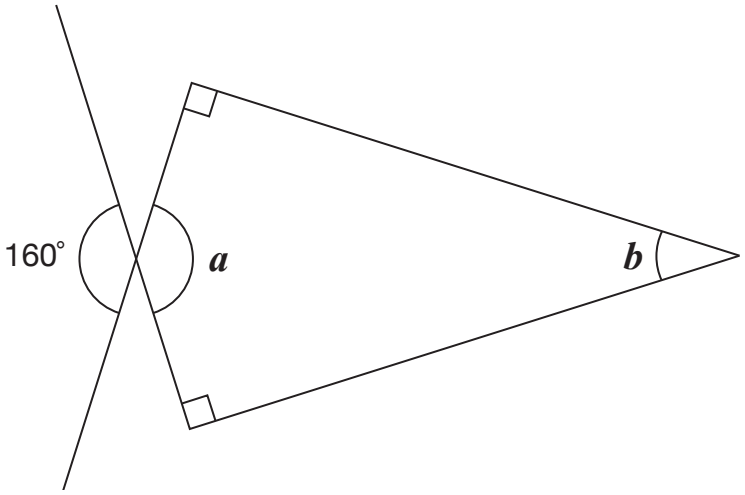
17 Calculate the size of angles a and b in this diagram.



Not to scale

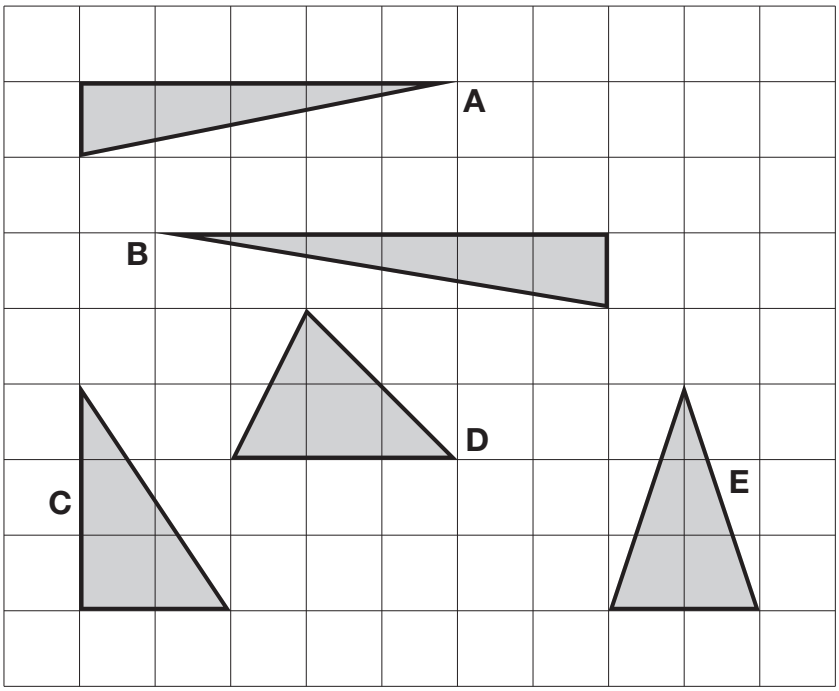
$a =$ ☐ °

1 mark

$b =$ ☐ °

1 mark

17 Here are five triangles on a square grid.



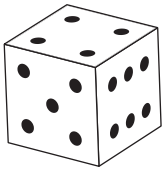
Four of the triangles have the same area.

Which triangle has a **different** area?

