

3.1

Graph Plots

and

Midpoints

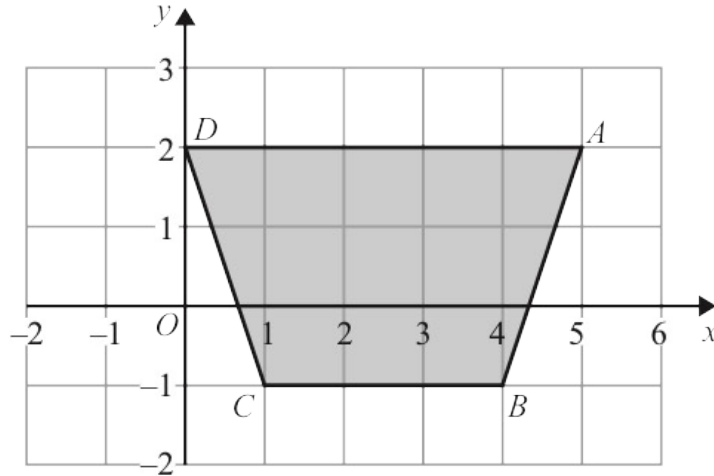
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2 The diagram shows a quadrilateral $ABCD$ drawn on a grid.



(a) Write down the coordinates of

(i) point A

(.....,) (1)

(ii) point C

(.....,)
(2)

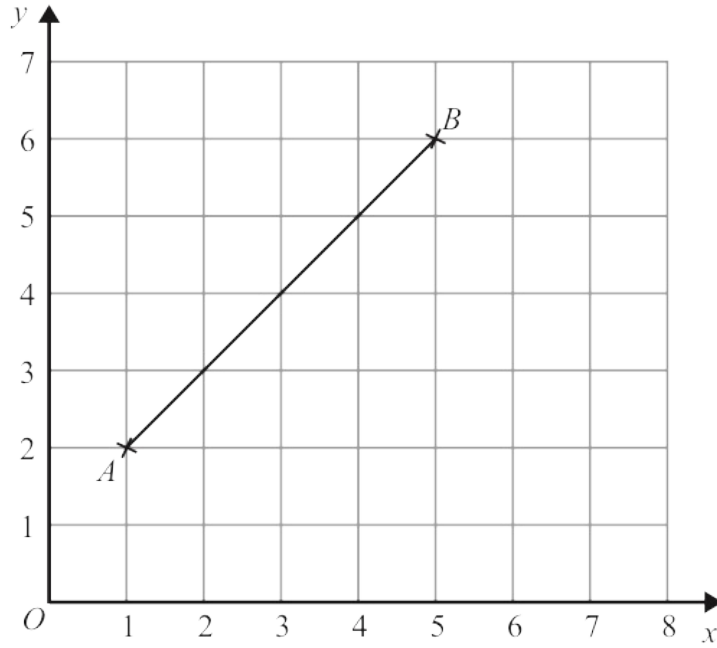
(b) Write down the mathematical name for the quadrilateral $ABCD$.

.....
(1)

(c) Work out the coordinates of the midpoint of BD .

(.....,)
(2)

5 The line AB is drawn on a coordinate grid.



(a) Write down the coordinates of the point B .

(.....,)
(1)

The point C has coordinates $(5, 0)$

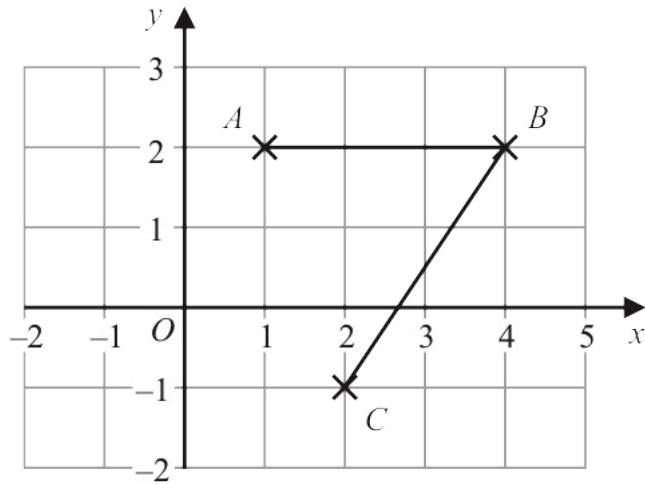
(b) On the grid, mark with a cross (\times) the point C .

(1)

(c) Write down the coordinates of the midpoint of the line AB .

(.....,)
(2)

4 The diagram shows points A , B and C on a square grid.



(a) Write down the coordinates of C .

(.....,)
(1)

