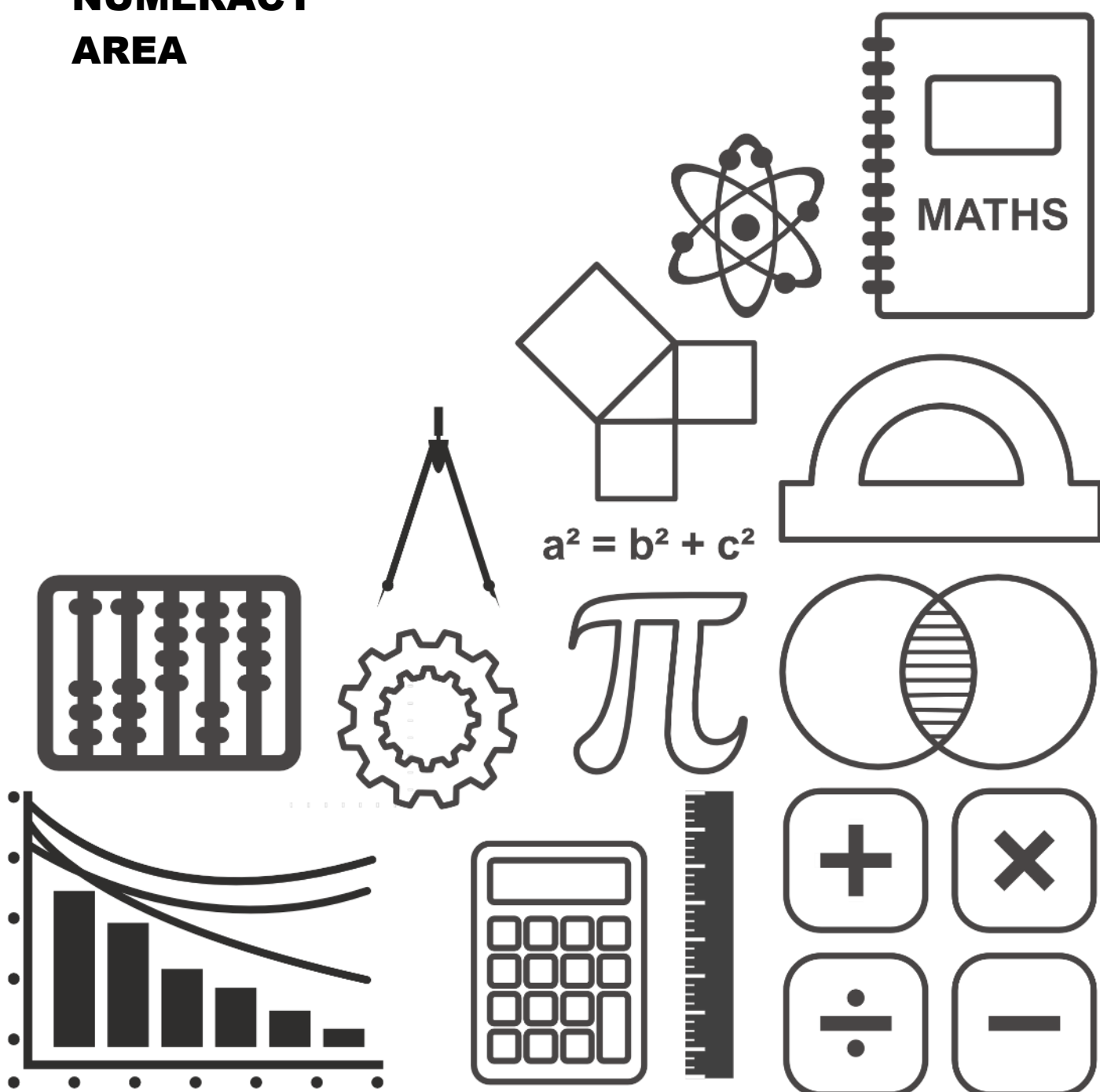


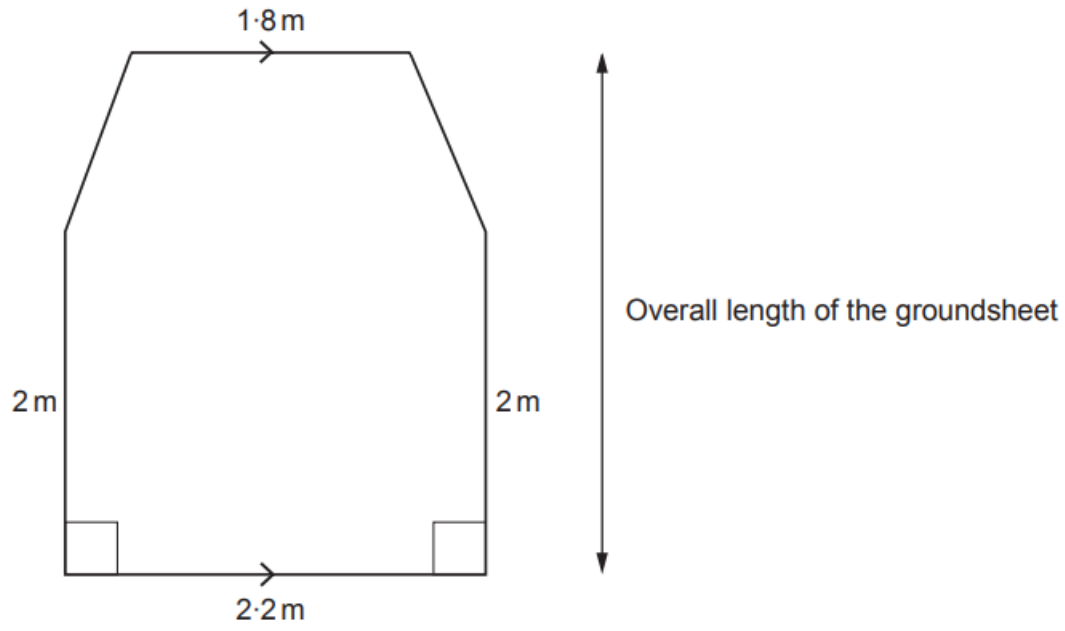
# MATHSDIY

## GCSE TOPIC BOOKLET NUMERACY AREA



1.

The diagram shows the groundsheet of a tent.



*Diagram not drawn to scale*

The area of the groundsheet is  $6.8\text{ m}^2$ .  
 The width of the groundsheet is  $2.2\text{ m}$ .  
 Calculate the overall length of the groundsheet.

[4]