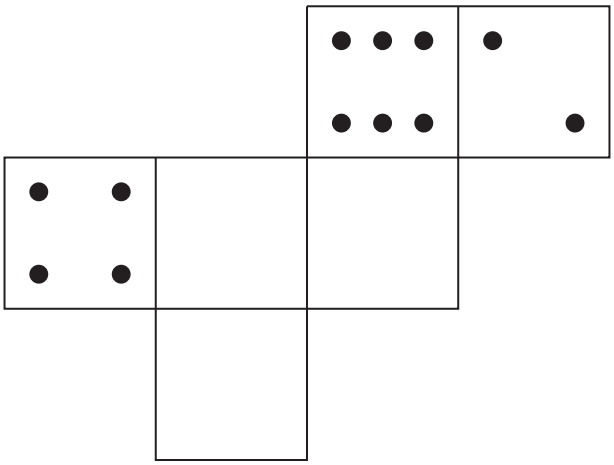
_____

1 mark

17 On a dice, the sum of the dots on opposite faces is always 7

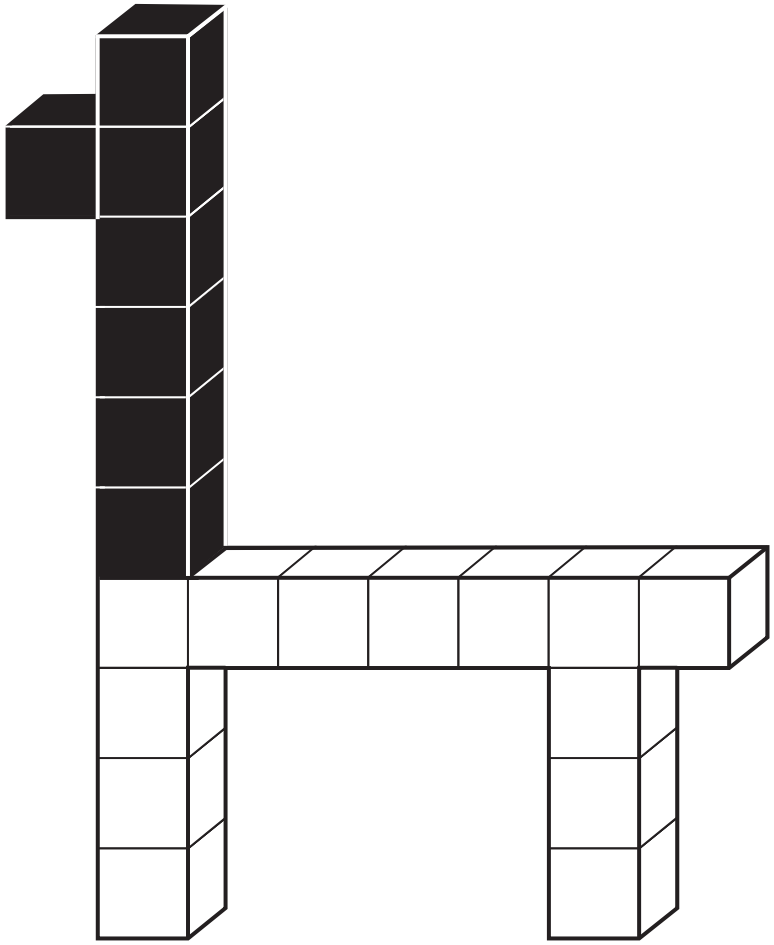


Draw dots on the three empty faces of the net so that it could fold up to make a dice.



1 mark

17 This model is made with 20 cubes.



What **percentage** of the cubes in the model is black?

