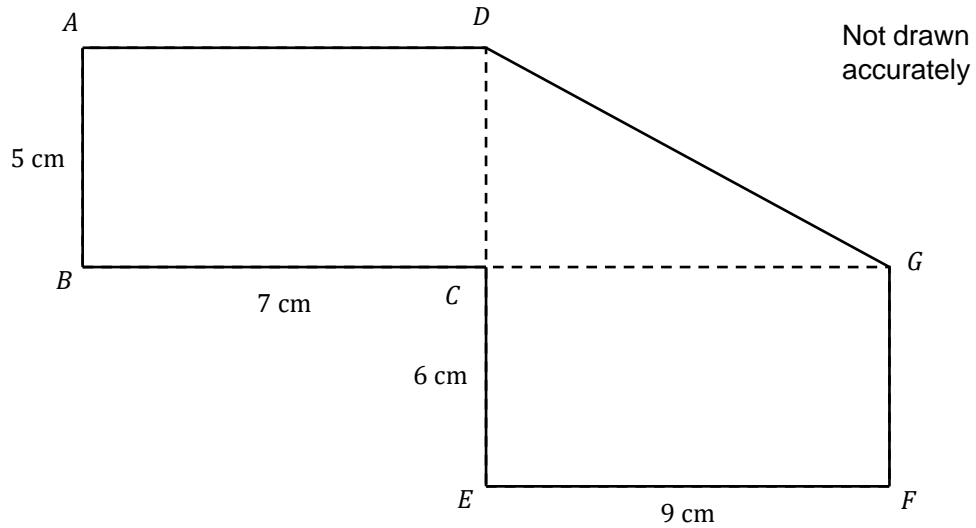
Information

- The marks for questions are shown in brackets.
- You may ask for graph paper, tracing paper and more answer paper. These must be tagged securely to this answer book.

Advice

- In all calculations, show clearly how you work out your answer.

1   The diagram shows a plan of some cardboard packaging.

Not drawn accurately

Calculate the total area of the cardboard used.

[3 marks]

_____

_____

_____

_____

_____

Answer _____ cm^2

Turn over for next question

Turn over ►

2   The diagram shows the floor plan of a storeroom

The owner has ordered 14 items that each need at least 200 cm^2 of floor space.

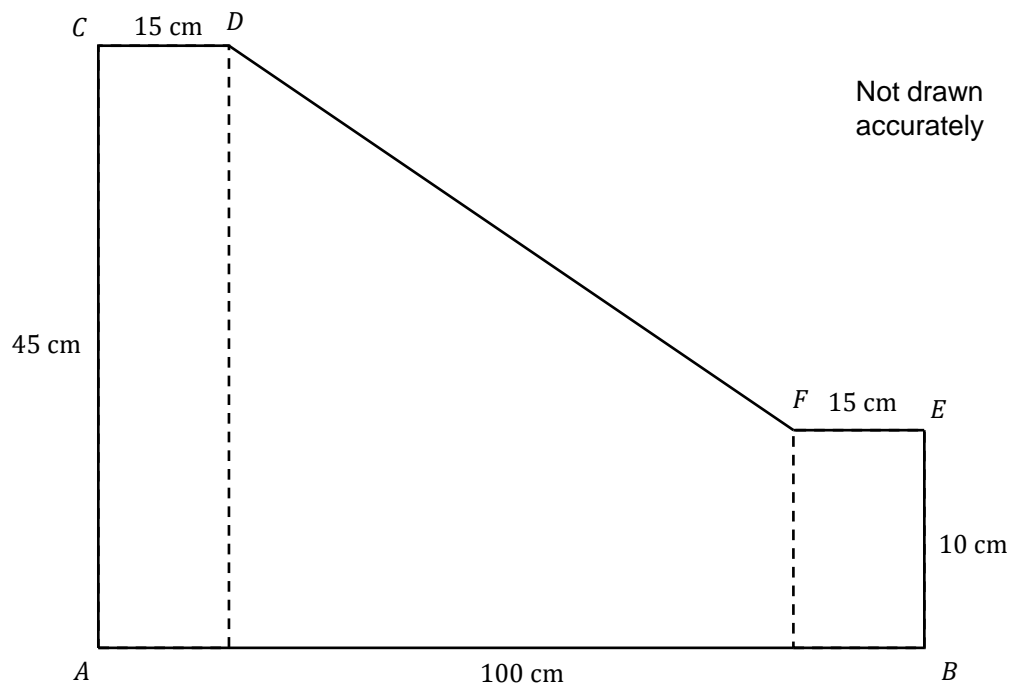$CD = 15$ cm

$CA = 45$ cm

$AB = 100$ cm

$FE = 15$ cm

$EB = 10$ cm

Is there enough room in the storeroom for all the items?

