

GCSE Grade 5

Maths

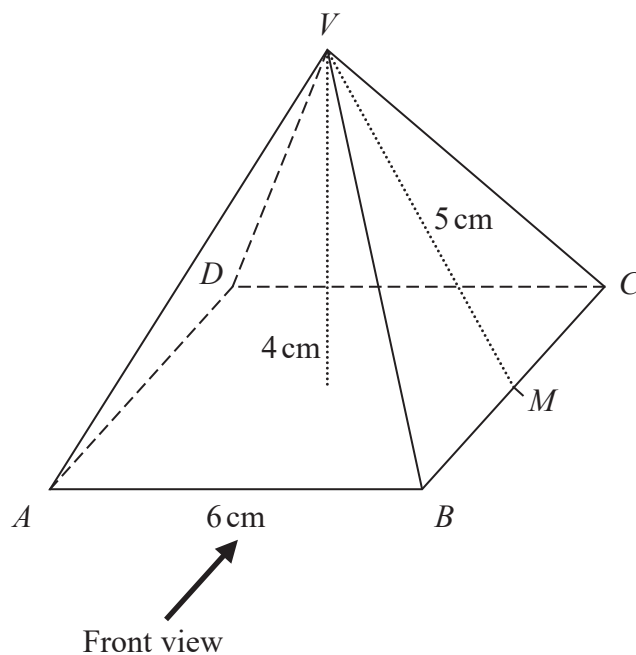
Booklet 1

Paper 1H

Non-Calculator

www.ggmaths.co.uk

- 1 Here is a solid square-based pyramid, $VABCD$.



The base of the pyramid is a square of side 6 cm.

The height of the pyramid is 4 cm.

M is the midpoint of BC and $VM = 5$ cm.

- (a) Draw an accurate front elevation of the pyramid from the direction of the arrow.



(2)



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(b) Work out the total surface area of the pyramid.

.....
(4)

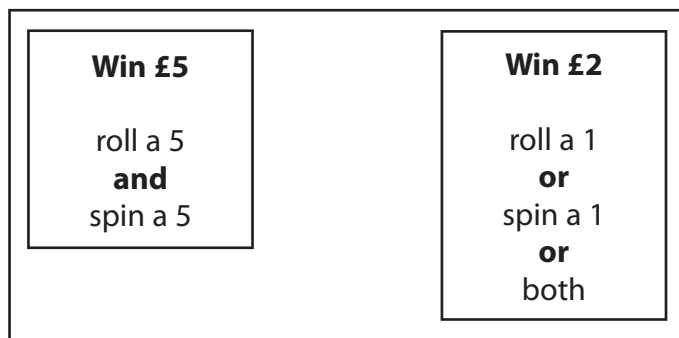
(Total for Question 1 is 6 marks)



P 4 8 8 6 1 A 0 7 2 0

- 2 David has designed a game.
He uses a fair 6-sided dice and a fair 5-sided spinner.
The dice is numbered 1 to 6
The spinner is numbered 1 to 5

Each player rolls the dice once and spins the spinner once.
A player can win £5 or win £2



David expects 30 people will play his game.
Each person will pay David £1 to play the game.

- (a) Work out how much profit David can expect to make.

£.....