%

1 mark

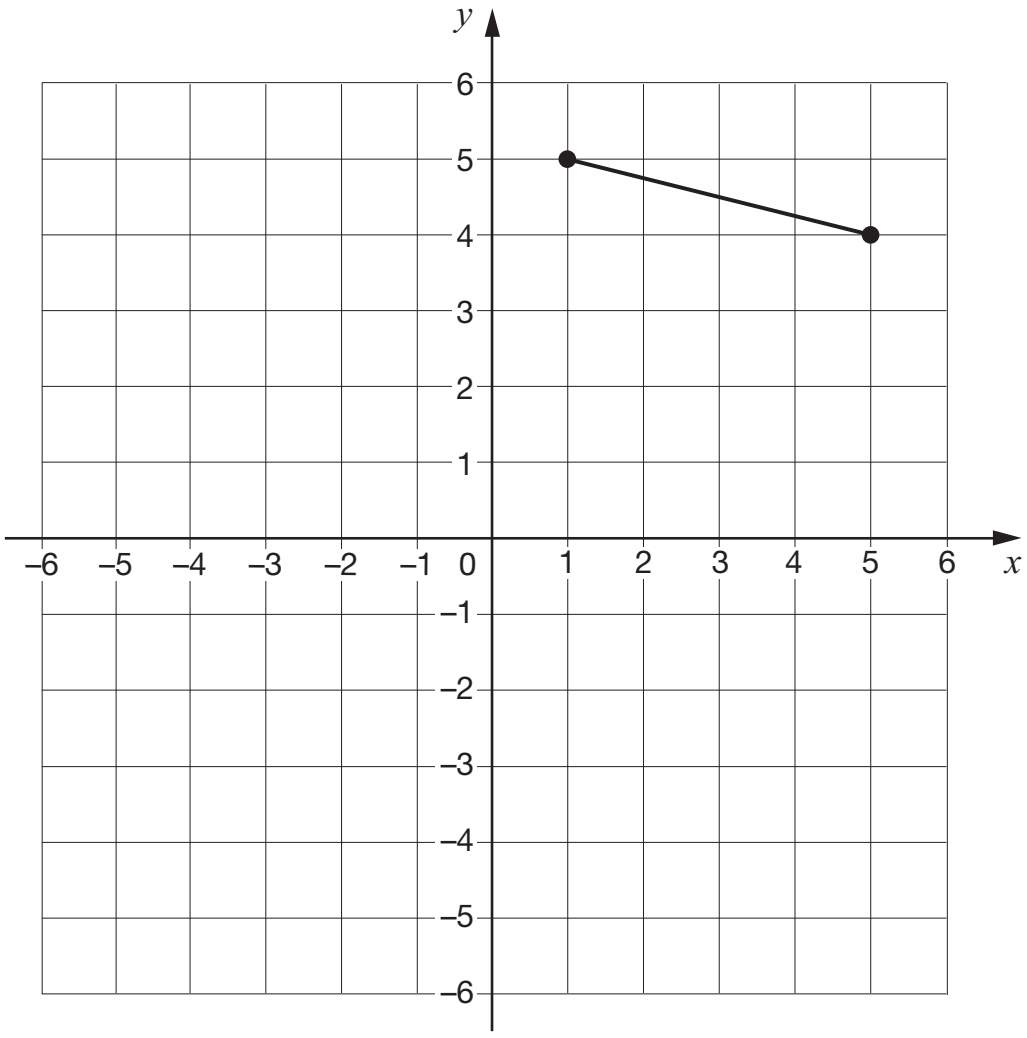
17 The vertices of a quadrilateral have these coordinates.

(1, 5) (5, 4) (1, –3) (–3, 4)

One side of the quadrilateral has been drawn on the grid.

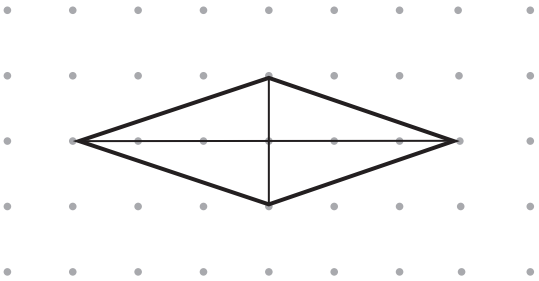
Complete the quadrilateral.

Use a ruler.

