

## Week 19

Coordinates

Name: \_\_\_\_\_

Class: \_\_\_\_\_

Date: \_\_\_\_\_

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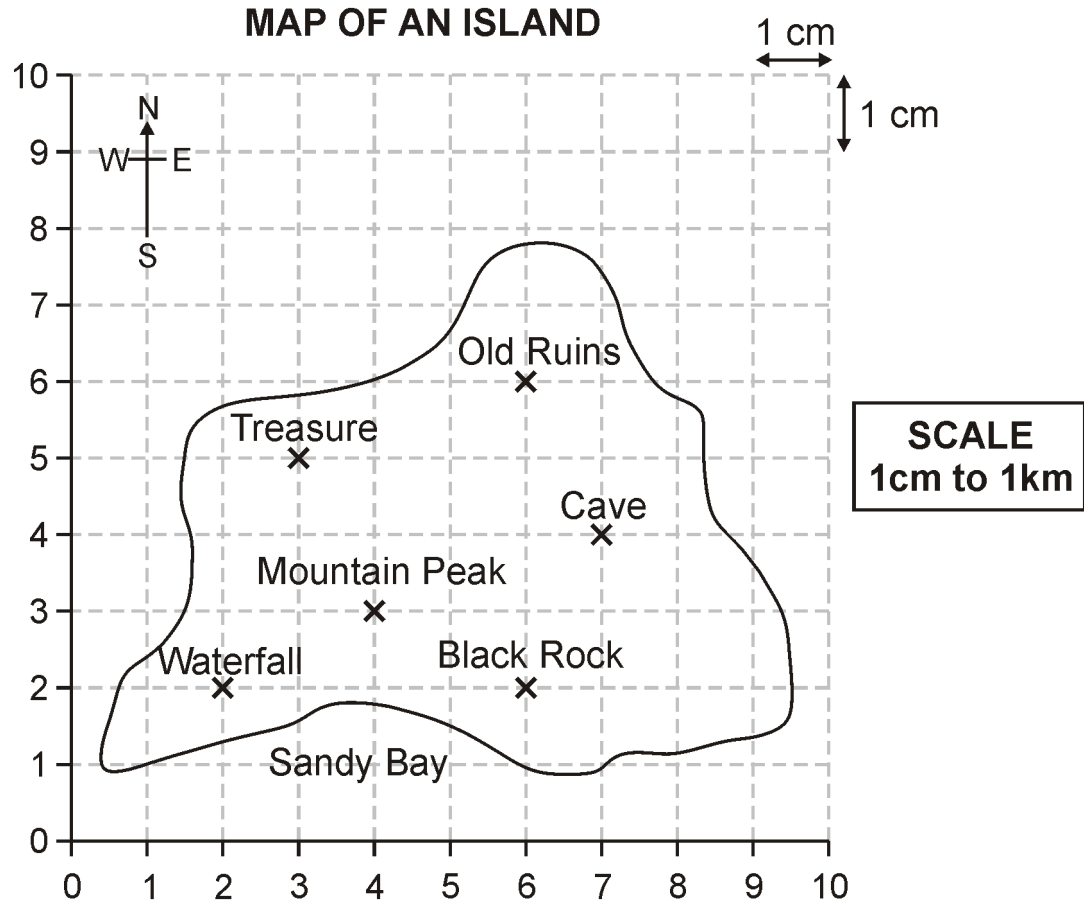
Time: **54 minutes**

Marks: **53 marks**

Comments:

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1



The Cave has co-ordinates (7 , 4).

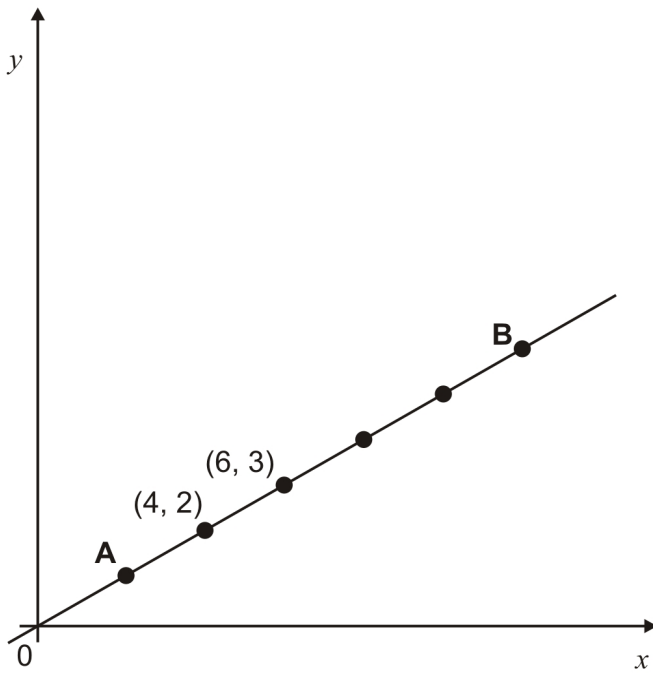
What are the co-ordinates of the Treasure?

(       ,       )

1 mark

**2**

Here is a graph.



The dots (•) on the line are **equally spaced**.

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

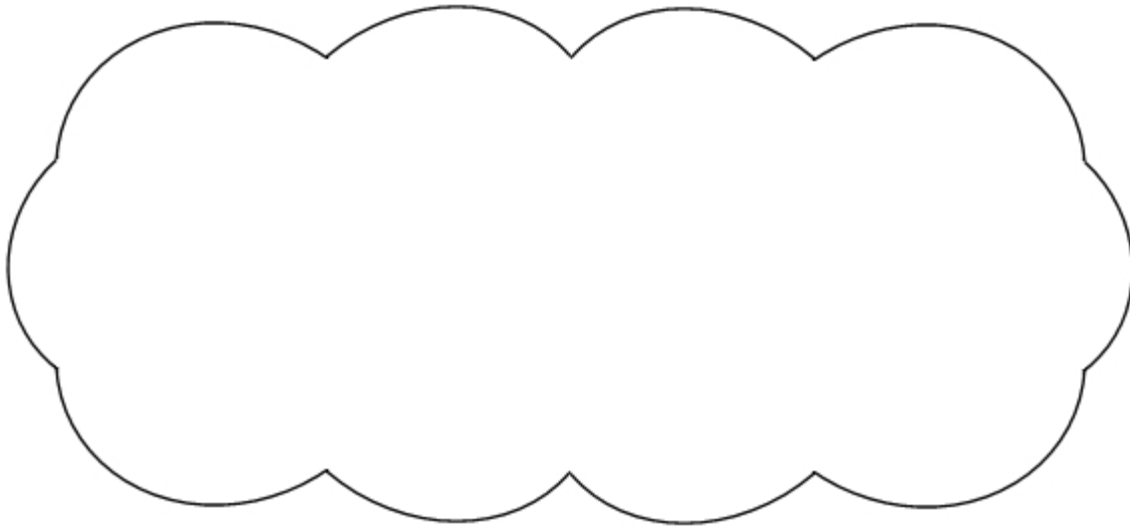
(                      ,                      )
---

1 mark

Megan says,

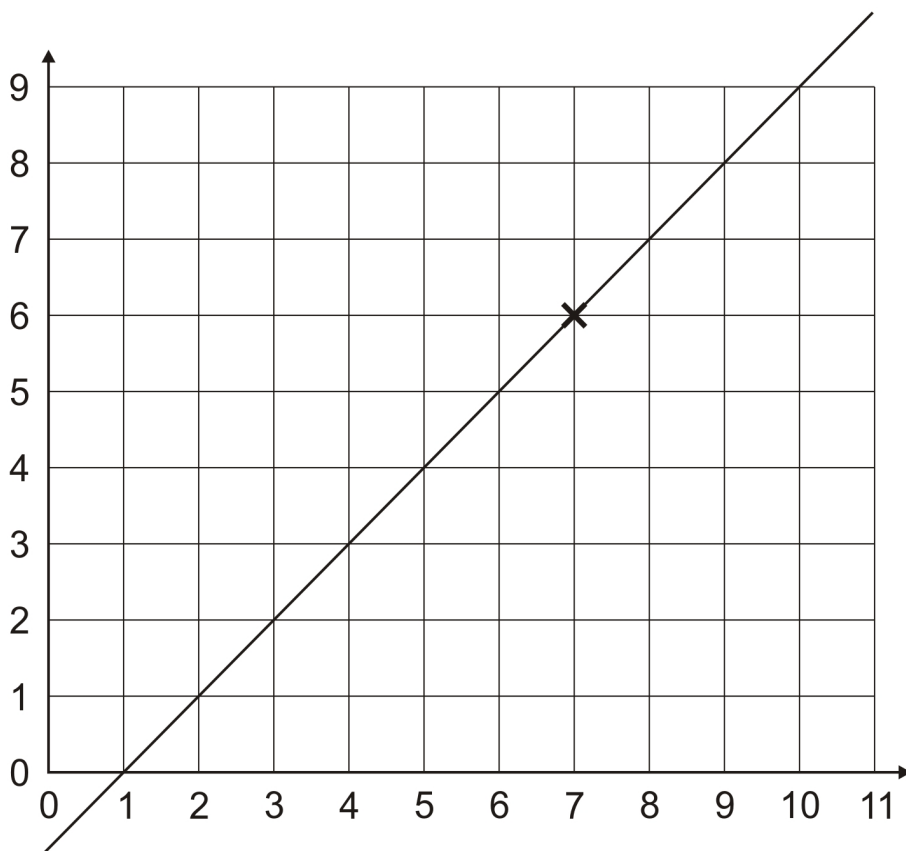
**'The point  $B$  has coordinates  $(11,5)$ .'**

Use the graph to explain why she **cannot** be correct.



1 mark

3



$(7, 6)$  are coordinates of a point on the line.

Tick (✓) which of these are coordinates of other points on the line.

(3, 2) ☐

(9, 10) ☐

(5, 4) ☐

(4, 2) ☐

(10, 9) ☐

(7, 9) ☐

1 mark

How do you know that point (11, 12) would not be on this line?