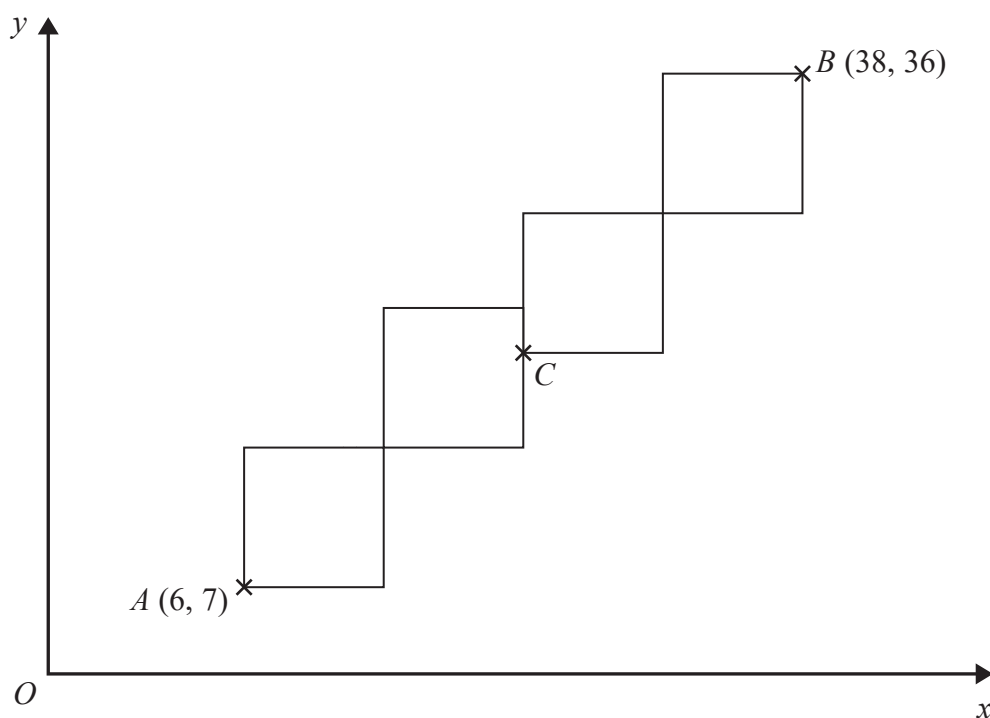
(4)

- (b) Give a reason why David's actual profit may be different to the profit he expects to make.

(1)

(Total for Question 2 is 5 marks)

- 3 A pattern is made from four identical squares.
The sides of the squares are parallel to the axes.



Point A has coordinates $(6, 7)$
Point B has coordinates $(38, 36)$
Point C is marked on the diagram.

Work out the coordinates of C .

(.....,)

(Total for Question 3 is 5 marks)

- 4 The perimeter of a right-angled triangle is 72 cm.
The lengths of its sides are in the ratio 3 : 4 : 5

Work out the area of the triangle.

.....cm²

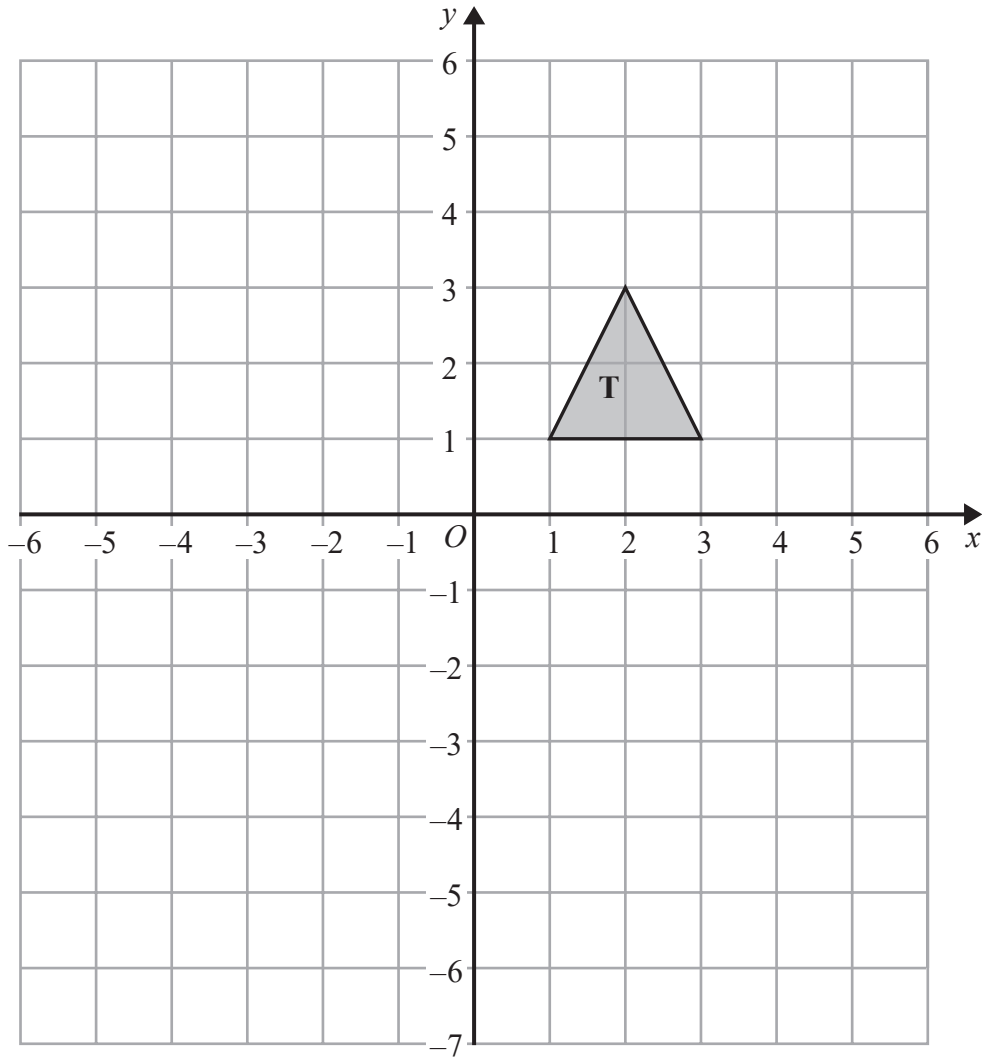
(Total for Question 4 is 4 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA