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2. Sioned and Rhodri are making a kite.

A diagram of the kite they are making is shown below.  
 $AC$  and  $DB$  are the diagonals of the kite.  
 $AE = 22$  cm,  $EC = 28$  cm and  $DE = 20$  cm.

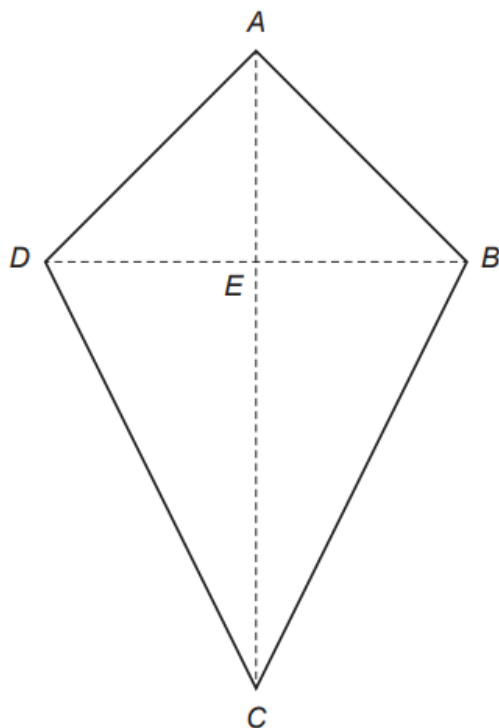


Diagram not drawn to scale

Sioned says,

“The best length for the tail on a kite depends on the area of the kite.”