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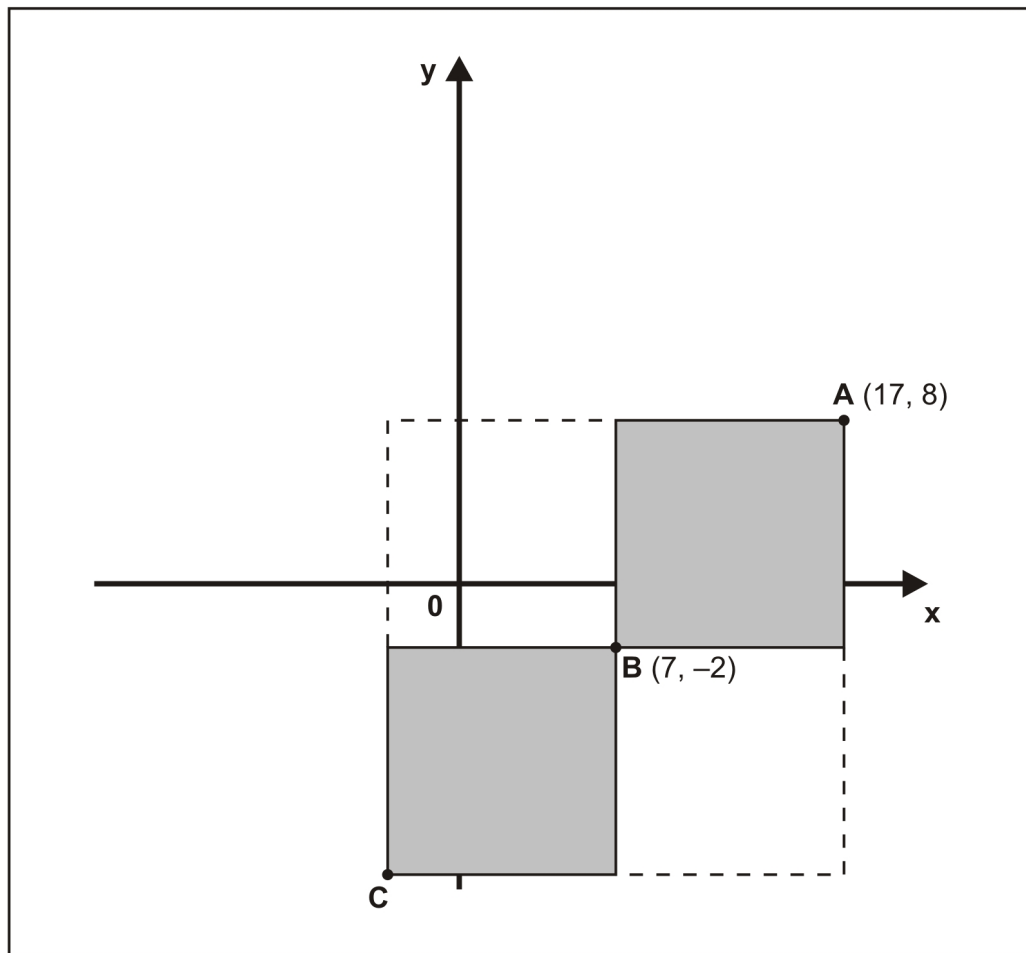
---

---

1 mark

4

The two **shaded squares** below are **the same size**.



**A** is the point **(17, 8)**.

**B** is the point **(7, -2)**.

What are the **co-ordinates** of the point **C**?

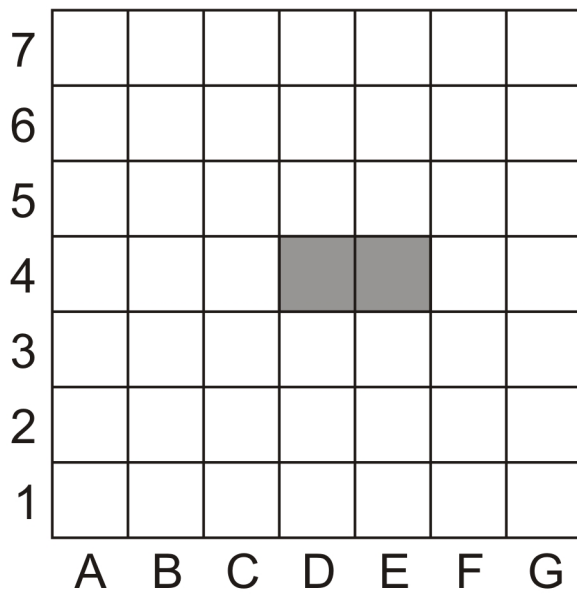
Show  
your  
method

(      ,      )

2 mark

5

The shaded rectangle covers squares (D, 4) and (E, 4).

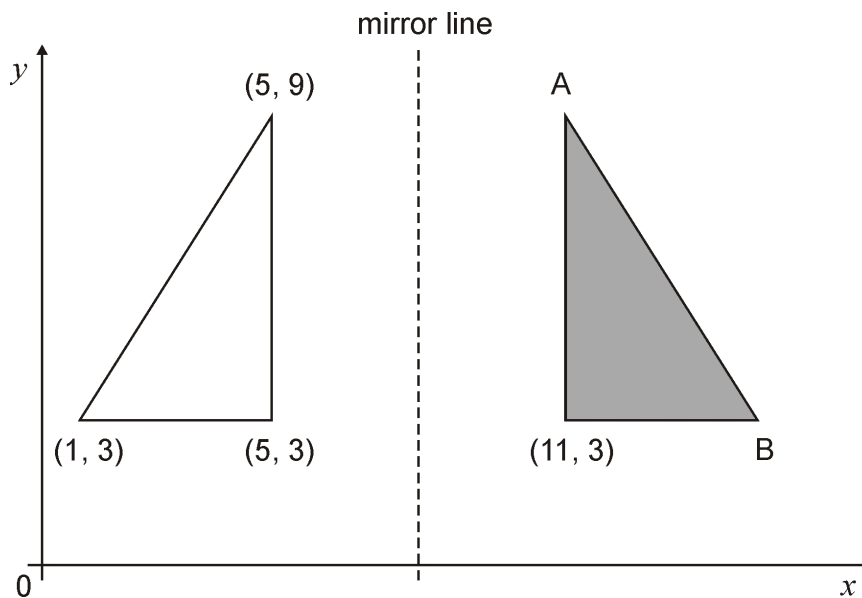


Draw and shade the rectangle that covers (B, 5) and (B, 6).

1 mark

6

The shaded triangle is a reflection of the white triangle in the mirror line.



Write the **co-ordinates** of point **A** and point **B**.

**A** is

(      ,      )

**B** is

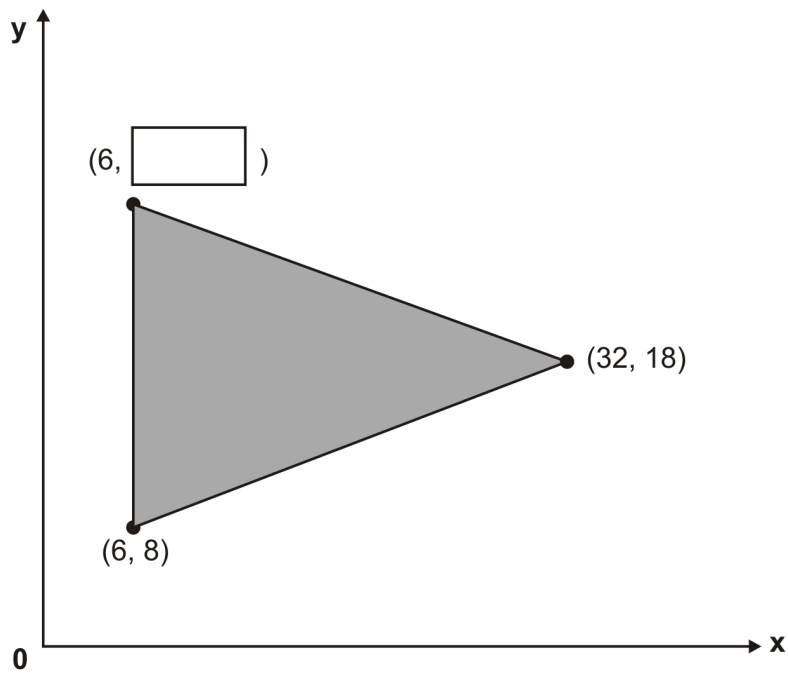
(      ,      )

2 mark

**7**

The shaded shape is an **isosceles** triangle.

Write in the missing co-ordinate.

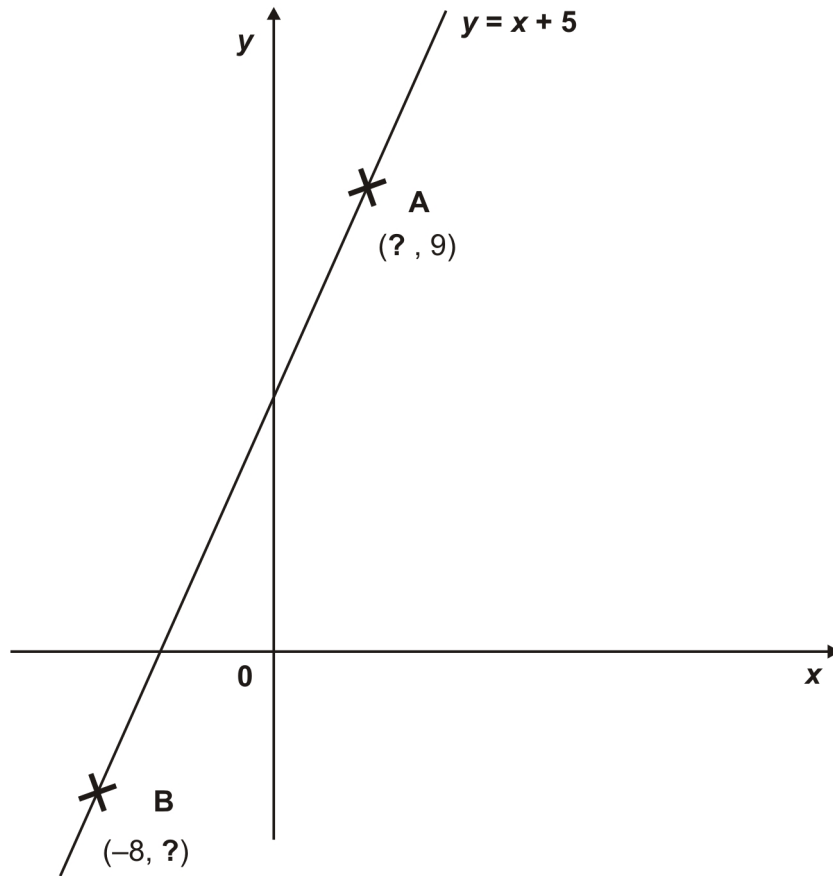


1 mark



**8**

This diagram is **not** drawn to scale.



A and B are two points on the graph of  $y = x + 5$

Write the missing co-ordinates of **A** and **B**.