Shape **T** is reflected in the line $x = -1$ to give shape **R**.
 Shape **R** is reflected in the line $y = -2$ to give shape **S**.

Describe the **single** transformation that will map shape **T** to shape **S**.

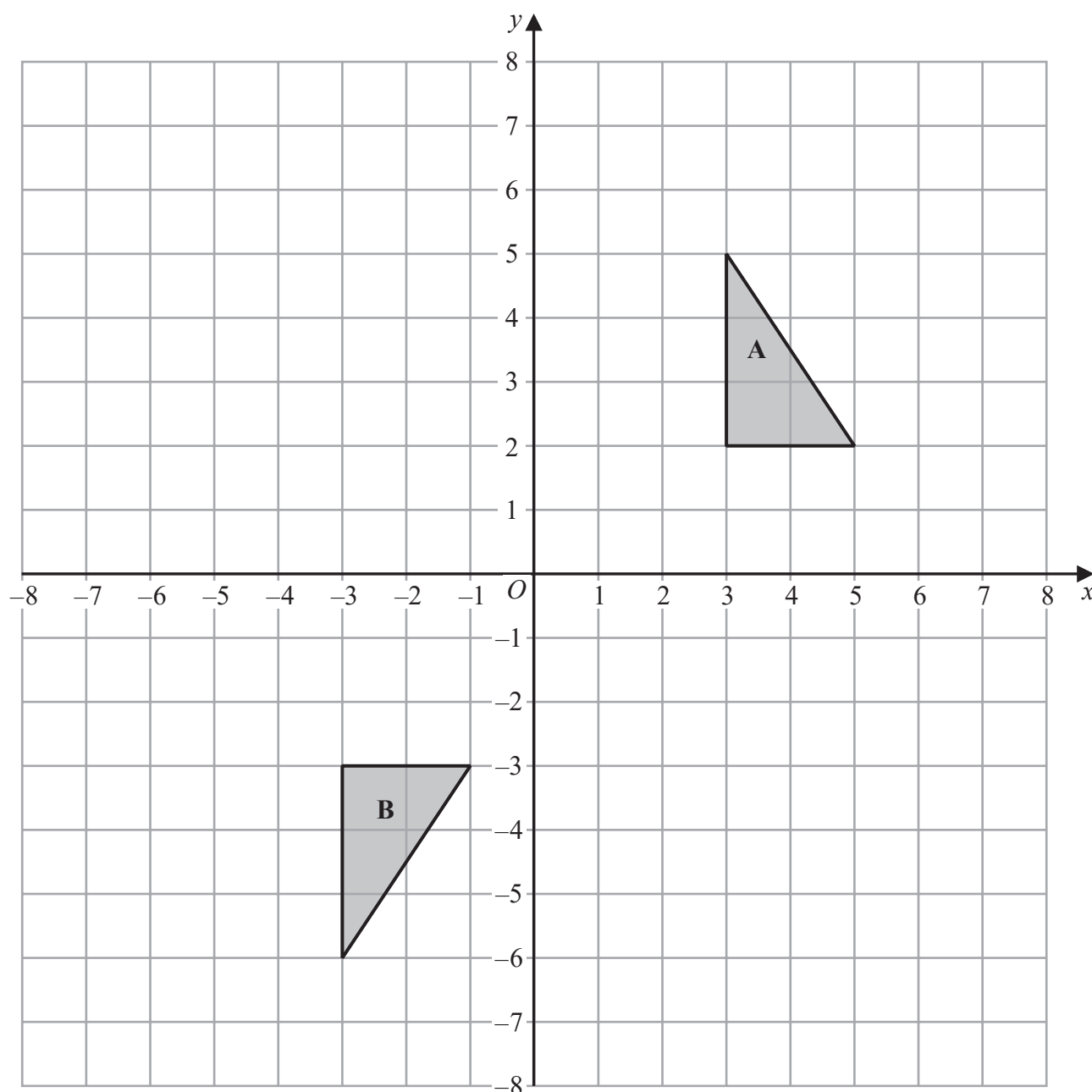
.....