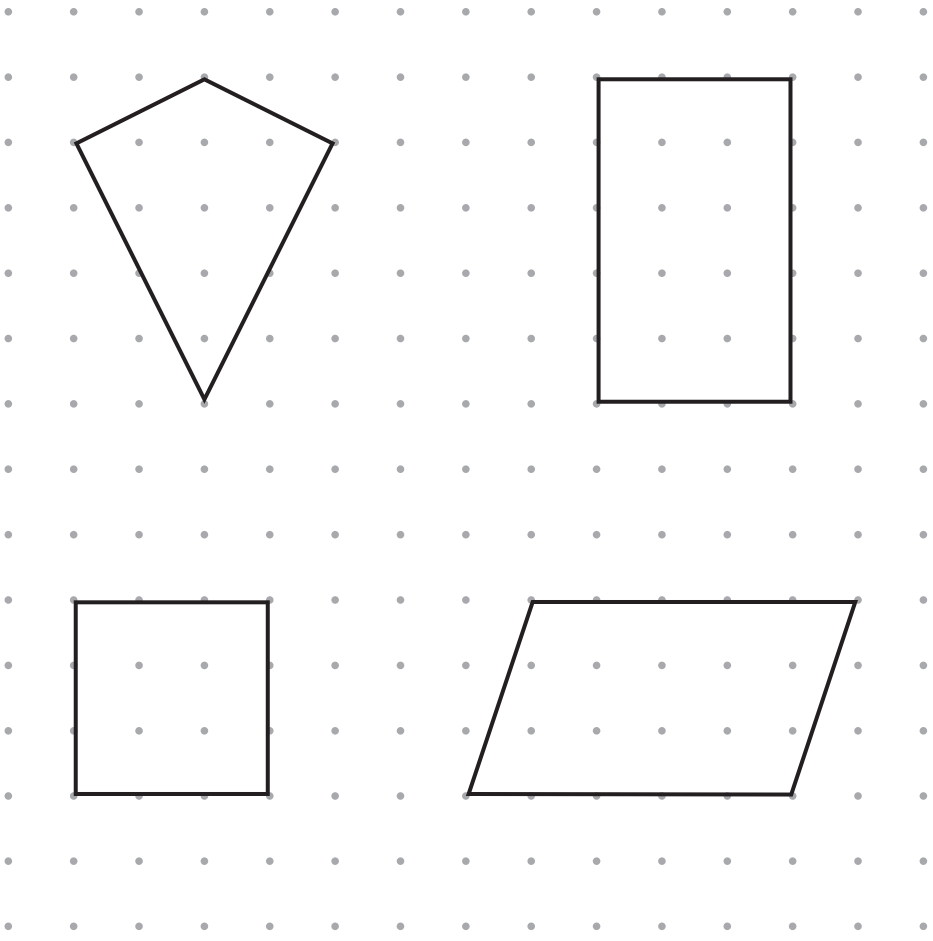


1 mark

18 The diagonals of this quadrilateral cross at right angles.

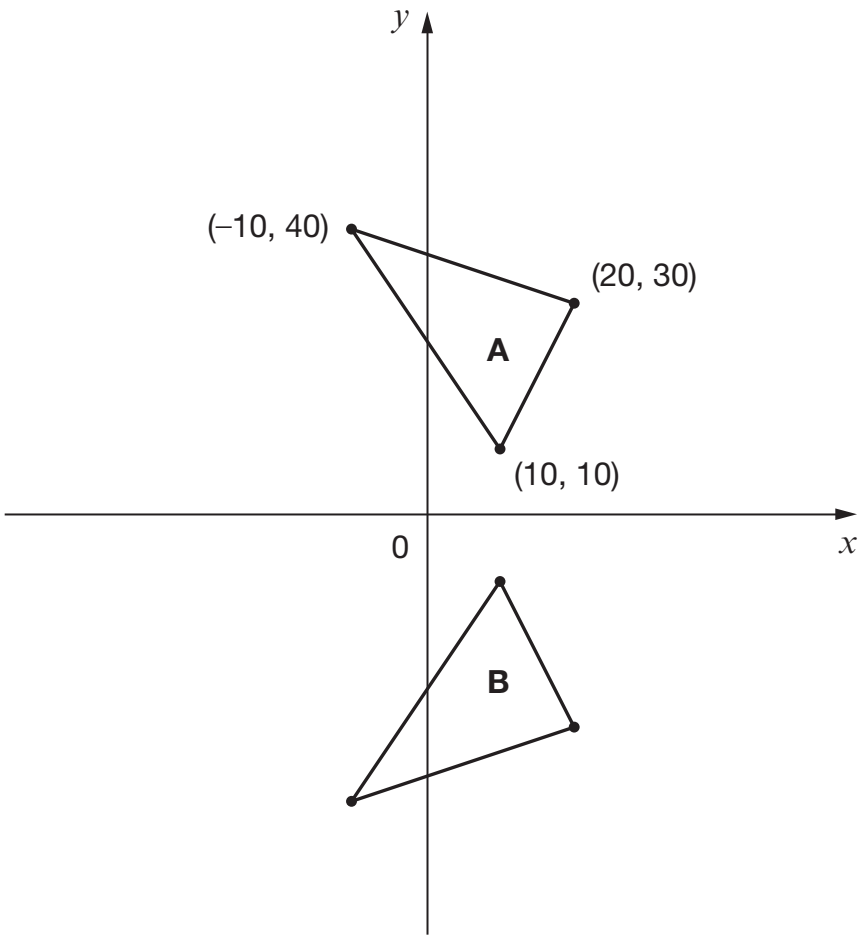


Tick **all** the quadrilaterals that have diagonals which cross at right angles.



2 marks

20 Here are two triangles drawn on coordinate axes.