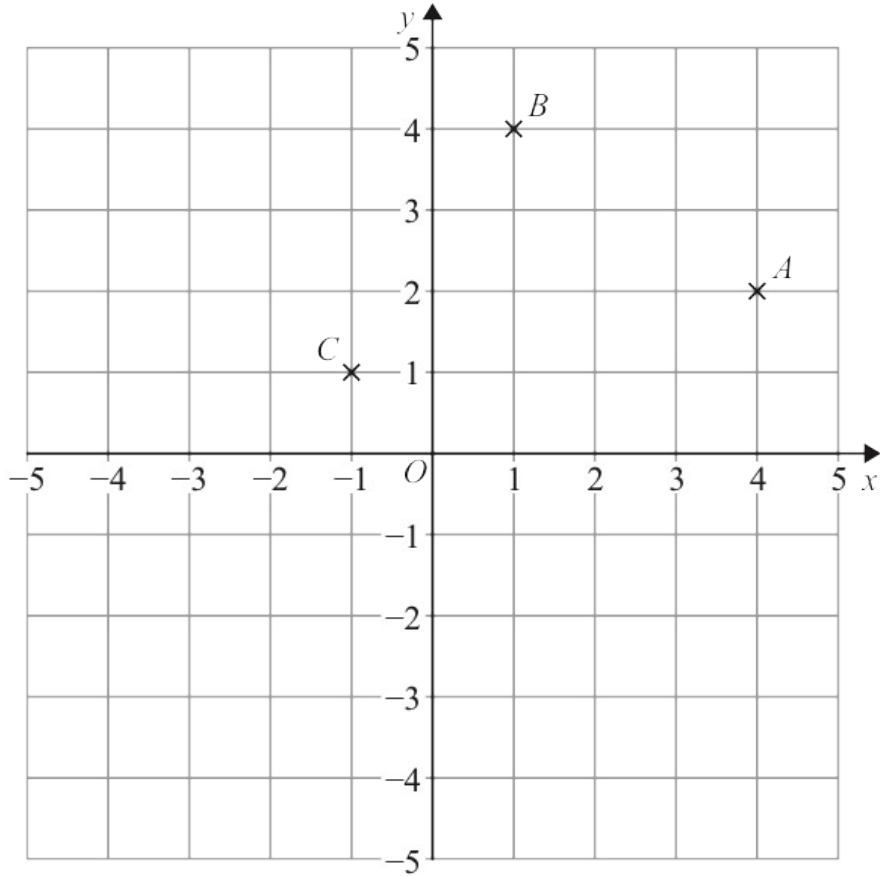
(b) Measure the length of BC .
Give your answer in centimetres.

..... cm
(1)

(c) On the grid, mark with a cross (\times) the point D so that $ABCD$ is a parallelogram.
Label this point D .

(1)

5 A , B and C are three points marked on a grid.



(a) On the grid, draw the line with equation $x = -3$
Label the line L .

(1)

M is the midpoint of AB .

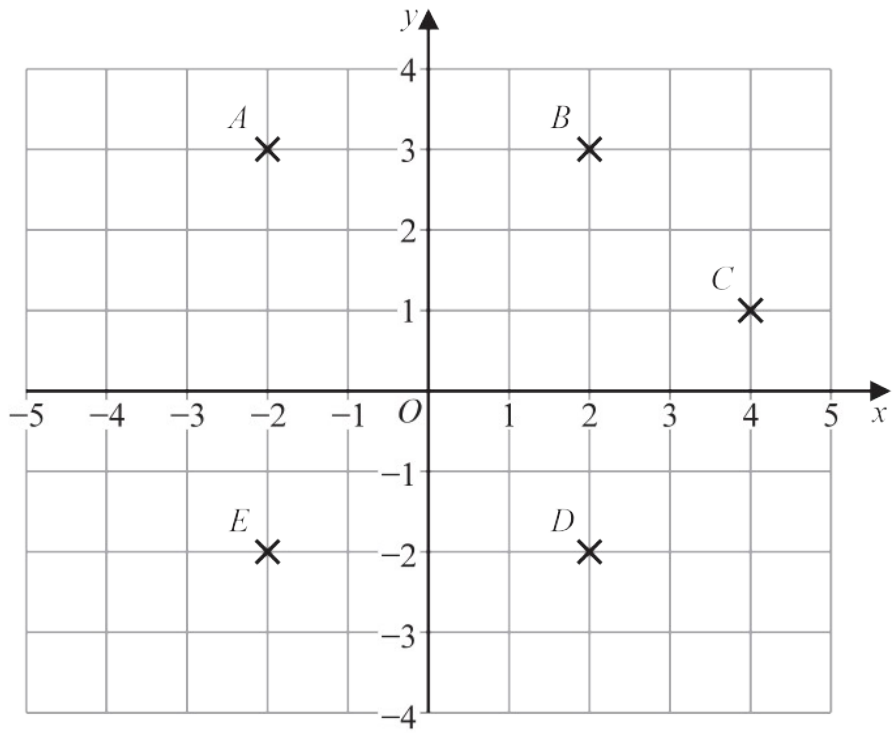
(b) Find the coordinates of M .

(.....,)
(2)

D is the point so that $ABCD$ is a square.

(c) Find the coordinates of D .

(.....,)
(2)



(a) Write down the coordinates of point *B*.

(..... ,)
(1)

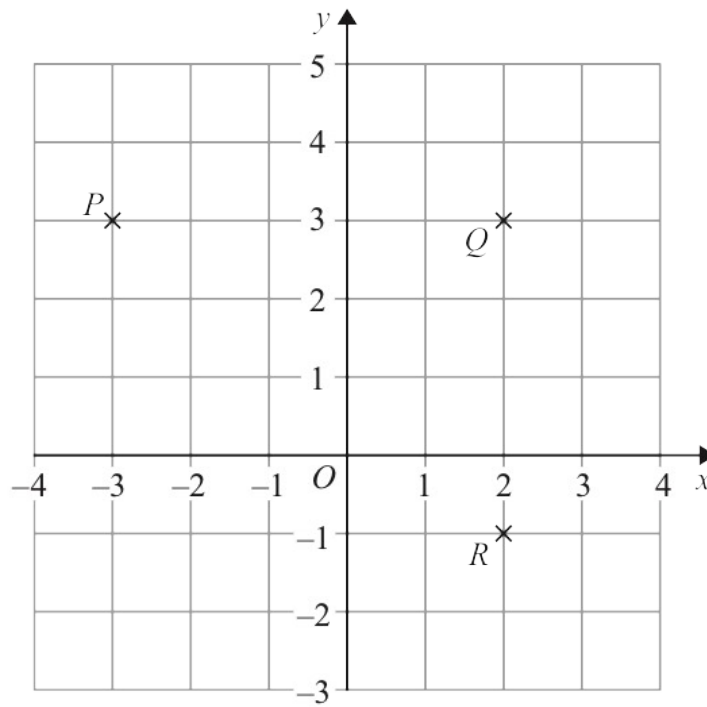
(b) Write down the letter of the point with coordinates (2 , -2)

.....
(1)

(c) Find the coordinates of the midpoint of *AC*.