You **must** show your working.
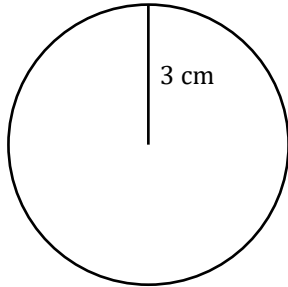
[3 marks]

_____

_____

_____

_____

_____

Answer _____
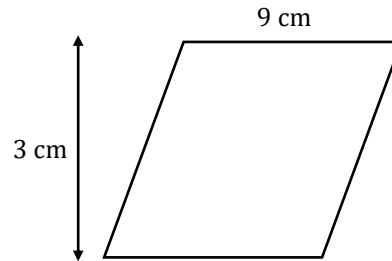
Turn over for next question

3

3 Circle two of the four shapes below, which have the same area.

[2 marks]

A

9 cm

3 cm

Not drawn accurately
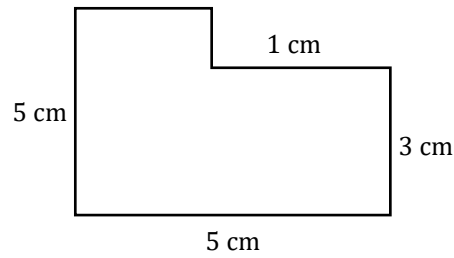
B

6 cm

3 cm

12 cm
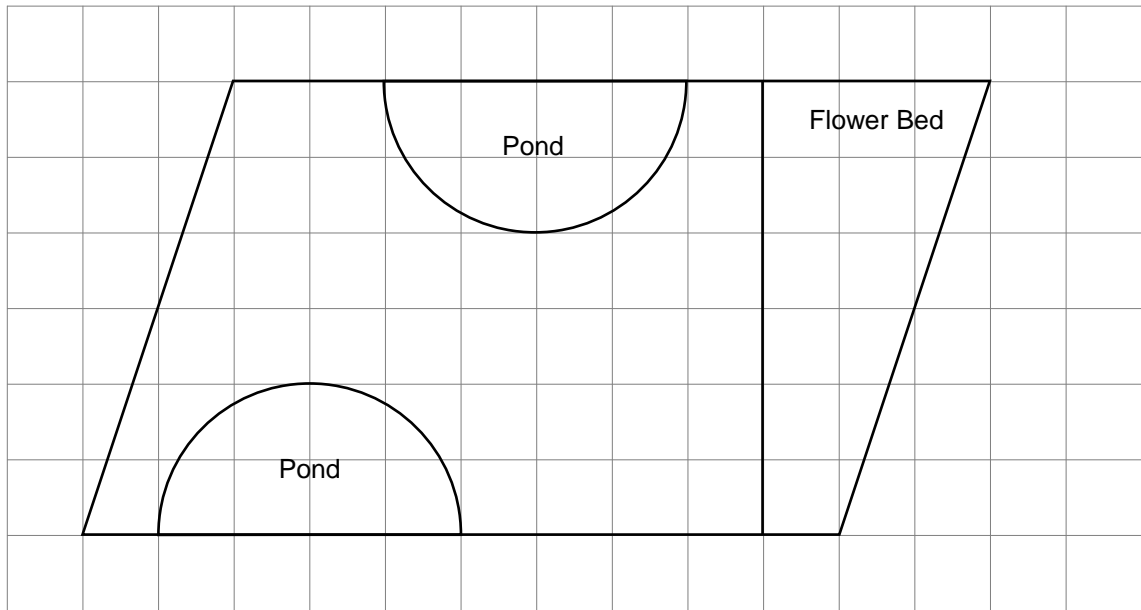
C

1 cm

5 cm

3 cm

5 cm
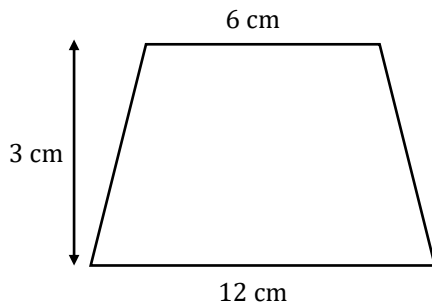
D

Turn over for next question

Turn over ▶

4   A gardener is planning a new garden that is in the shape of a parallelogram. It features two ponds and a flower bed.

The rest of the space will be filled with grass.