**A** (  , 9 )

1 mark

**B** ( -8,  )

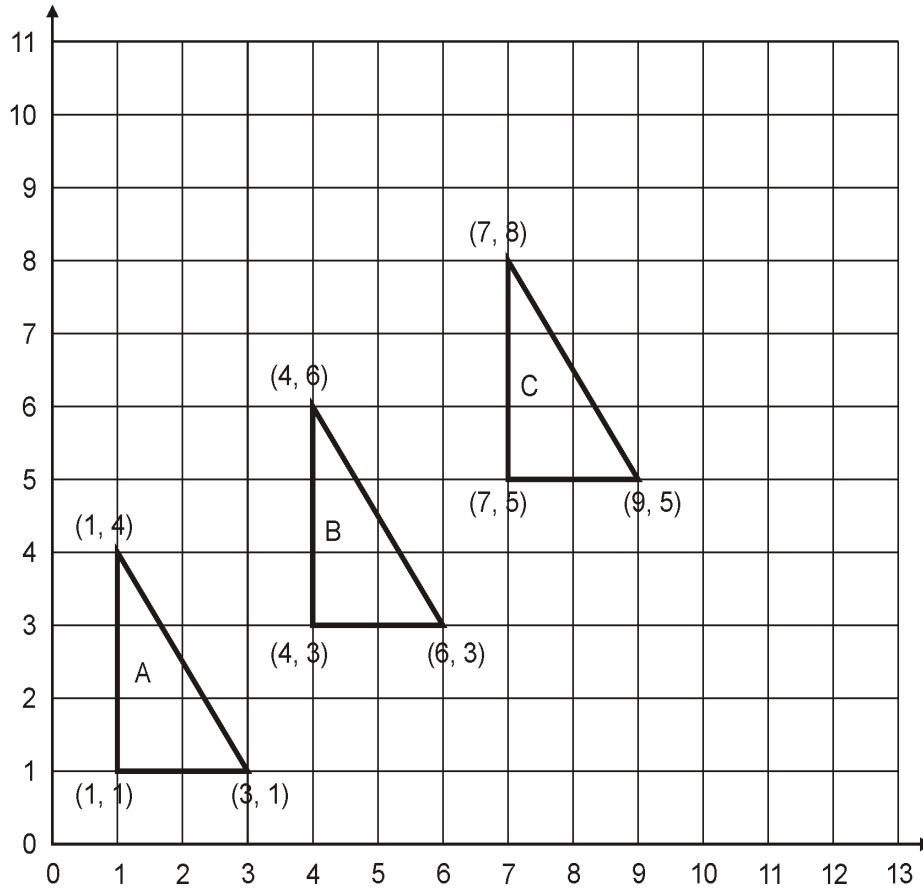
1 mark

Write the co-ordinates of **the point** where the graph of  $y = x + 5$  crosses the **x-axis**.

(  ,  )

1 mark

9

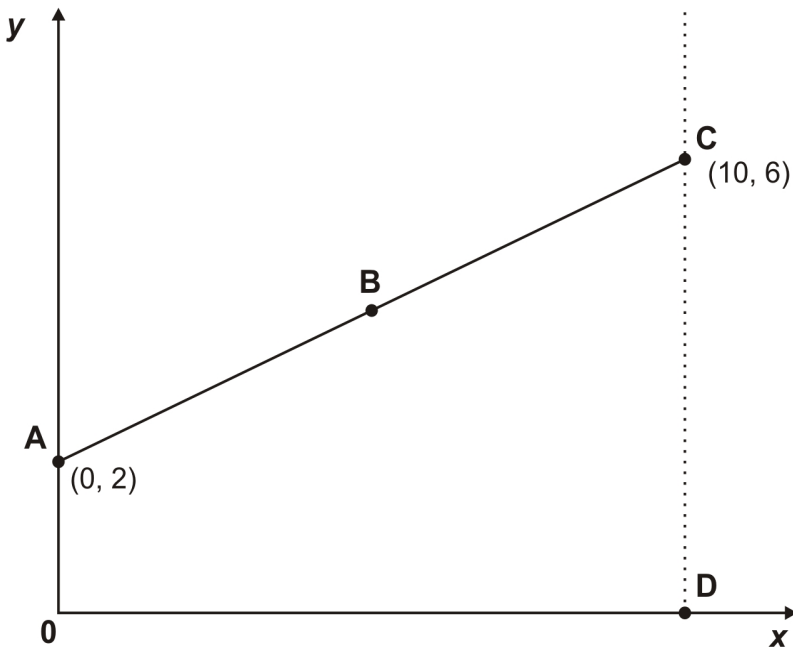


Write the co-ordinates of the next triangle in the sequence.

1 mark

10

Here is a graph



The points **A**, **B** and **C** are **equally spaced**.

What are the **co-ordinates** of the **point B**?

(                      ,                      )
---

1 mark

Point **D** is directly below point **C**.

What are the **co-ordinates** of the **point D**?

(                      ,                      )
---

1 mark

**11**

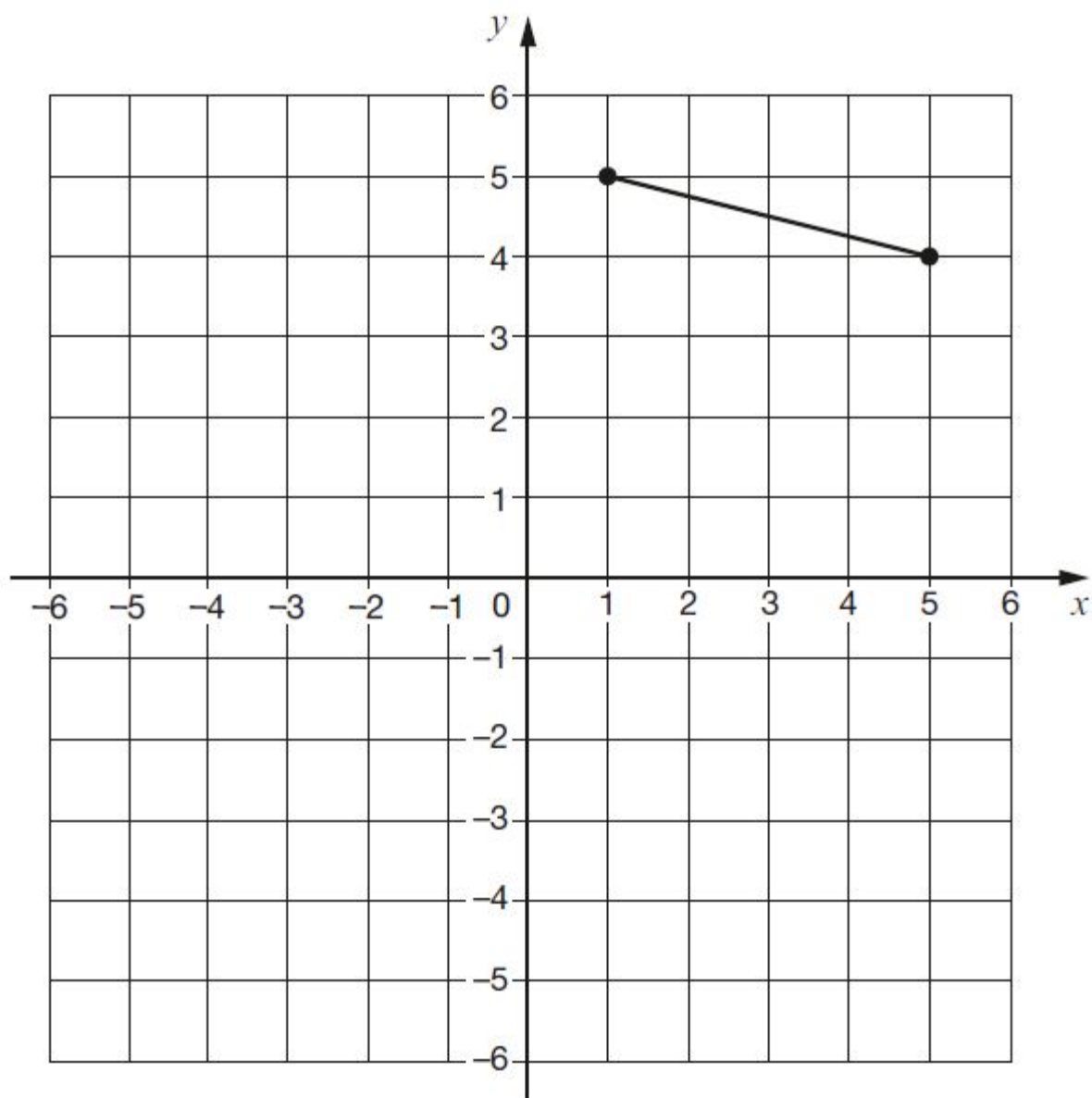
The vertices of a quadrilateral have these coordinates.

$(1, 5)$        $(5, 4)$        $(1, -3)$        $(-3, 4)$

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

Complete the quadrilateral.

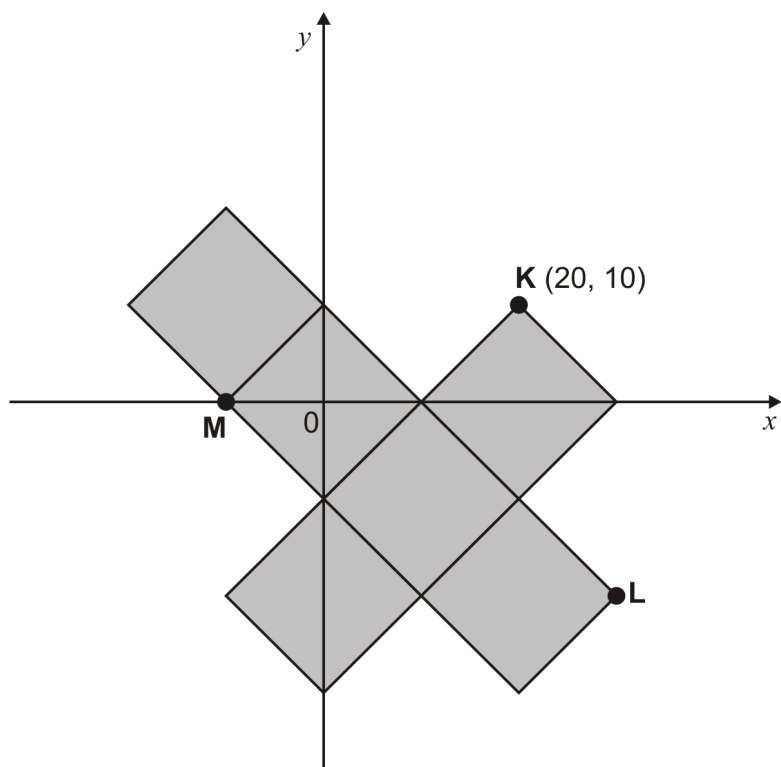
Use a ruler.



