



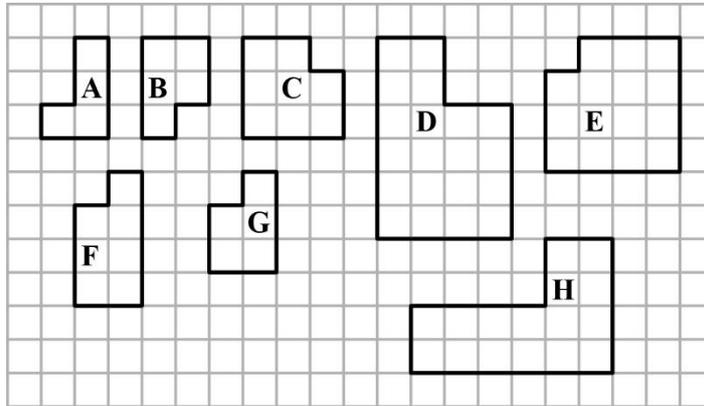
NAME

Time:

Non-Calculator Questions



1 Here are some shapes drawn on squared paper.



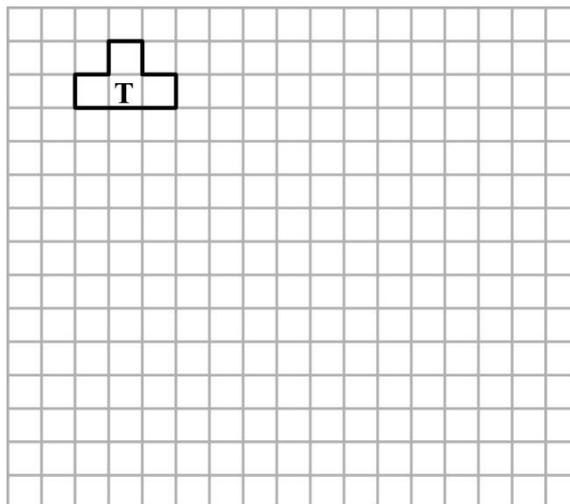
a Write down the letters of the two shapes that are congruent.

(1 mark)

b Write down the letter of the shape that is similar to shape A.

(1 mark)

3 The diagram shows a shape T drawn on a grid of squares.



a On the grid, draw a shape that is congruent to shape T.

Label your shape R.

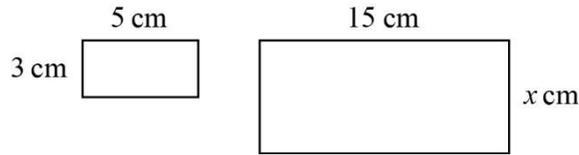
(1 mark)

- b On the grid, draw a shape that is similar but not congruent to shape T.
Label your shape V.

(2 marks)



- 5 These two rectangles are similar.



- a Work out the value of x .

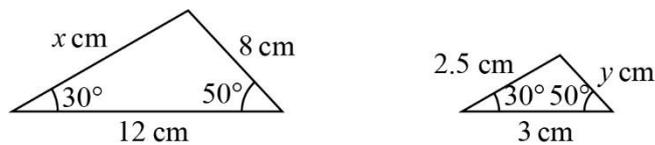
(2 marks)

- b Work out the ratio of the area of the small rectangle to the area of the large rectangle.
Give your ratio in its simplest form.

(2 marks)



- 7 These two triangles are similar.



- a Work out the value of x .

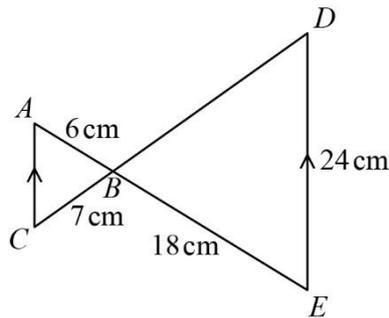
(2 marks)

- b Work out the value of y .

(2 marks)



9 In the diagram AC is parallel to DE .



a Explain why triangles ABC and EBD are similar.

(2 marks)

b Work out the length of BD .

(2 marks)

c Work out the length of AC .

(2 marks)



11 Write, as a single column vector,

a $\begin{pmatrix} 3 \\ 5 \end{pmatrix} + \begin{pmatrix} 4 \\ -1 \end{pmatrix}$

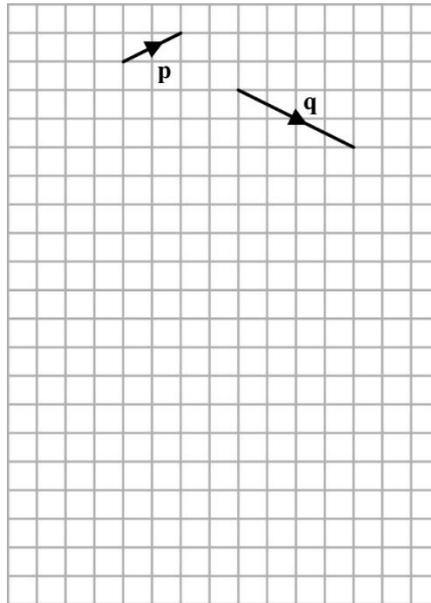
(2 marks)

b $\begin{pmatrix} 8 \\ 2 \end{pmatrix} - \begin{pmatrix} 6 \\ 7 \end{pmatrix}$

(2 marks)



13 Here are two vectors, **p** and **q**.



On the grid, draw and label the vector

a $3p$

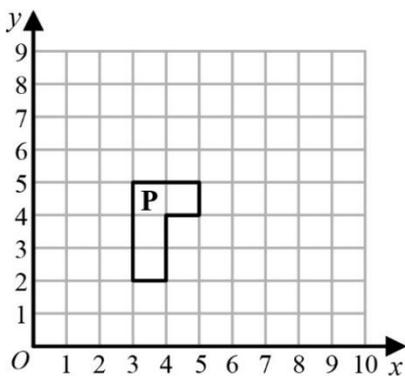
(1 mark)

b $p + q$

(2 marks)



15 Shape **P** has been drawn on a grid.



Shape **P** is translated to shape **Q** by the column vector $\begin{pmatrix} 4 \\ -2 \end{pmatrix}$

a On the grid, draw and label shape **Q**. (2 marks)

Shape **P** is translated to shape **R** by the column vector $\begin{pmatrix} -2 \\ 3 \end{pmatrix}$

b On the grid, draw and label shape **R**.

(2 marks)

Overall mark /