Triangle B is a reflection of triangle A in the x-axis.

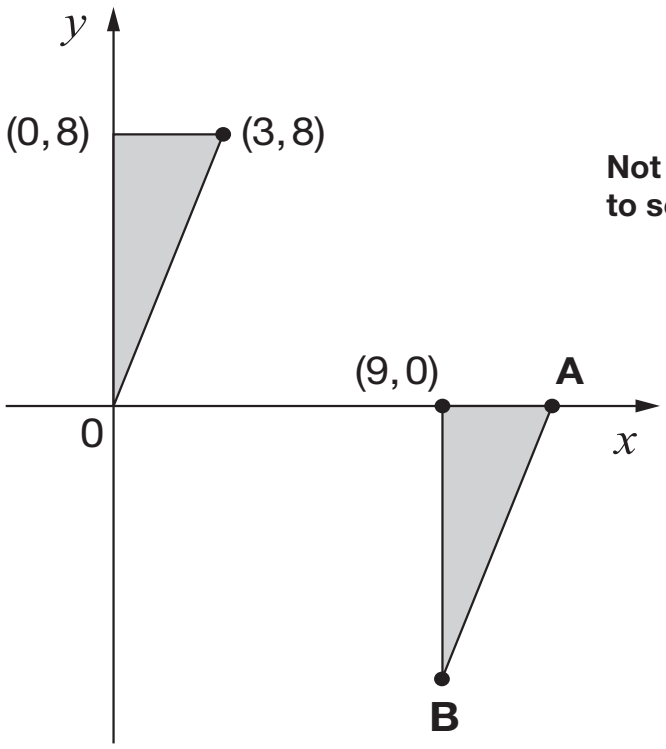
Two of the new vertices of triangle B are (10, –10) and (20, –30).

What are the coordinates of the **third** vertex of triangle B?

(,)

1 mark

20 Here are two **identical** shaded triangles on coordinate axes.



Write the coordinates of points A and B.