(..... ,)
(2)

7 P , Q and R are three points marked on a grid.



(a) Write down the coordinates of point Q .

(.....,)
(1)

S is the point such that $PQRS$ is a rectangle.

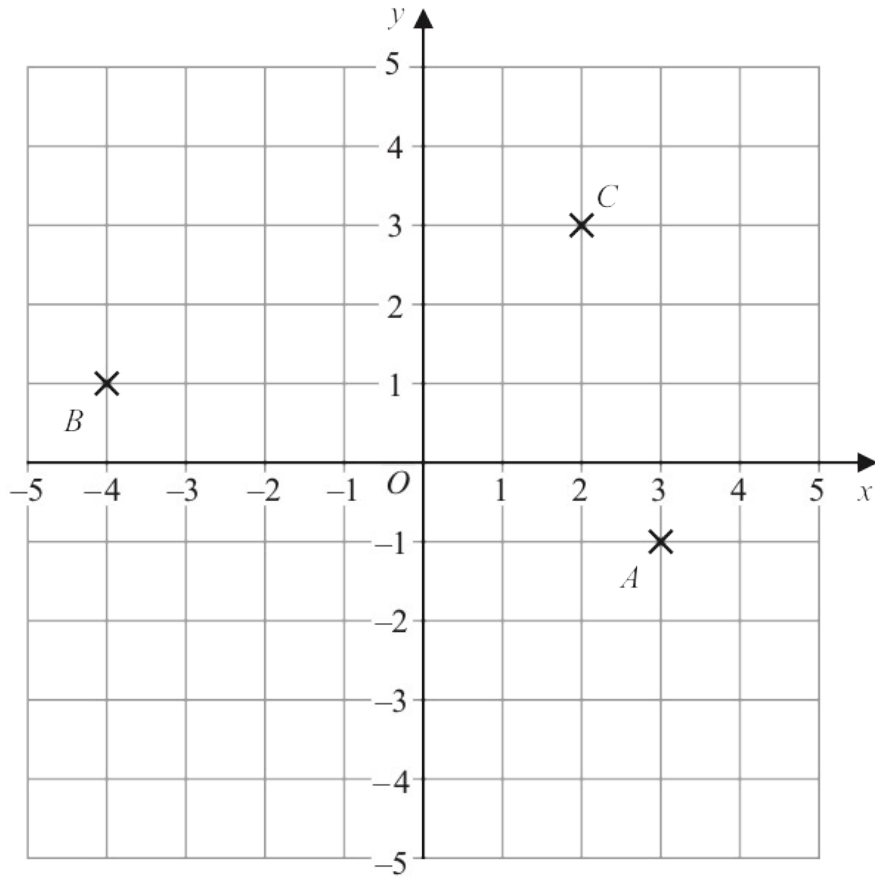
(b) Find the coordinates of point S .

(.....,)
(1)

(c) Find the coordinates of the midpoint of PR .

(.....,)
(2)

7 The diagram shows three points, A , B and C , marked on a grid.



(a) Write down the coordinates of point A .

(.....,)
(1)

The coordinates of the point D are $(-2, -4)$

(b) On the grid, mark with a cross (\times) the position of D .
Label the cross D .

(1)

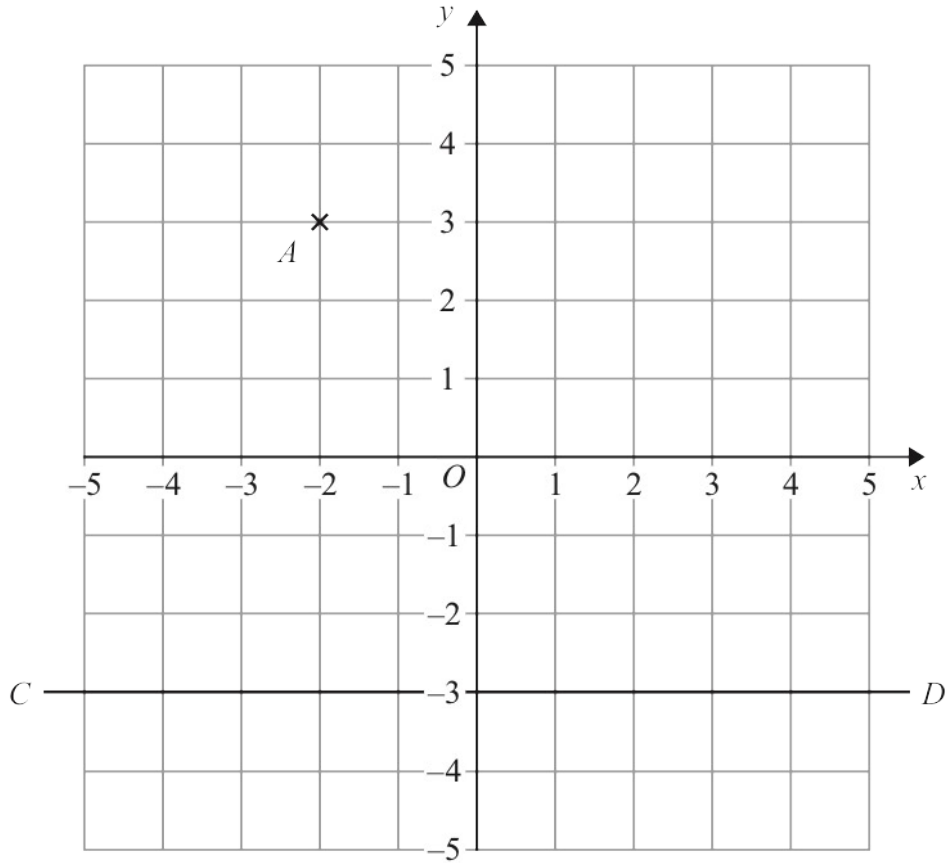
(c) Find the coordinates of the midpoint of BC .