The plan of the garden has been drawn to scale on a 1 cm grid labelled below.

$1 \text{ cm} = 5 \text{ m}$

Calculate the area that will be covered with grass.

Give your answer to 2 decimal places.
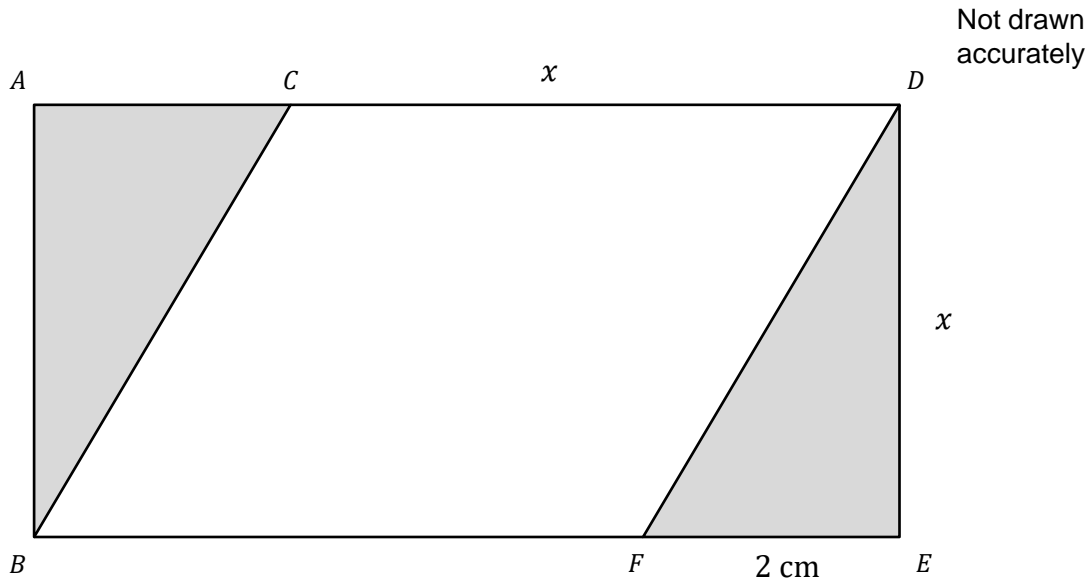
[3 marks]

_____

_____

_____

_____

Answer _____ m²

Turn over for next question

3

Turn over ▶

5   In the diagram the combined area of triangles ACB and FDE are equal to the area of the parallelogram $BCDF$.

$CD = x$
$DE = x$
$FE = 2$ cm

Not drawn
accurately

A C x D

x

B F 2 cm E

Find the value of x.

[3 marks]

_____

_____

_____

_____

$x =$ _____

3

Turn over ►

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6   The diagram shows a regular hexagon set inside a trapezium.