1 mark

12

The diagram shows **6 shaded squares**.



**K** is the point **(20, 10)**

What are the coordinates of **L** and **M**?

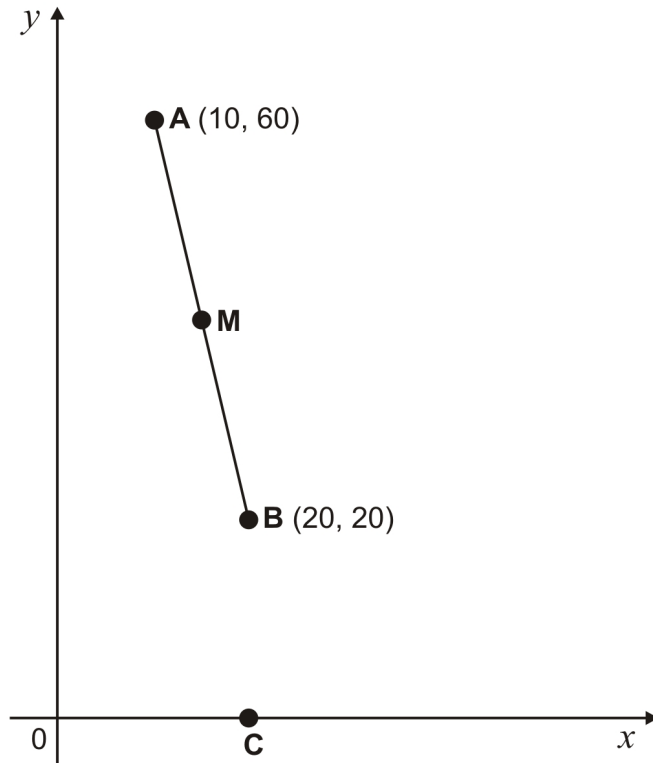
**L** is (            ,            )

1 mark

**M** is (            ,            )

1 mark

13



**A** is the point **(10, 60)**

**B** is the point **(20, 20)**

**M** is the midpoint of line **AB**.

Write the coordinates of **M**.

1 mark

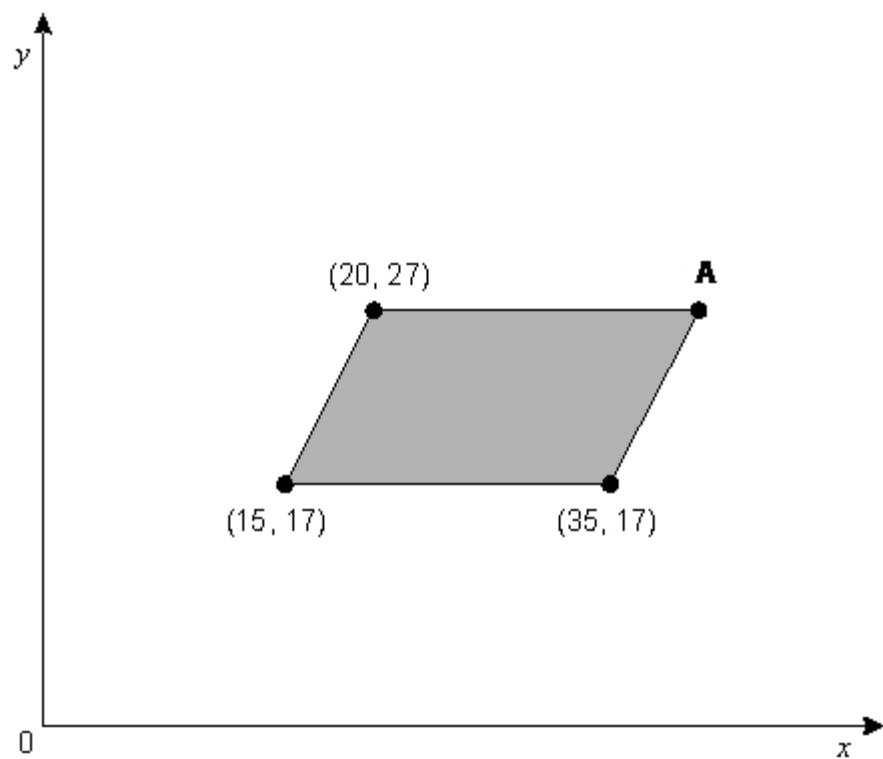
**C** is on the  $x$ -axis, directly **below B**.

Write the coordinates of **C**.

1 mark

**14**

The shaded shape is a parallelogram.



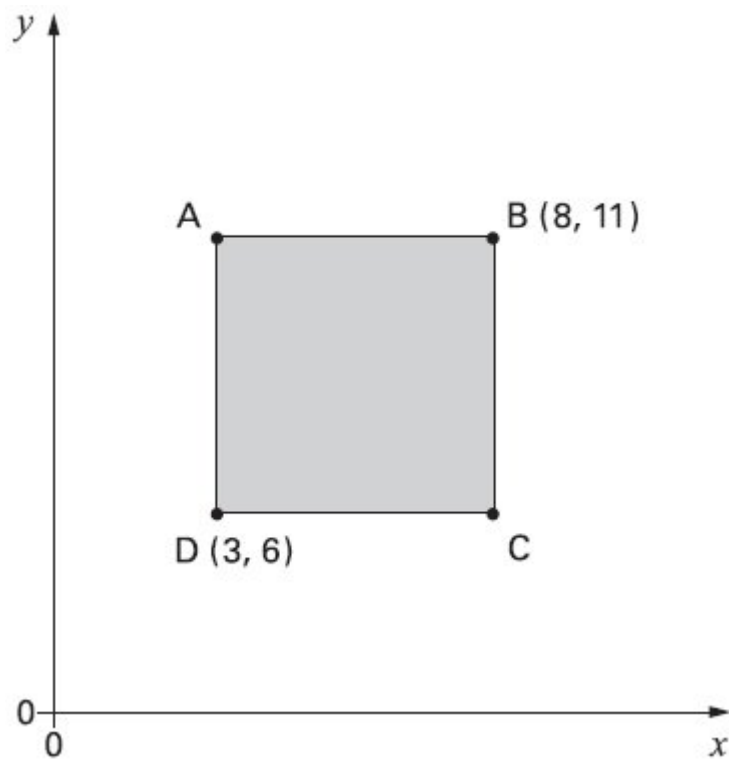
Write in the coordinates of point **A**.

(       ,       )
-------------------

1 mark

**15**

Here is a shaded square.



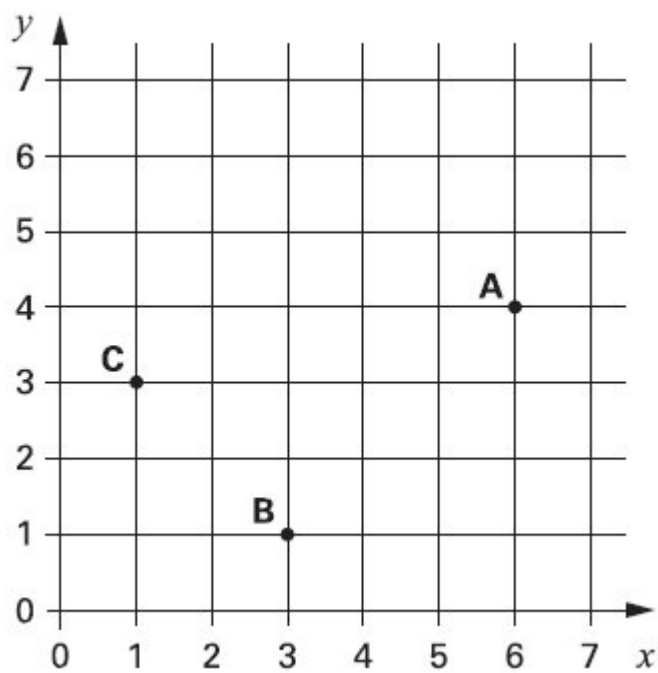
Write the coordinates for point A.

A = (      ,      )

1 mark



16



A, B and C are three corners of a rectangle.

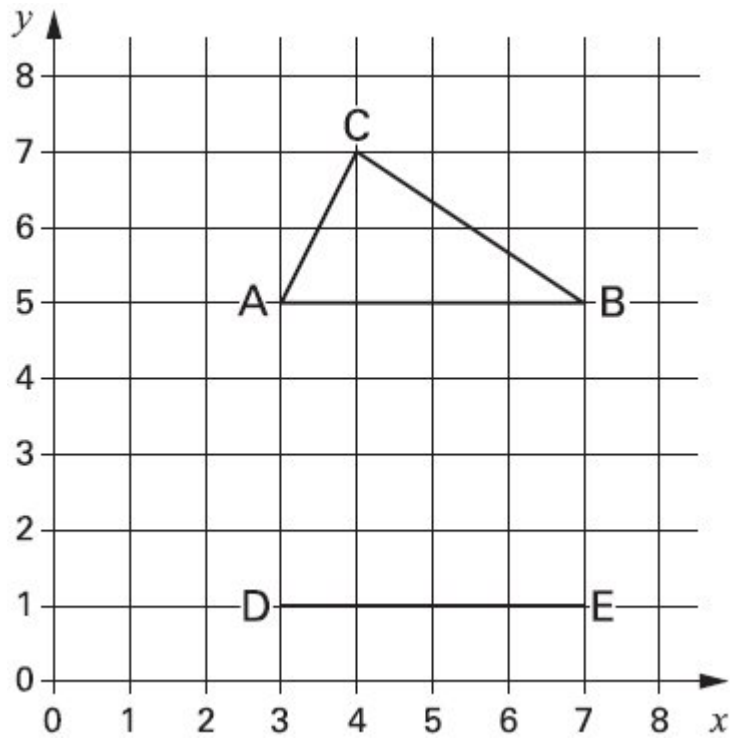
What are the coordinates of the fourth corner?

(            ,            )
-----------------------------

1 mark

17

Kyle has drawn triangle **ABC** on this grid.



Holly has started to draw an **identical** triangle **DEF**.