(.....,)
(2)

(d) On the grid, draw the line with equation $x = 4$

(1)

5 The diagram shows the point A and the line CD on a grid.



(a) Write down the coordinates of point A .

(.....,)
(1)

The point B has coordinates $(4, -2)$

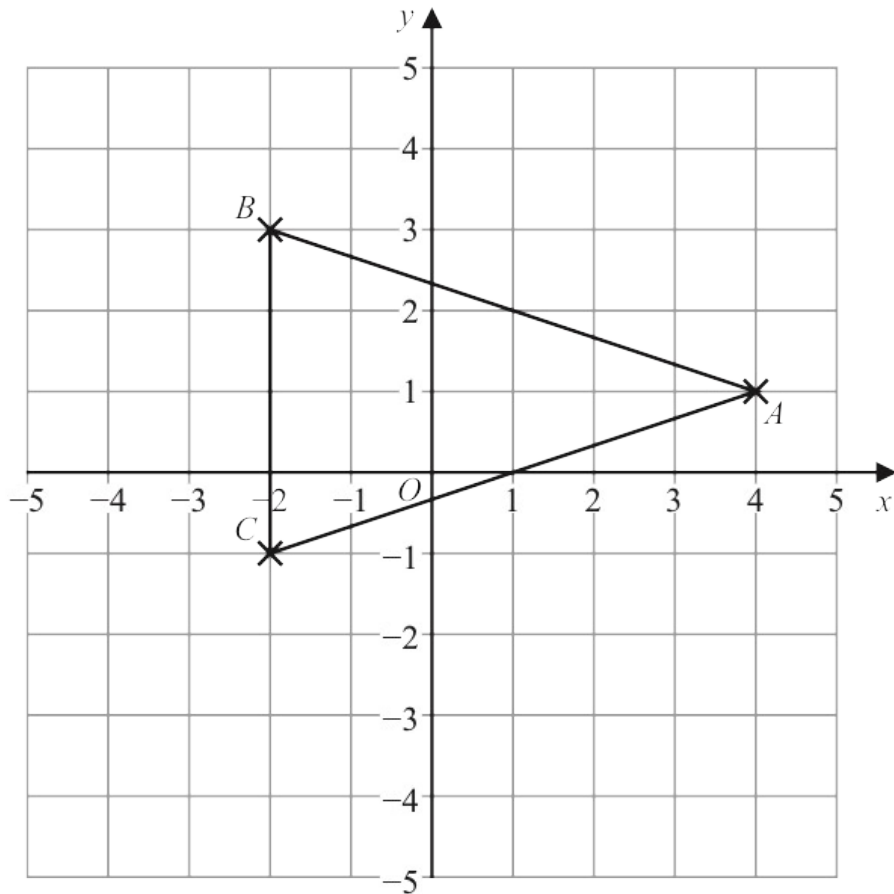
(b) On the grid, mark with a cross (\times) the point B .
Label the point B .

(1)

(c) Write down an equation of the line CD .

.....
(1)

4 The points A , B and C , shown on the grid, are the vertices of triangle ABC .



(a) Write down the coordinates of the point B .

(.....,)
(1)

(b) Write down the mathematical name of triangle ABC .

.....
(1)

The coordinates of point D are $(1, -4)$

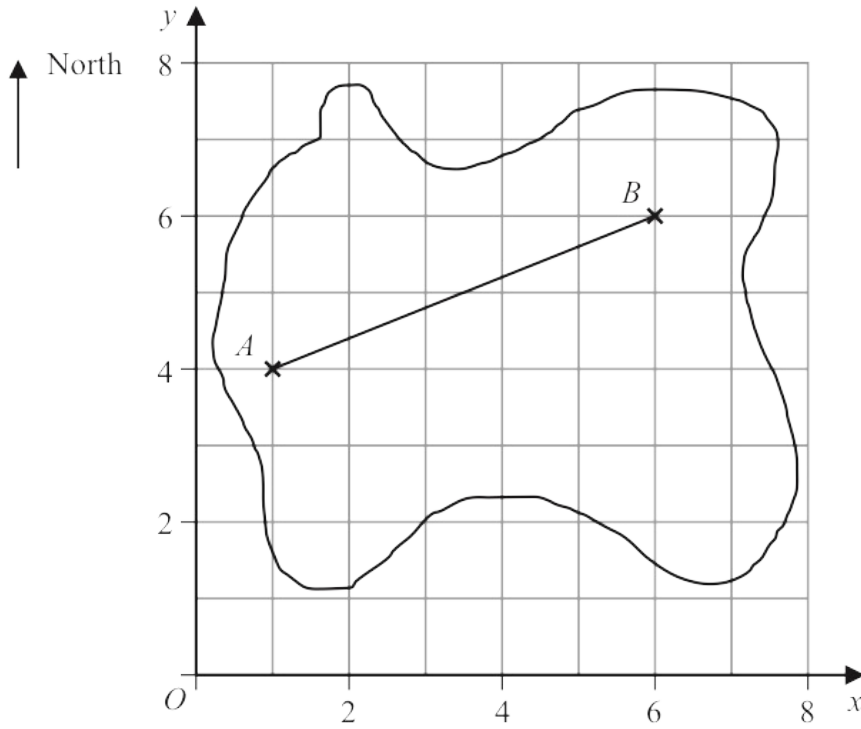
(c) On the grid, mark with a cross (\times) the position of D .
Label the point D .

(1)

(d) Find the coordinates of the midpoint of AB .