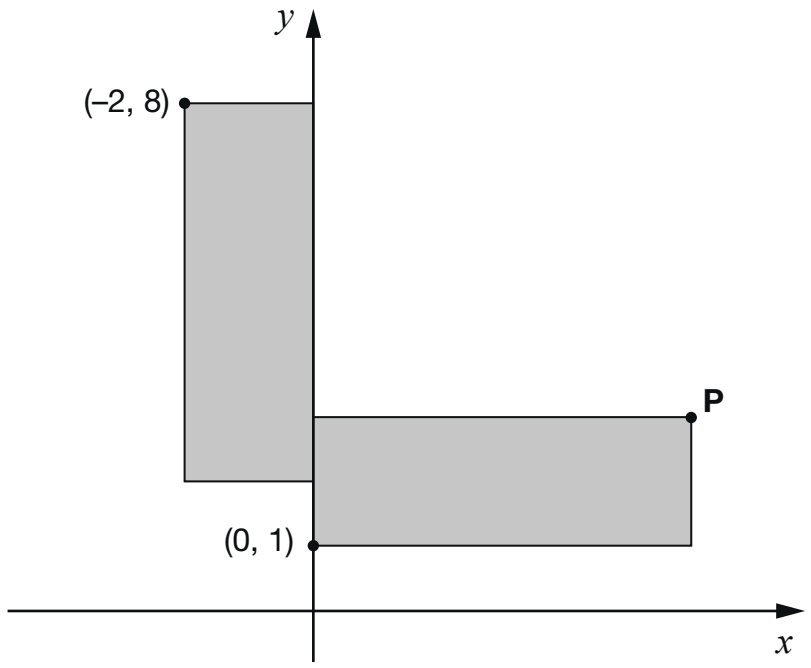
A = (,)

B = (,)

2 marks

21 These two rectangles are identical.

The length of each rectangle is **three times** its width.



Not to scale

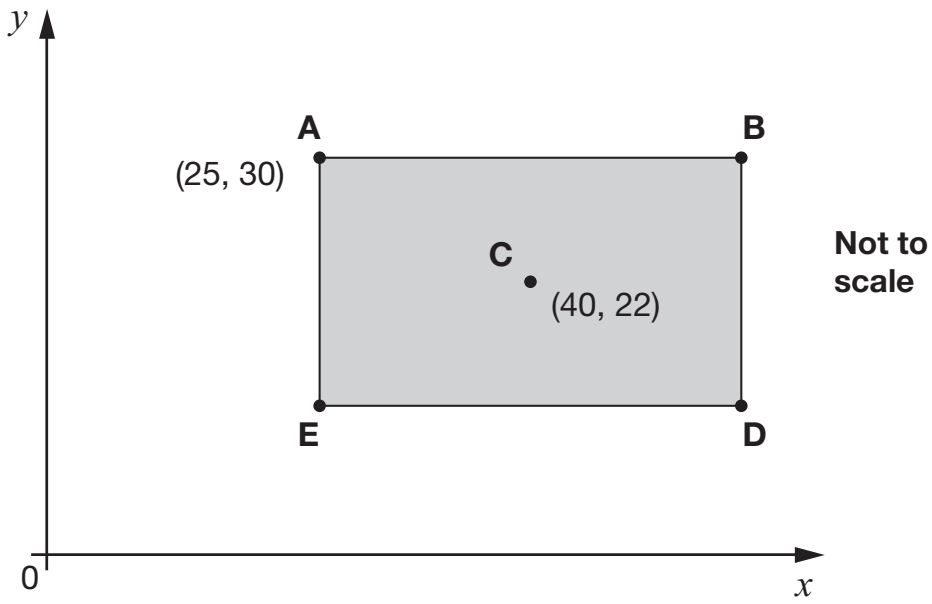
What are the coordinates of point **P**?

(,)

1 mark

21 **ABDE** is a rectangle on coordinate axes.

The sides of the rectangle are parallel to the axes.



Not to scale

Point **C** is the centre of the rectangle.

What are the coordinates of **B** and **D**?