Sioned refers to the table below that she has seen on the internet.

Area of the kite, $A$	Best length for the tail
$A < 500 \text{ cm}^2$	2 m
$500 \text{ cm}^2 \leq A < 900 \text{ cm}^2$	2.4 m
$900 \text{ cm}^2 \leq A < 1200 \text{ cm}^2$	3.1 m
$1200 \text{ cm}^2 \leq A$	3.5 m

Work out the best length of tail for Sioned and Rhodri's kite.  
 You must show all your working.

[4]

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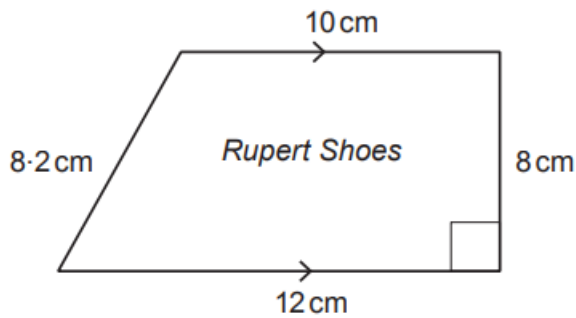
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3. *Rupert Shoes* sells shoes online.

(a) The designer has drawn a sketch of a new label to stick on the shoeboxes.



*Diagram not drawn to scale*

She takes the sketch to the printers.  
The table shows the costs for printing 100 labels.

Area of label, to the nearest $\text{cm}^2$	Cost to print 100 labels
Up to $80\text{ cm}^2$	£1.15
$81\text{ cm}^2$ to $85\text{ cm}^2$	£1.25
$86\text{ cm}^2$ to $89\text{ cm}^2$	£1.50
$90\text{ cm}^2$ or more	£1.75

How much will it cost to have 500 of the designer's label printed?  
 You must show all your working.

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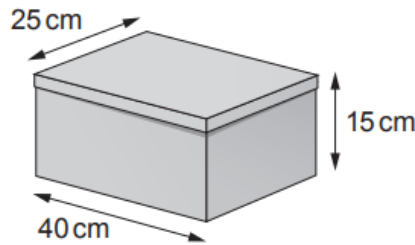
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- (b) Pairs of shoes are packed in shoeboxes.  
 The dimensions of the shoebox used are given on the diagram below.



*Diagram not drawn to scale*

What is the area of the smallest face of the shoebox?  
 Circle your answer.

[1]

- 40 cm<sup>2</sup>      225 cm<sup>2</sup>      375 cm<sup>2</sup>      800 cm<sup>2</sup>      1000 cm<sup>2</sup>

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4. The gardens at Castell Gwynhir cover an area of 714 000 m<sup>2</sup>.

Water ponds cover  $\frac{2}{7}$  of the area of the gardens.

Calculate the area covered by water ponds.

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Area covered by water ponds is ..... m<sup>2</sup>

5. Gustav is making some scones for his sister's birthday party.

Gustav also makes a birthday cake for his sister.  
The top face of the cake is in the shape of a trapezium.

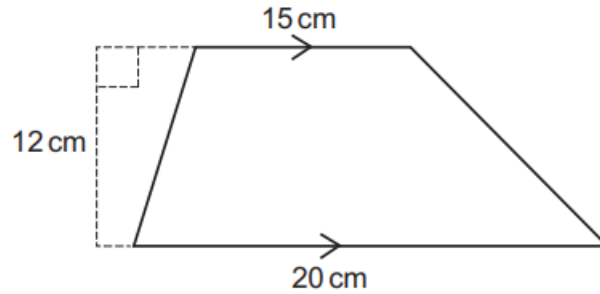


Diagram not drawn to scale

Gustav plans to ice the top face of the cake.  
Each packet of icing costs £1.35 and is enough to cover  $65 \text{ cm}^2$ .  
He has to buy complete packets of icing.

- (i) Calculate the area of the top face of the cake Gustav has made. [2]

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- (ii) How much will it cost Gustav to ice the top face of the cake?  
You must show all your working. [3]

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