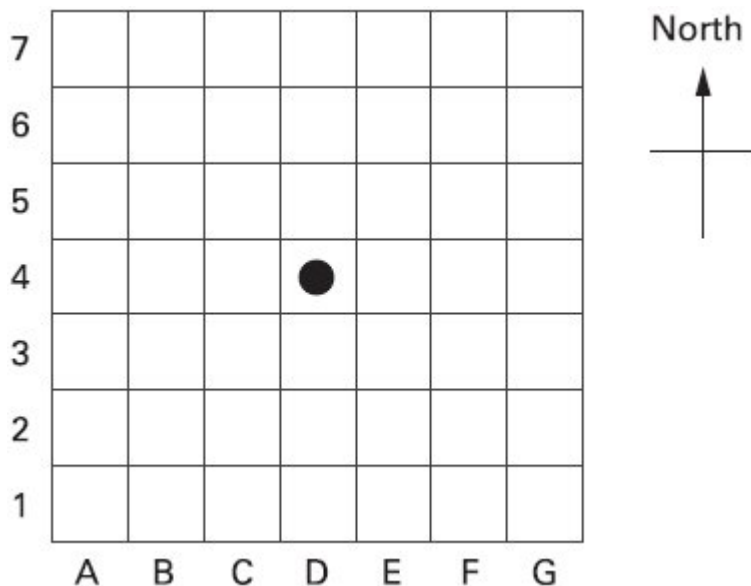
What will be the coordinates of point **F**?

(       ,       )

1 mark

18

Lisa places a counter on square **D4**



She moves it 2 squares east and 3 squares south.

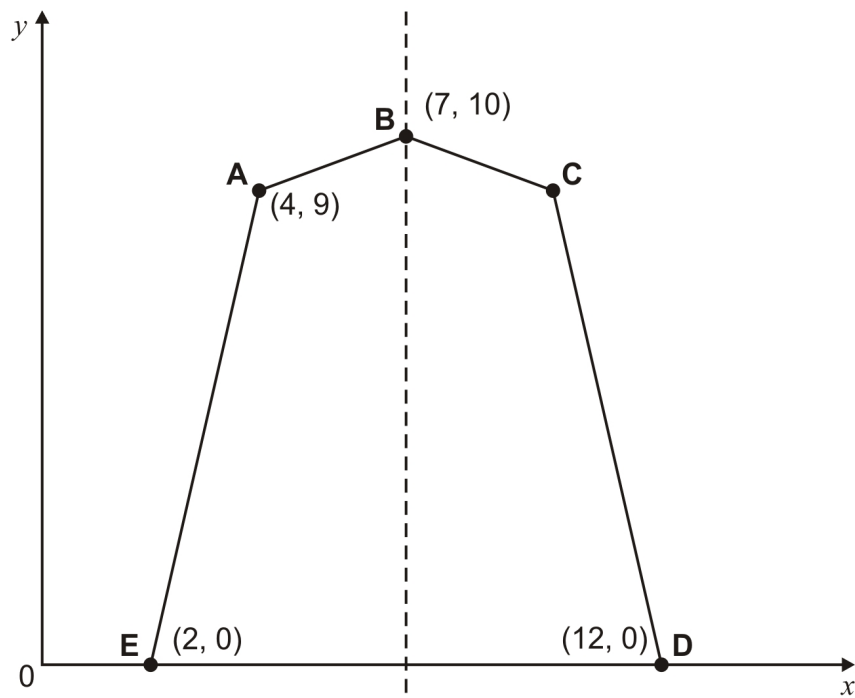
Write the position of the square she moves it to.

1 mark

19

Here is a pentagon drawn on a coordinate grid.

The pentagon is symmetrical.

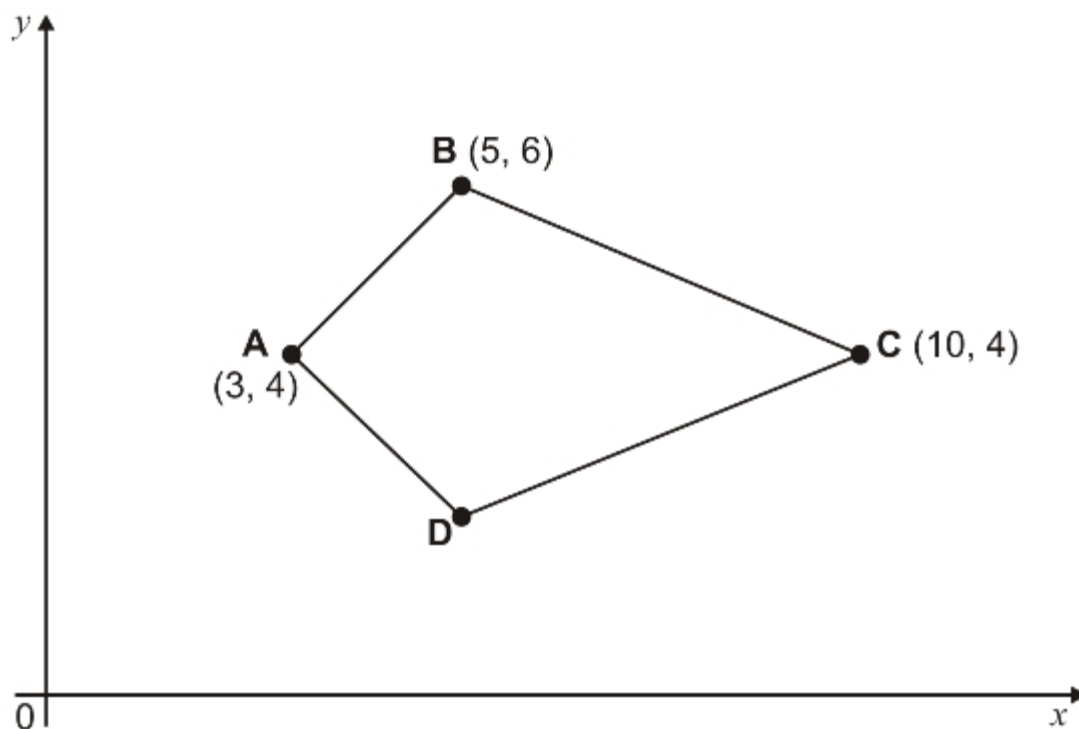


What are the coordinates of point **C**?

1 mark

20

Here is a kite.

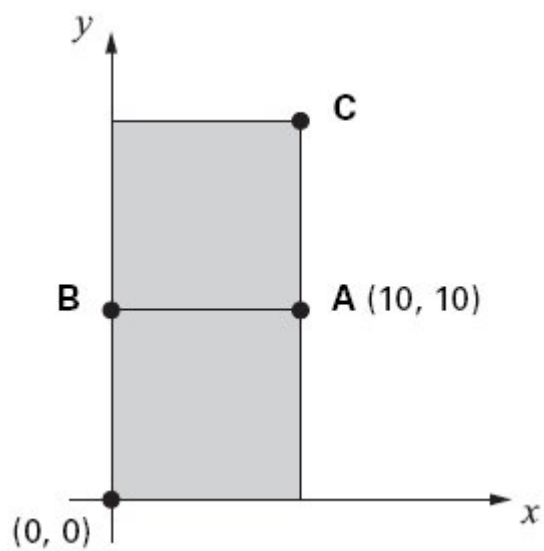


Write the coordinates of point **D**.

1 mark

21

The diagram shows two identical squares.



**A** is the point (10, 10)

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

**B** is (            ,            )

1 mark

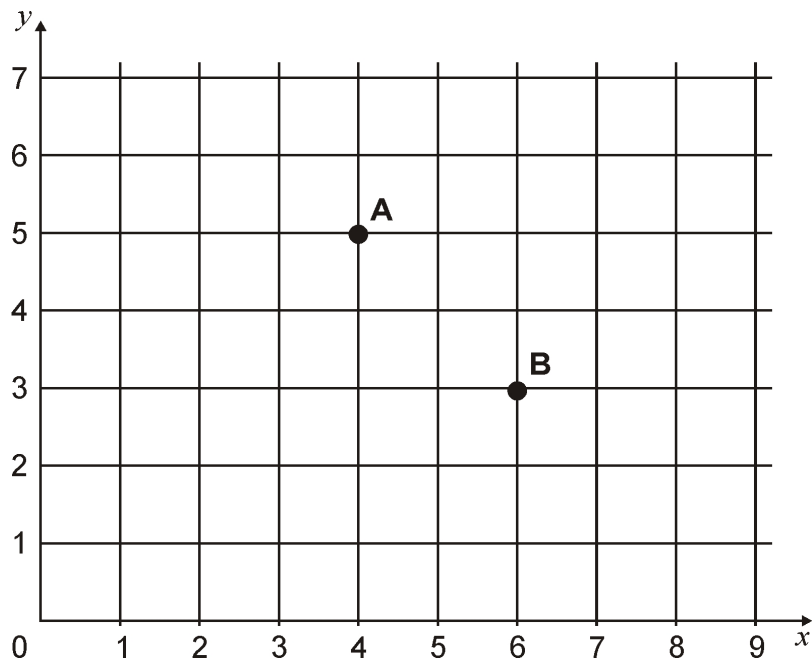
**C** is (            ,            )

1 mark

**22**

**A**, **B**, **C** and **D** are the vertices of a rectangle.

**A** and **B** are shown on the grid.



**D** is the point (3, 4)

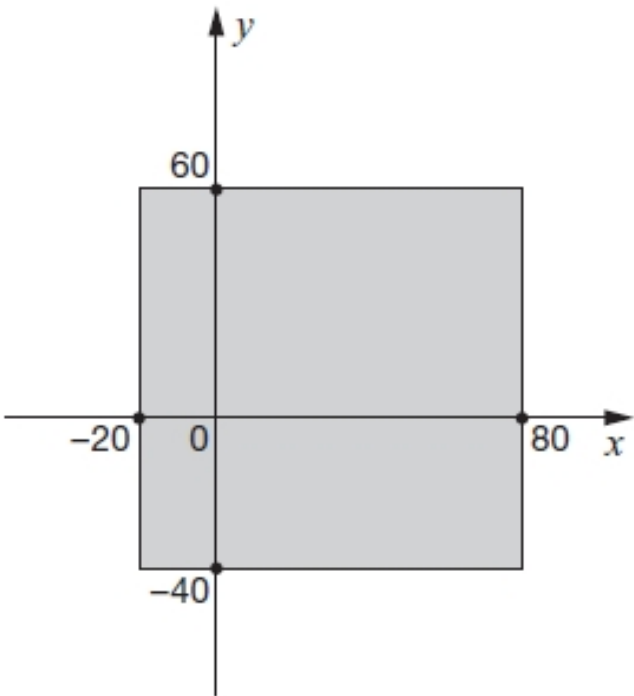
Write the coordinates of point **C**.

(            ,            )

1 mark

23

Here is a shaded square on  $x$  and  $y$  axes.