B is (,)

1 mark

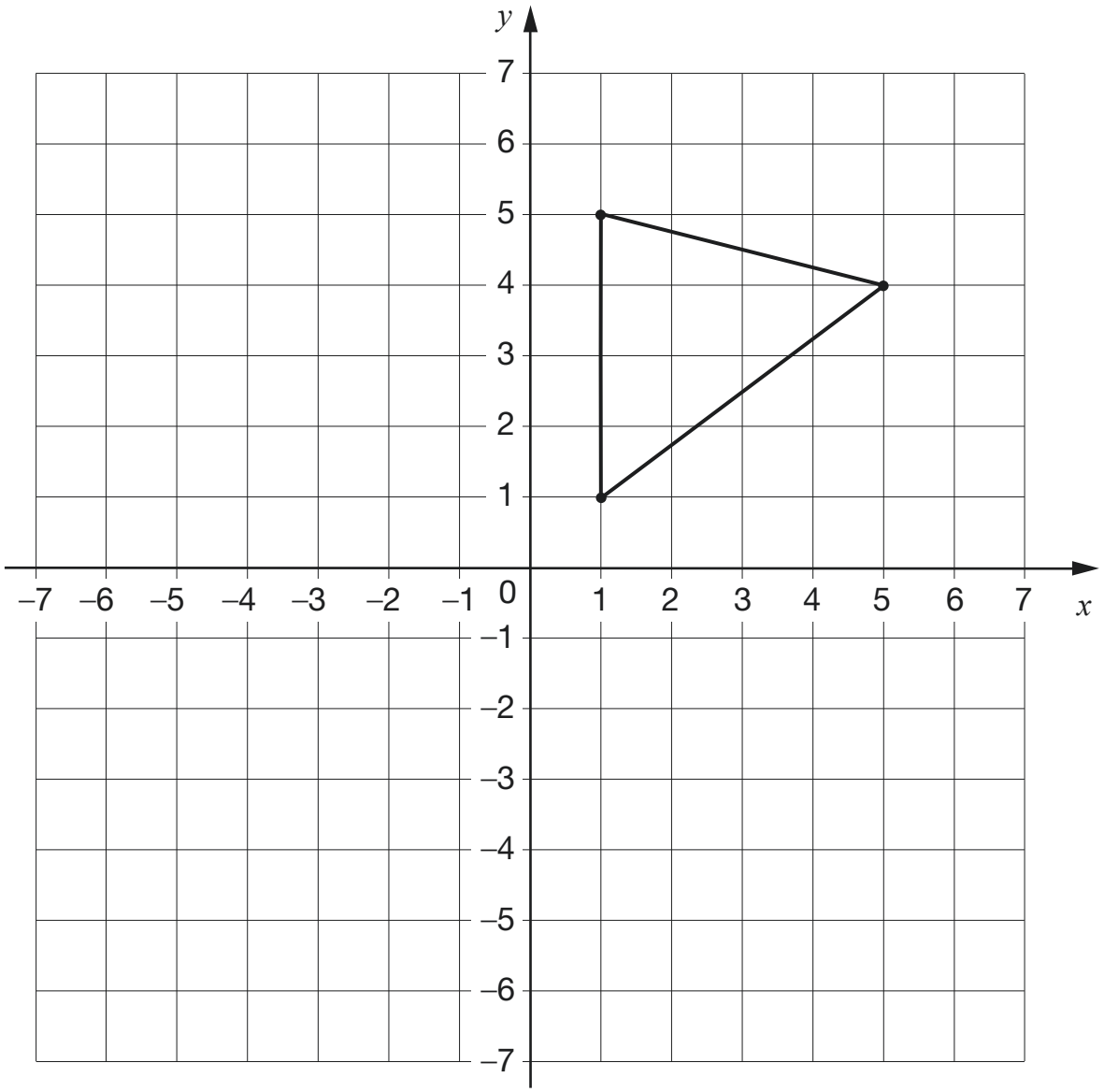
D is (,)

1 mark

25 The triangle is to be transformed on the grid as follows:

- First translate the shape 7 units down.
- Then reflect the **resulting** triangle in the y-axis.

Draw the new triangle on the grid after **each** transformation.



2 marks

Use a ruler.