(.....,)
(2)

6 The accurate scale diagram shows the map of an island drawn on a centimetre grid.



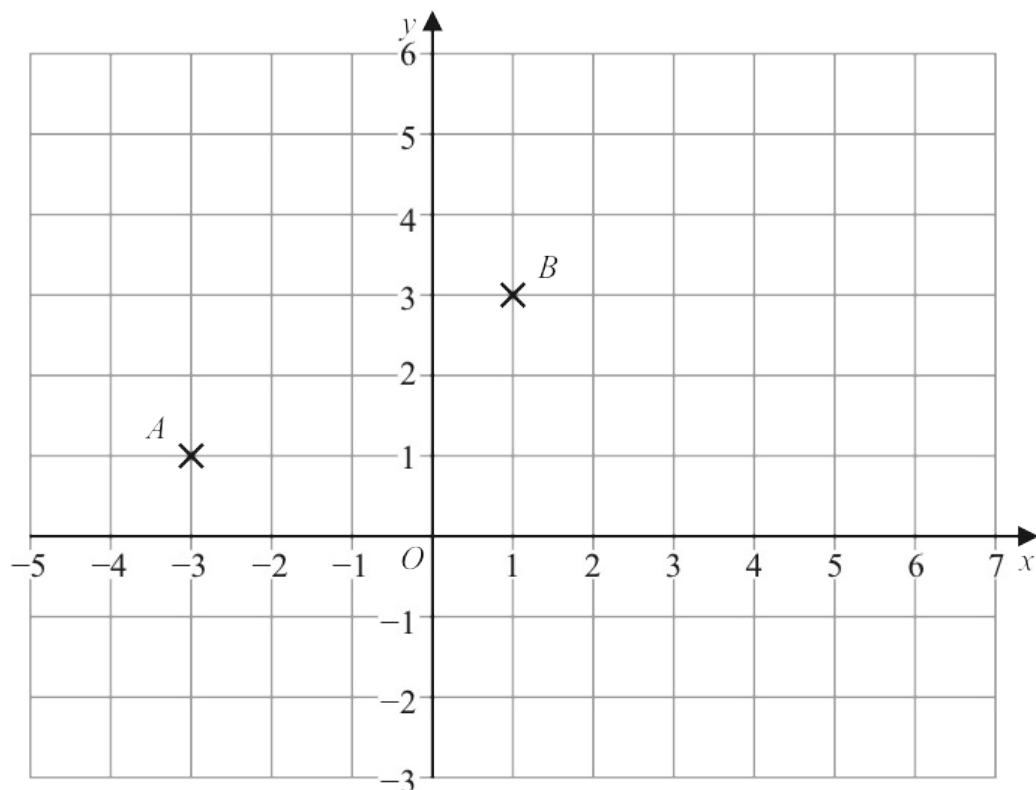
The position of Aaron's house is A .

The position of Bharat's house is B .

(a) Write down the coordinates of A .

(.....,)
(1)

5 The diagram shows points A and B marked on a grid of squares.



(a) On the grid, draw the line with equation $y = -2$ (1)

M is the midpoint of AB

(b) Find the coordinates of M

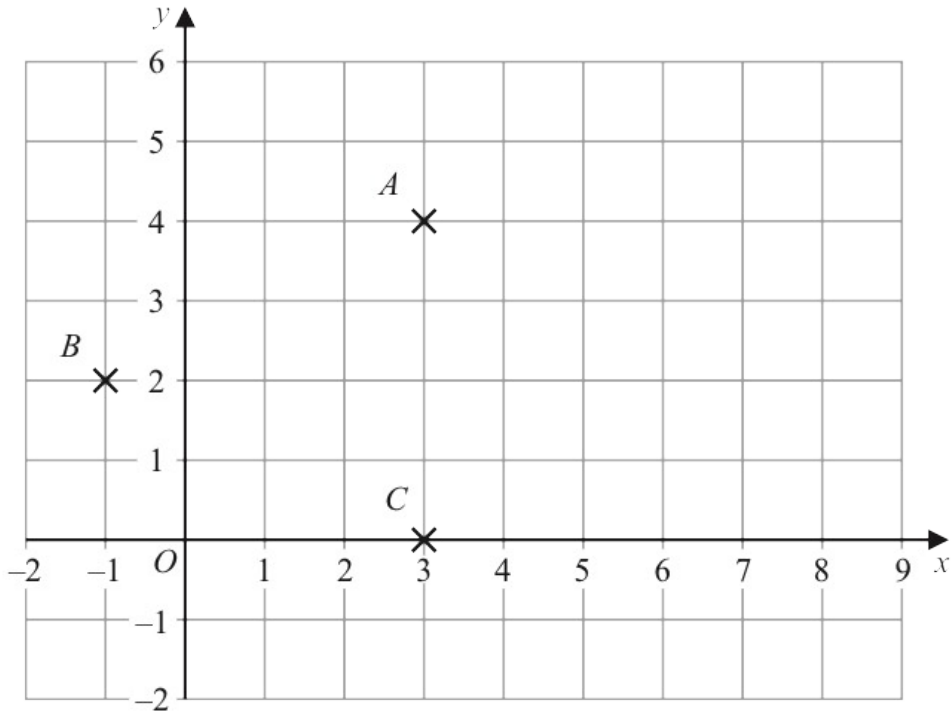
(.....,) (2)

D is the point with coordinates $(5, d)$ where $d > 0$
 The triangle ABD is an isosceles triangle.

(c) Find the value of d

$d =$ (1)

2 The diagram shows three points, A , B and C , on a grid.



(a) Write down the coordinates of

(i) point A

(.....,))

(ii) point B

(.....,))
(2)

D is the point such that $ABCD$ is a rhombus.