.....

.....

(Total for Question 5 is 2 marks)





DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

Shape **A** can be transformed to shape **B** by a reflection in the x -axis followed by a translation $\begin{pmatrix} c \\ d \end{pmatrix}$

Find the value of c and the value of d .

$c = \dots\dots\dots$

$d = \dots\dots\dots$

(Total for Question 6 is 3 marks)



- 7 A shop sells packs of black pens, packs of red pens and packs of green pens.

There are

2 pens in each pack of black pens

5 pens in each pack of red pens

6 pens in each pack of green pens

On Monday,

$$\begin{array}{l} \text{number of packs} \\ \text{of black pens sold} \end{array} : \begin{array}{l} \text{number of packs} \\ \text{of red pens sold} \end{array} : \begin{array}{l} \text{number of packs} \\ \text{of green pens sold} \end{array} = 7:3:4$$

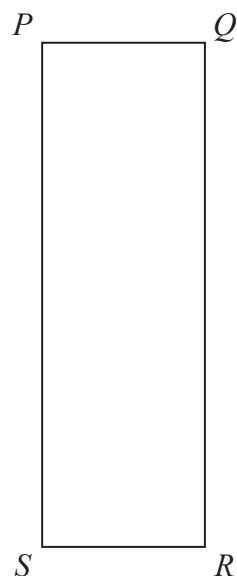
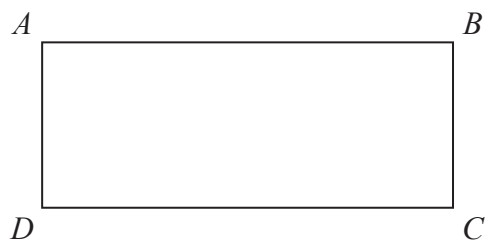
A total of 212 pens were sold.

Work out the number of green pens sold.

(Total for Question 7 is 4 marks)



8 Here are two rectangles.



$$QR = 10 \text{ cm}$$

$$BC = PQ$$

The perimeter of $ABCD$ is 26 cm

The area of $PQRS$ is 45 cm^2

Find the length of AB .

..... cm

(Total for Question 8 is 4 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