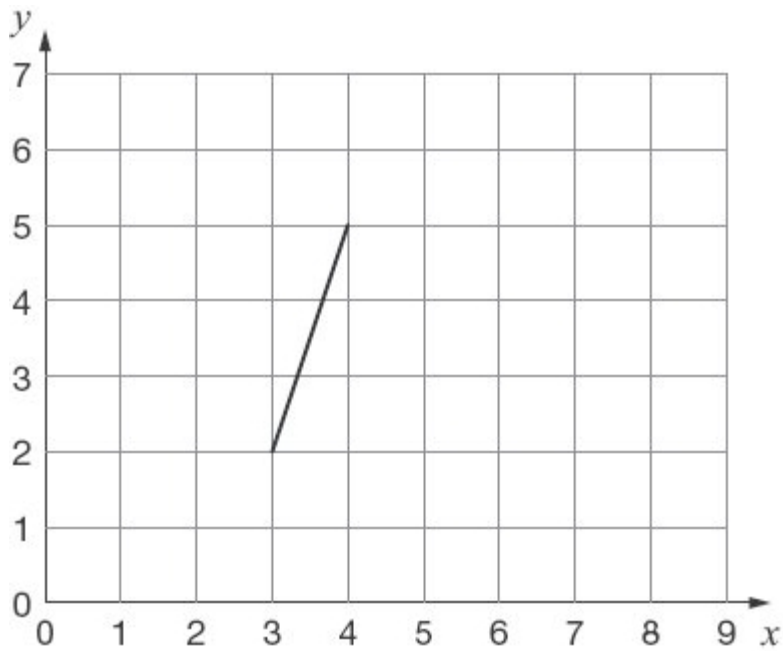
For each of these points, put a tick (✓) to show if it is inside the square or outside the square.

	inside the square	outside the square
(50, 70)	<input type="checkbox"/>	<input type="checkbox"/>
(60, -30)	<input type="checkbox"/>	<input type="checkbox"/>
(-10, 50)	<input type="checkbox"/>	<input type="checkbox"/>
(-30, -30)	<input type="checkbox"/>	<input type="checkbox"/>

2 marks

**24**

Here is one side of a square drawn on a coordinate grid.



The square has a vertex at  $(6, 1)$ .

Draw the other three sides of the square on the grid.

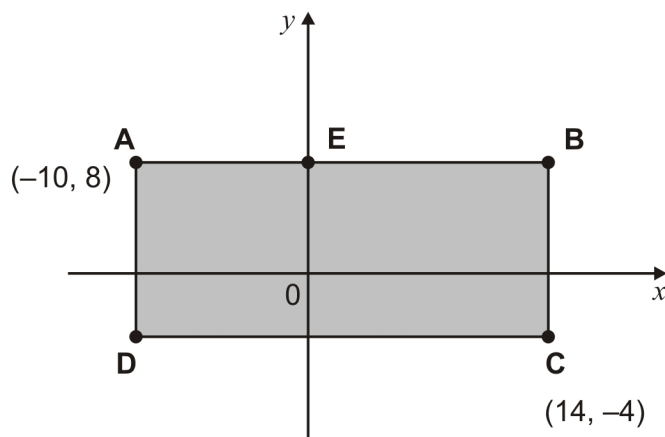
Use a ruler.

1 mark

**25**

ABCD is a rectangle drawn on coordinate axes.

The sides of the rectangle are parallel to the axes.



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

**D** is (       ,       )

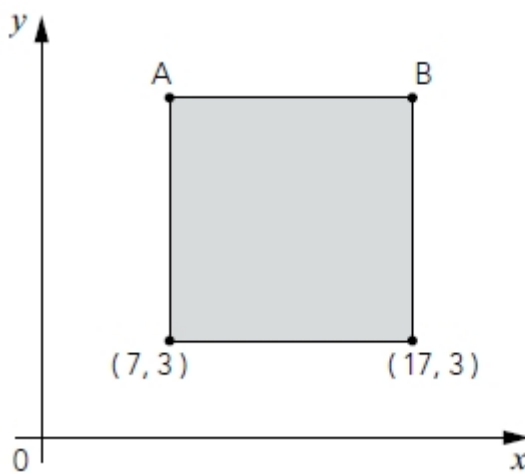
1 mark

**E** is (       ,       )

1 mark

**26**

The shaded shape is a **square**.



What are the coordinates of A and B?

A is (       ,       )

1 mark

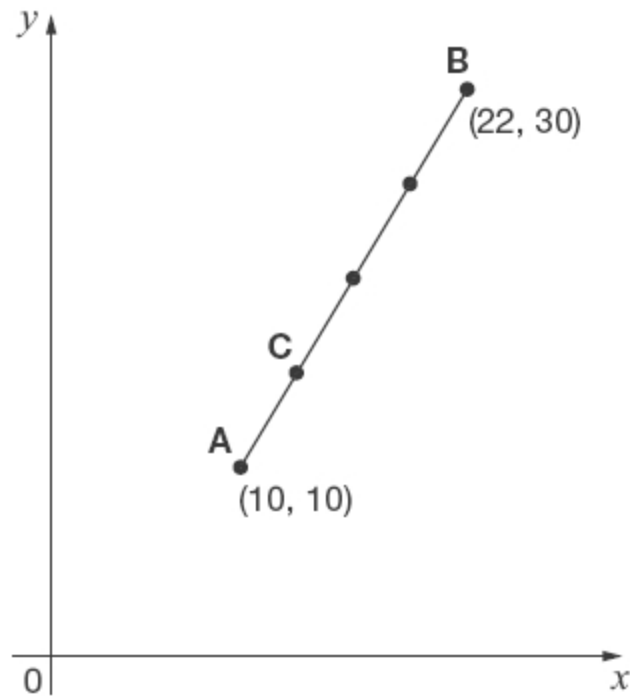
B is (       ,       )

1 mark



**27**

**A** and **B** are joined by a straight line on coordinate axes.



The dots on the line are equally spaced.

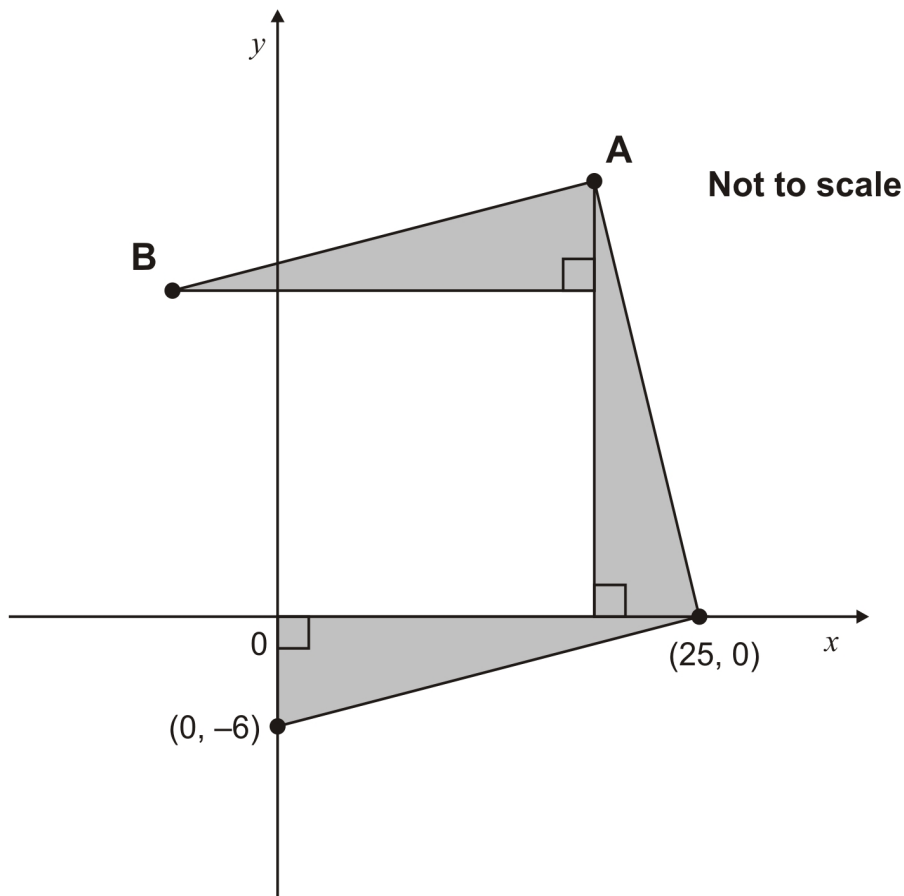
What are the coordinates of **C**?

**C** is

2 marks

28

The diagram shows three **identical** shaded triangles on coordinate axes.



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

A is

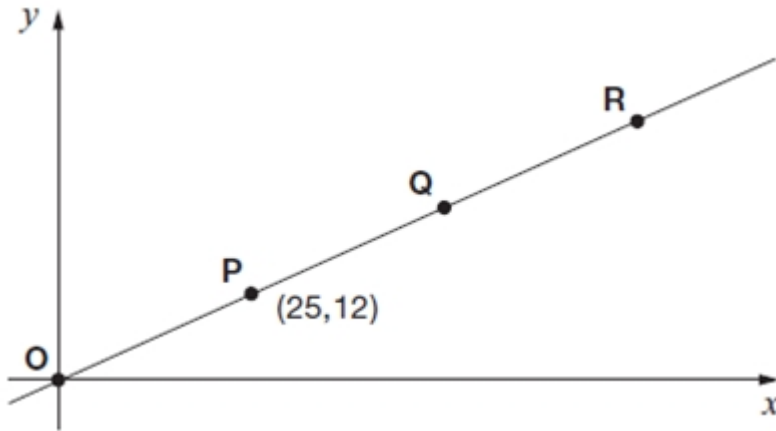
1 mark

B is

1 mark

**29**

Here is a line on coordinate axes.



Points **O**, **P**, **Q** and **R** are equally spaced.

The coordinates of **P** are (25,12).