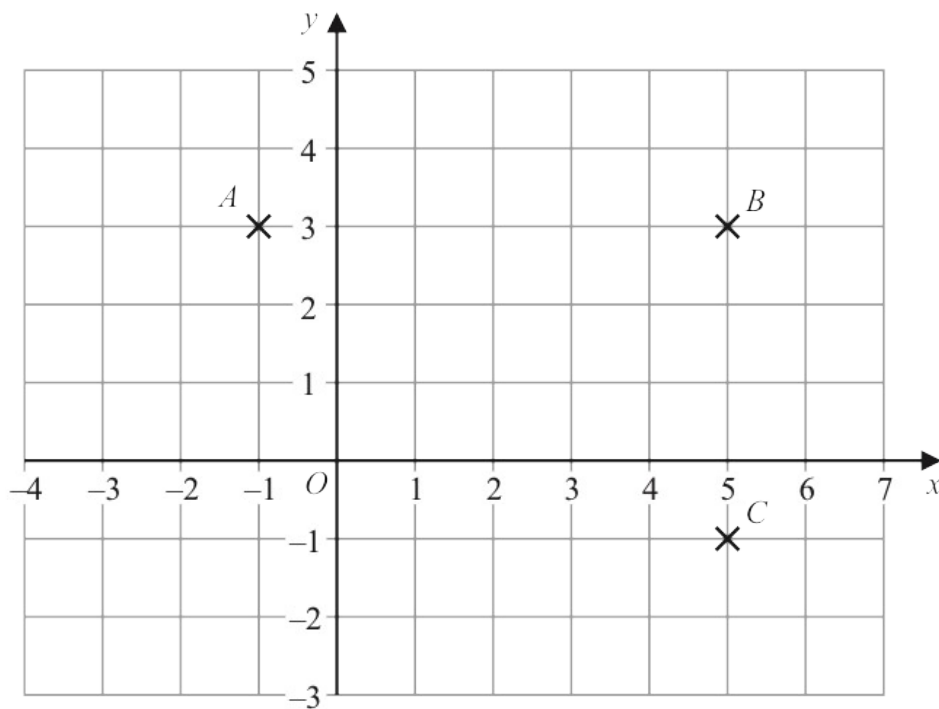
(b) On the grid, mark with a cross (\times) the point D
Label this point D

(1)

(c) Find the coordinates of the midpoint of AB

(.....,))
(2)

7 The three points A , B and C are marked on a centimetre grid.



(a) Write down the coordinates of A

(.....,)
(1)

(b) Find the coordinates of the midpoint of BC

(.....,)
(2)

(c) Work out the area of triangle ABC

..... cm^2
(2)

D is the point on the grid so that $ABCD$ is a rectangle.

(d) On the grid, mark with a cross (\times) the point D
Label this point D

(1)

21 The points A and B are on a coordinate grid.

The coordinates of A are $(6, 4)$

The coordinates of B are $(17, j)$ where j is a constant.

The midpoint of AB has coordinates $(k, 15)$ where k is a constant.

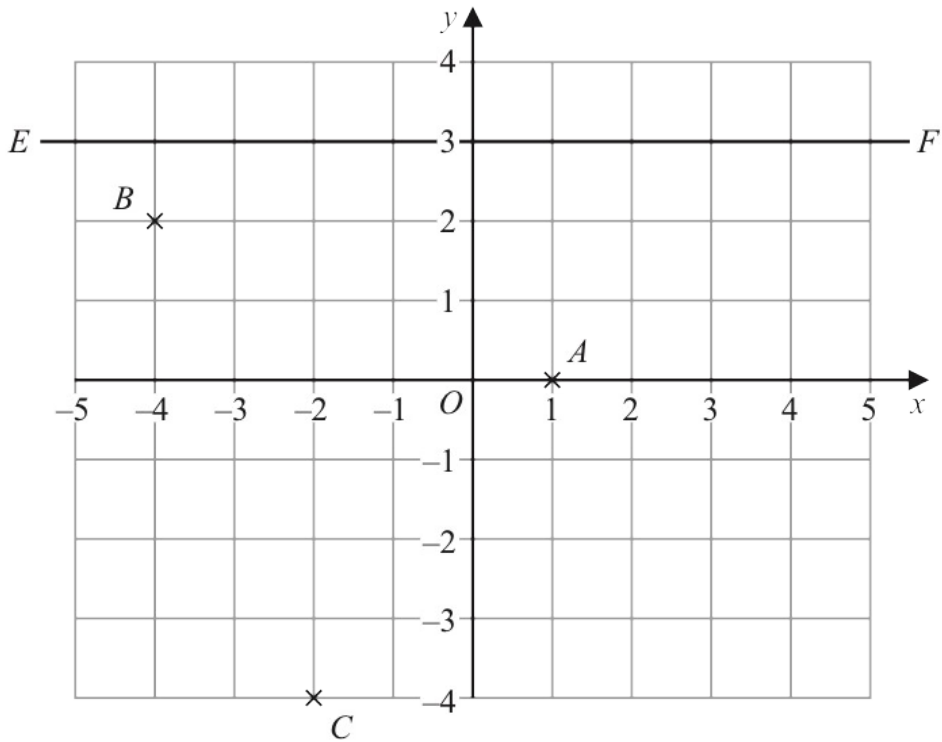
Find the value of j and the value of k

$j = \dots\dots\dots$

$k = \dots\dots\dots$

(Total for Question 21 is 3 marks)

4 The diagram shows three points, A , B and C , and a line EF on a grid.



(a) Write down the coordinates of the point A

(.....,)
(1)

The coordinates of the point D are $(3, -2)$

(b) On the grid, mark with a cross (\times) the position of D
Label the cross D

(1)

(c) Find the coordinates of the midpoint of BC

(.....,)
(2)

(d) Write down the equation of the line EF

.....
(1)