Not drawn accurately
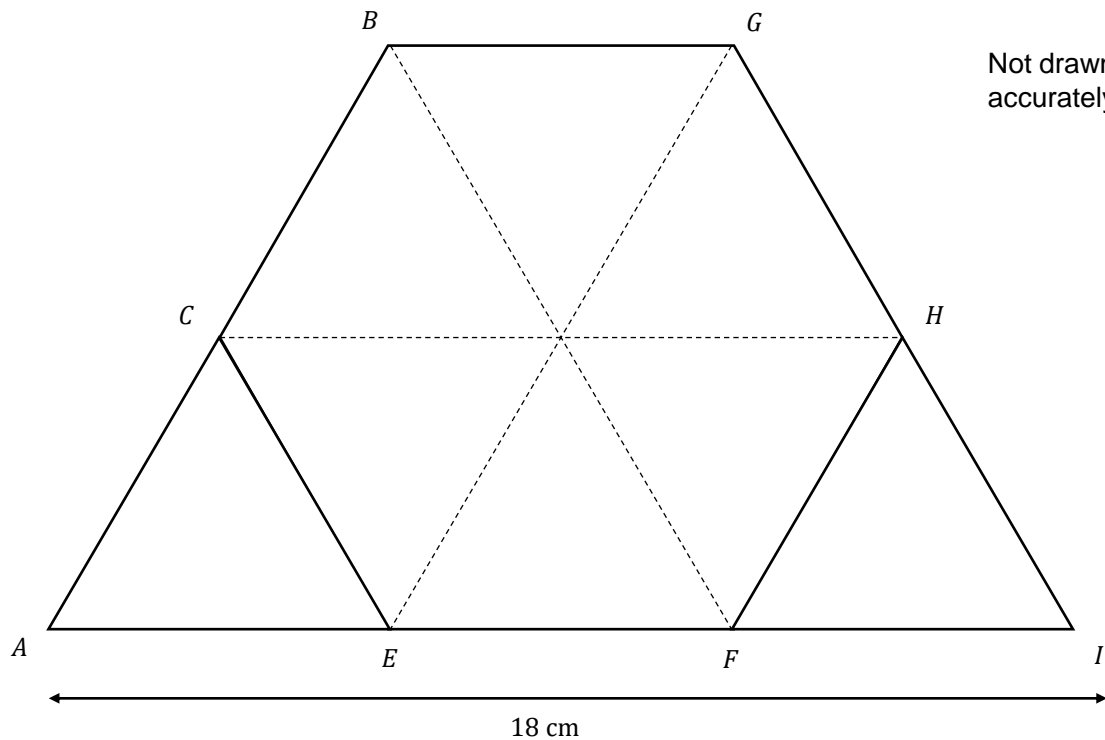
Find the area of the regular hexagon $BGHFEC$.

Give your answer to 2 decimal places.

[3 marks]

_____

_____

_____

_____

_____

_____

Answer _____

Turn over for next question

$\dfrac{}{3}$

Turn over ▶

7   The diagram shows a regular hexagon set inside an isosceles trapezium.

$BG = 4$ cm
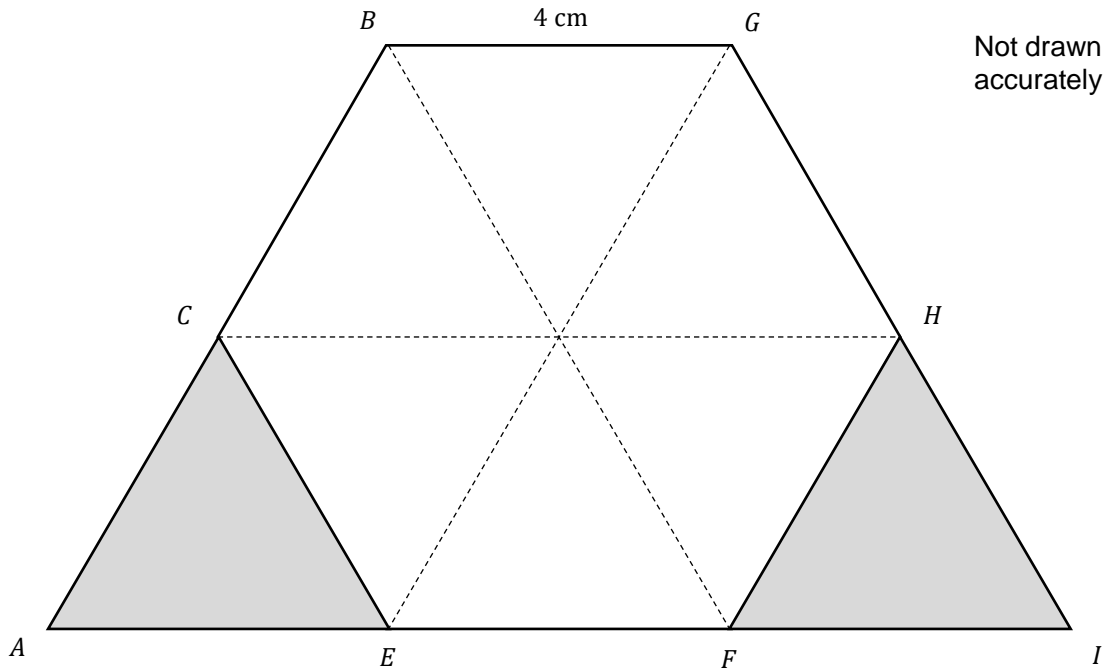
Not drawn accurately

Find the exact total area of the shaded triangles ACE and FHI.

[3 marks]

_____

_____

_____

_____

_____

_____

Answer _____

End of Questions

3

END