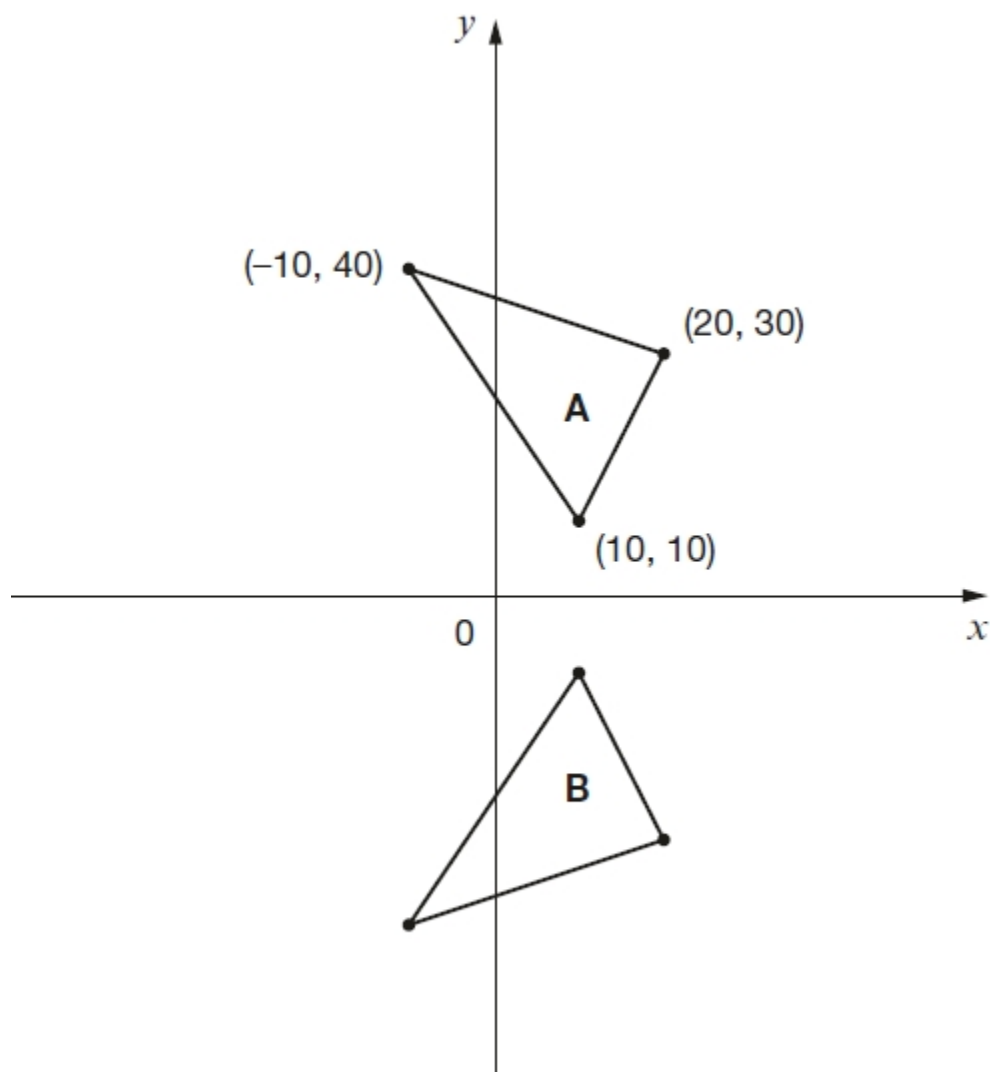
What are the coordinates of **R**?

**R** = (                      ,                      )

1 mark

**30**

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  $(20, -30)$ .

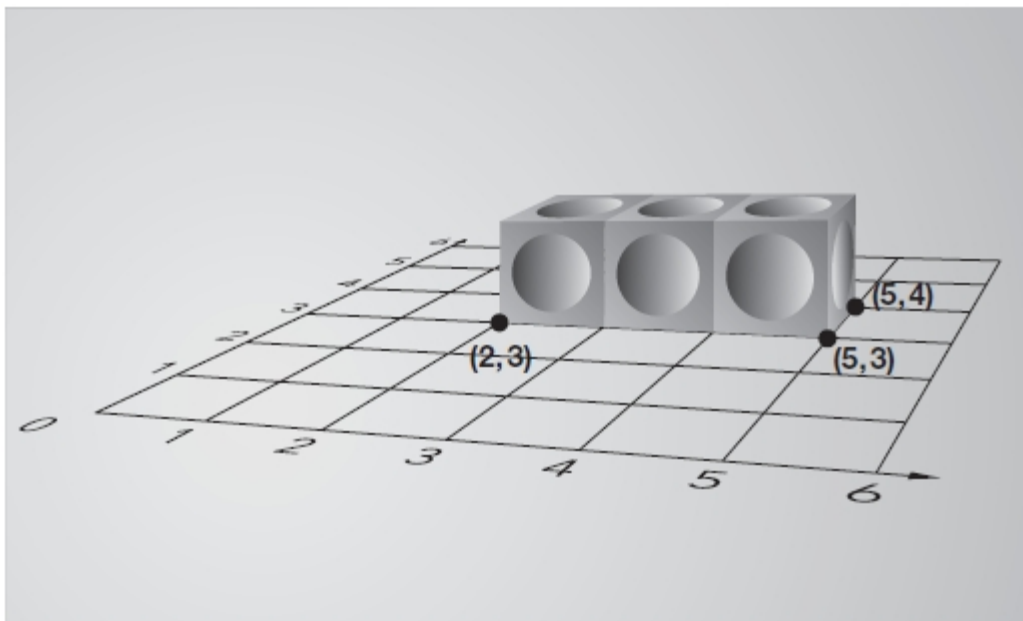
What are the coordinates of the **third** vertex of triangle B?

(                      ,                      )
---

1 mark

31

Alfie places three cubes on a coordinate grid.  
The base of his shape is a rectangle.



Complete this sentence:

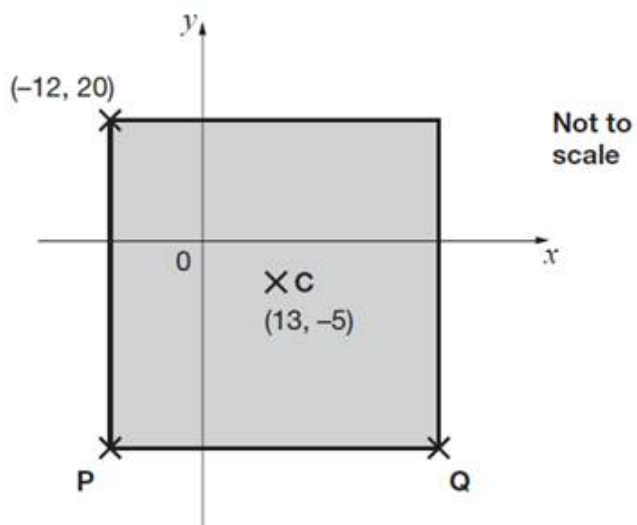
The four **vertices** of the rectangle are

(2, 3), (5, 3), (5, 4) and (      ,      )

1 mark

32

Here is a square on coordinate axes.



**C** is the centre of the square.

Find the coordinates of **P** and **Q**.

**P** is (       ,       )

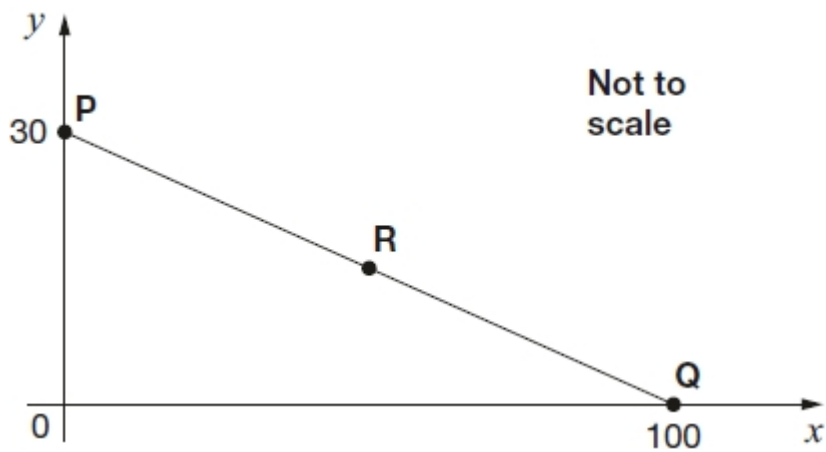
1 mark

**Q** is (       ,       )

1 mark

**33**

In this diagram **R** is an equal distance from **P** and **Q**.



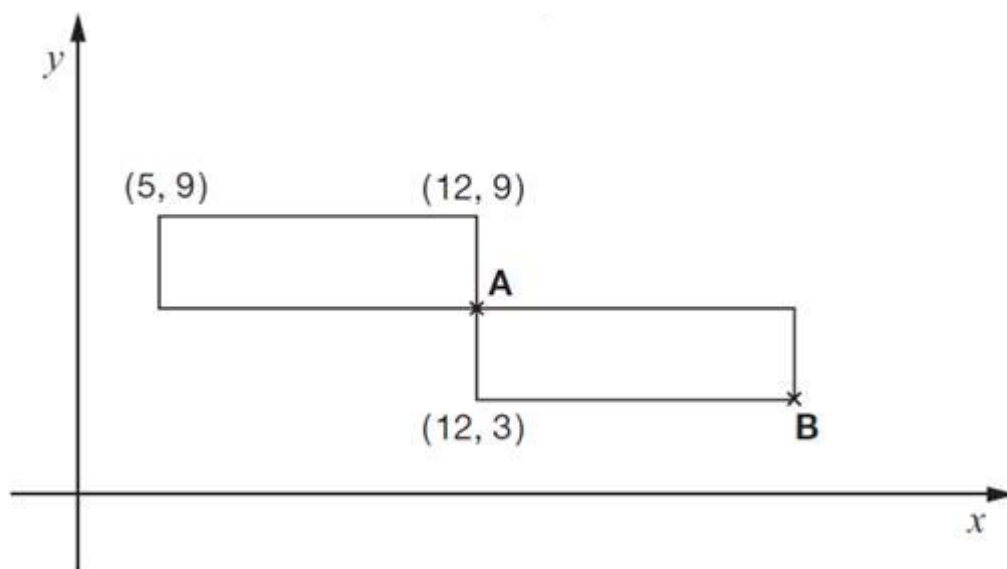
What are the coordinates of **R**?

**R** = (       ,       )

1 mark

**34**

This diagram shows two **identical** rectangles on coordinate axes.



Write the **coordinates** of point **A** and point **B**.

**A is**

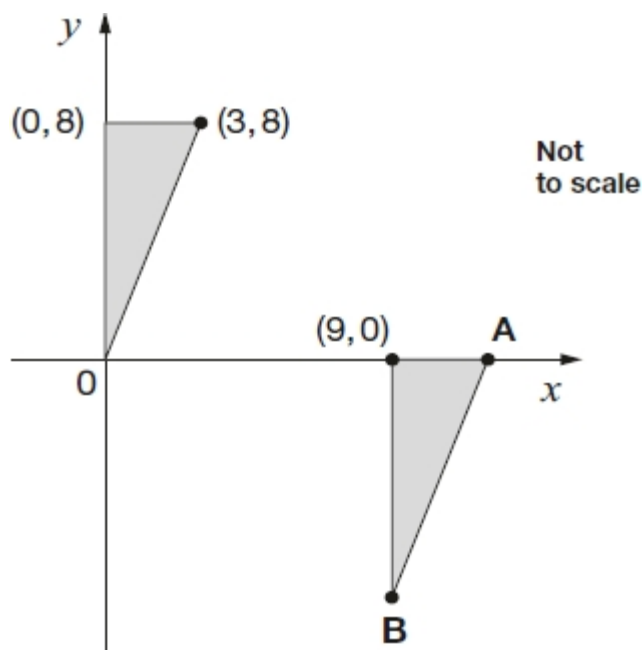
1 mark

**B is**

1 mark

35

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



Write the coordinates of points A and B.