19 The diagram shows a sketch of triangle **A** and triangle **B** on a coordinate grid.

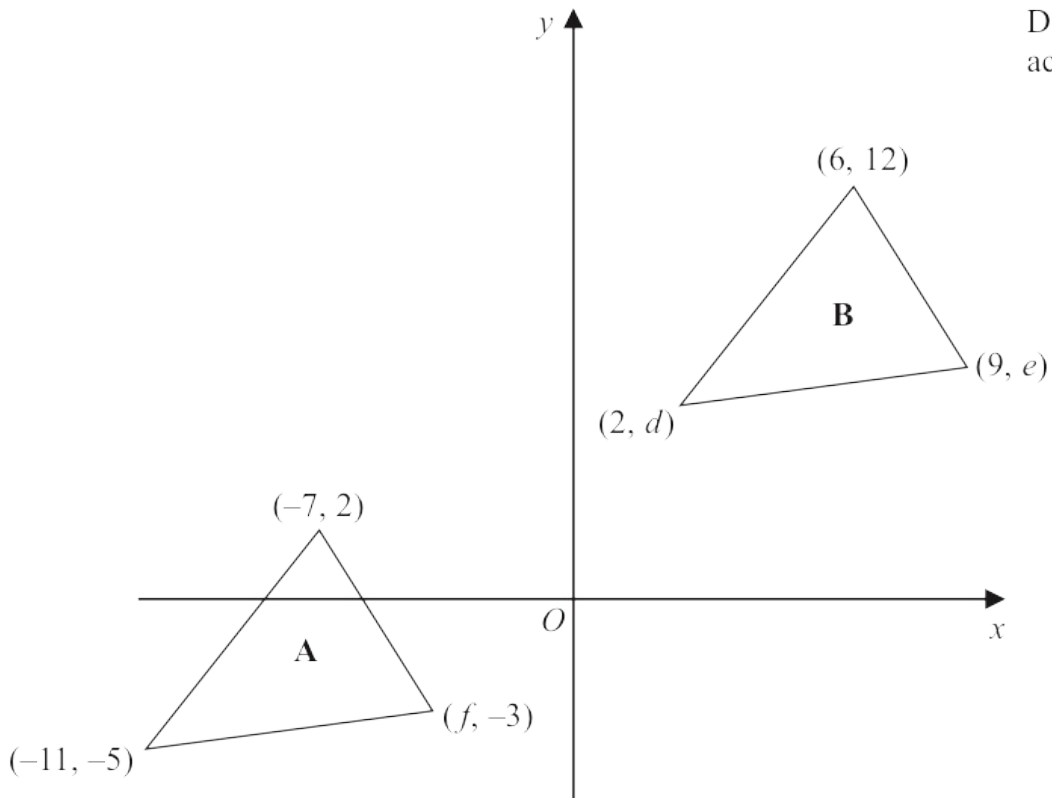


Diagram **NOT** accurately drawn

- (a) Given that triangle **A** has been translated to give triangle **B**, work out the value of d , the value of e and the value of f

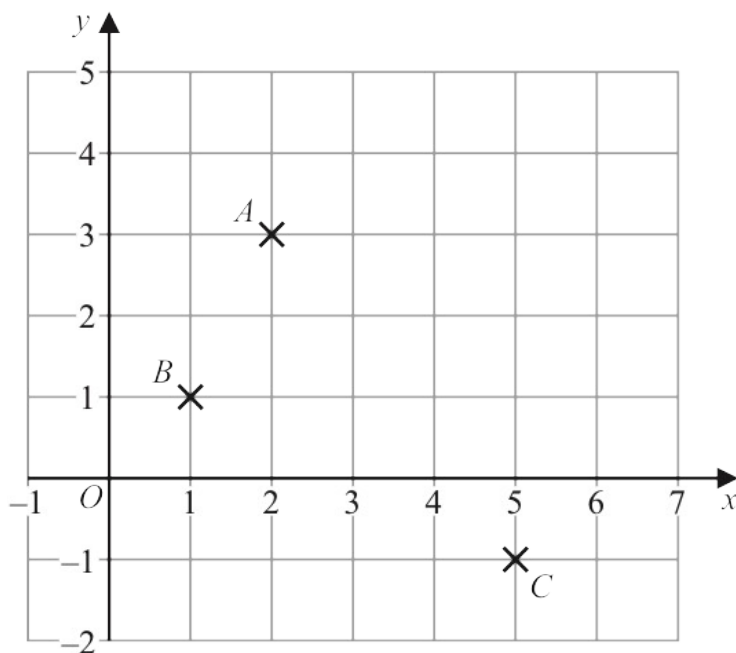
$d = \dots\dots\dots$

$e = \dots\dots\dots$

$f = \dots\dots\dots$

(3)

5 The diagram shows three points, A , B and C , marked on a grid.



(a) Write down the coordinates of point A

(.....,)
(1)

(b) On the grid, mark with a cross (\times) the point D so that $ABCD$ is a rectangle.