A = (      ,      )

B = (      ,      )

2 marks



## Mark schemes

1

(3, 5)

*Do not accept (5, 3).*

[1]

2

(a) (2, 1)

*Both the numbers must be correct and in the correct order.*

*Accept (2, 1) on diagram with or without comma and brackets.*

1

- (b) Explanation which either implies that **B** has the coordinates (12, 6)  
**OR** that (11, 5) cannot be on the line because of the general relationship between the points, eg:

- 'Because it's 12, 6'
- 'If you count up in 2's and 1's it doesn't come to 11, 5'
- 'The first numbers are always even'
- 'First should be twice the second number'

***Do not** accept arbitrary or vague reasons, such as:*

*'She miscounted';*

*'Because the bottom line doesn't go up to 11';*

*'Because it's in a pattern'.*

1

[2]

3

- (a) ✓ boxes for: (3,2), (5,4) and (10,9).

*All three coordinates must be ticked for the mark to be awarded.*

1

- (b) Explains that (11,12) cannot be on the line because the value of the first number is always one more than the value of the second number in the coordinate, eg (9,8), or similar explanation.

*Explanation can use words or diagrams.*

1

[2]

4

Award **TWO** marks for the correct answer of  $(-3, -12)$ ,

If the answer is incorrect award **ONE** mark for evidence of an appropriate method, such as deduction of the length of the square from the co-ordinates given **AND** subtraction of this amount from the co-ordinates of B, eg

$$7 - 10$$

$$-2 - 10$$

*Accept appropriate indications on the diagram as evidence of the method.*

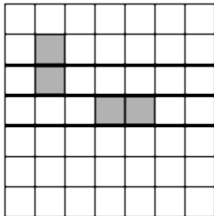
*Accept for **ONE** mark  $(-12, -3)$ .*

Up to 2

[2]

5

(B, 5) and (B, 6) shaded



*Both correctly shaded for 1 mark.*

[1]

6

(a)  $(11, 9)$

1

(b)  $(15, 3)$

*Accept answers written on the diagram with or without brackets and commas. Co-ordinates must be in the correct order.*

1

[2]

7

28

[1]

8

(a)  $A = (4, 9)$

1

(b)  $B = (-8, -3)$

**Do not** accept 3–.

1

(c)  $(-5, 0)$

Co-ordinates must be in the correct order.

**Do not** accept  $(5-, 0)$

**Do not** penalise repeated wrong notation twice.

If the answer given to **(b)** is '3–' **and** the answer given to **(c)** is ' $(5-, 0)$ ', award **ONE** mark for **(c) only**.

1

[3]

9

$(10, 7) (12, 7) (10, 10)$

All correct, in any order for **1 mark**.

[1]

10

(a)  $(5, 4)$

Both co-ordinates must be correct and in the correct order.

Accept unambiguous answers written on the diagram  
(with or without brackets or commas).

1

(b)  $(10, 0)$

Both co-ordinates must be correct and in the correct order.

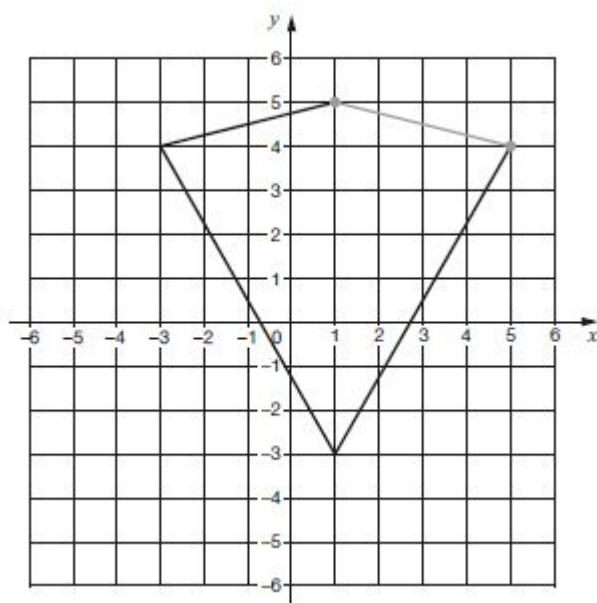
Accept unambiguous answers written on the diagram  
(with or without brackets or commas).

1

[2]

11

Quadrilateral completed as shown:



*Accept slight inaccuracies in drawing*

[1]

12

- (a) L is  $(30, -20)$

*Coordinates must be in the correct order.*

1

- (b) M is  $(-10, 0)$

*Accept answers on the diagram, with or without commas or brackets.*

1

[2]

13

- (a)  $(15, 40)$

1

- (b)  $(20, 0)$

*Accept answers written on the diagram with or without brackets and commas.*

*Coordinates must be written in the correct order.*

1

[2]

14

(40, 27)

*Coordinates must be written in the correct order.  
Accept unambiguous answers written on the diagram.*

[1]

15

(3, 11)

*Coordinates must be written in the correct order.  
Accept correct answer written on the diagram, with or without  
brackets or commas.*

[1]

16

(4, 6)

**Both** numbers must be correct for the award of the mark.  
*Accept correct answers written on the diagram with or without  
brackets.  
Coordinates must be written in the correct order.*

[1]

17

(4, 3)

*Coordinates must be written in the correct order.  
Accept (6, 3), (4, -1) or (6 -1)  
Accept answers written on the diagram, with or without brackets  
and commas.*

[1]

18

F1

**Do not** accept 1F.

[1]

19

(10, 9)

**Coordinates must be in the correct order.**

*Accept unambiguous answers written on the diagram.*

[1]

20

(5, 2)

*Coordinates must be in the correct order.*

*Accept unambiguous answers written on the diagram.*

[1]

21

(a) (0, 10)

*Coordinates must be written in the correct order.*

*Accept unambiguous answers written on the diagram.*

1

(b) (10, 20)

*If the answer for 15a is (10, 0) **AND** the answer to 15b is (20, 10), award **ONE** mark only, in the 15b box.*

1

[2]

22

(5, 2)

*Coordinates must be written in the correct order.*

*Accept unambiguous answers written on the diagram.*

[1]

23

Award **TWO** marks for four rows ticked correctly, as shown:

<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>

If the answer is incorrect, award **ONE** mark for three rows ticked correctly.

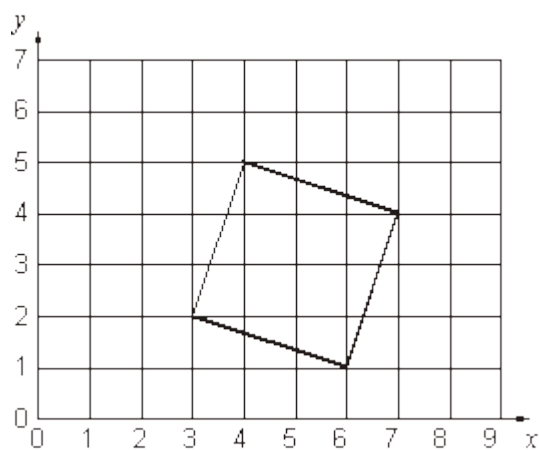
*Accept: alternative unambiguous indications such as ✕ or Y.*

Up to 2

[2]

24

Diagram completed as shown:



*Accept slight inaccuracies in drawing*

[1]

25

(a)  $(-10, -4)$

*Coordinates must be written in the correct order.*

1

(b)  $(0, 8)$

*Accept unambiguous answers written on the diagram.*

*Award **ONE** mark if the answer to (a) is  $(0, 8)$*

***AND** the answer to b is  $(-10, -4)$ .*

1

[2]

26

Indicates correct coordinates for both points, ie A as  $(7, 13)$  and B as  $(17, 13)$

2

*or*

Indicates correct coordinates for one point

*or*

Transposes the responses, ie A as  $(17, 13)$  and B as  $(7, 13)$

*or*

The only error is to indicate incorrect, but consistent, y ordinates, provided  $y > 3$

eg

- A as  $(7, 12)$  and B as  $(17, 12)$

1  
U2

[2]

27

(a) 13 for the x coordinate

*Accept unambiguous answers written on the diagram.*

U1

(b) 15 for the y coordinate

*Accept unambiguous answers written on the diagram.*

1

*If the answer to (a) is 15 **AND** the answer to (b) is 13, then award **ONE** mark for (b).*

[2]



28	(a) (19, 25)	<i>! Coordinates</i>	1	
	(b) (-6, 19)	<i>! Gives values for A and B transposed</i> <i>Award 1m for part (b) only, ie:</i> <ul style="list-style-type: none"> <li><i>A is (-6, 19) and B is (19, 25)</i></li> </ul>	1	[2]
29	( 75, 36 )	<i>Accept unambiguous answers written on the diagram.</i>		[1]
30	(-10, -40)			[1]
31	(2, 4)			[1]
32	(a) P is (-12, -30)	<i>! Coordinates</i> <i>Accept unambiguous answers written on the diagram</i>	1	
	(b) Q is (38, -30)	<i>! Answers for P and Q transposed</i> <i>Award 1 mark for Q only, ie:</i> <ul style="list-style-type: none"> <li><i>P is (38, -30)</i></li> <li><i>Q is (-12, -30)</i></li> </ul> <i>! Answer for Q correctly follows through from an incorrect answer for P</i> <i>Award 1m for Q for follow-through from P as</i> <i>(‘their x’ + 50, ‘their y’)</i>	1	[2]
33	(50, 15)			[1]

34

(a) A is (12, 6)

1

(b) B is (19, 3)

1

*Coordinates must be given in the correct order.*

*If the answer to (a) is (19, 3) **AND** the answer to (b) is (12, 6) then award **ONE** mark for (b)*

*Accept unambiguous answers written on the diagram.*

[2]

35

(a) (12, 0)

*Accept unambiguous answers written on the diagram.*

1

(b) (9, -8)

*If the answer to (a) is (9, -8) **AND** the answer to (b) is (12, 0) then award **ONE** mark for (b).*

1

[2]