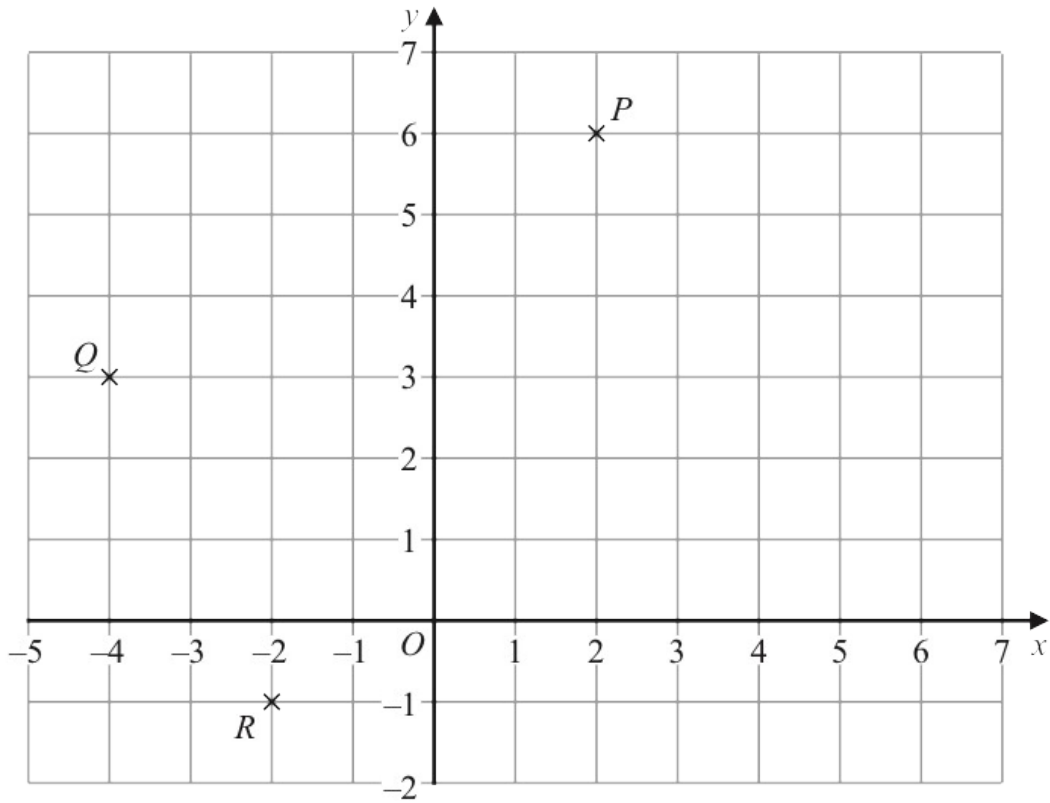
(1)

(c) Find the coordinates of the midpoint of AC

(.....,)
(2)

(d) On the grid, draw the line with equation $y = 4$

(1)



(a) Write down the coordinates of the point

(i) P

(.....,)
(1)

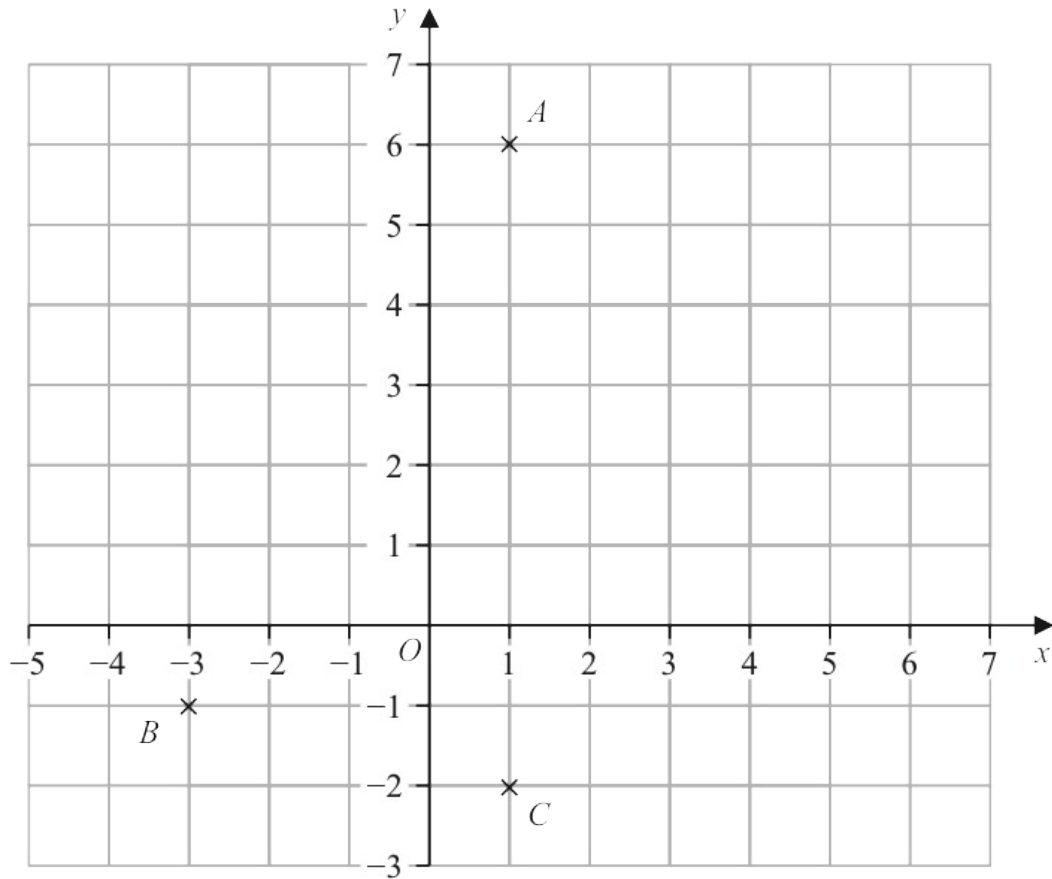
(ii) Q

(.....,)
(1)

(b) On the grid above, mark with a cross (\times) the point S so that $PQRS$ is a rectangle.

(1)

4 The diagram shows three points, A , B and C , marked on a grid.



(a) Write down the coordinates of point A

(.....,)
(1)

(b) Write down the coordinates of point B

(.....,)
(1)

M is the midpoint of the line AC

(c) On the grid, mark with a cross (\times) the point M
Label the point M

(1)

The point D is such that the shape $ABCD$ is a kite.

(d) On the grid, mark with a cross (\times) the point D
Label the point D

(1)

(e) How many lines of symmetry has kite $ABCD$?

.....
(1)