

Coordinate Geometry

Question Paper 6

Level	International A Level
Subject	Maths
Exam Board	CIE
Topic	Coordinate Geometry
Sub Topic	
Booklet	Question Paper 6

Time Allowed: 52 minutes

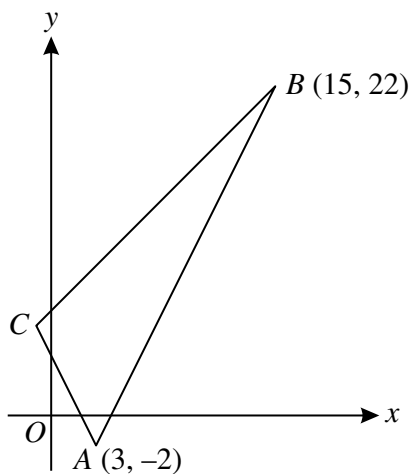
Score: /43

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	'77.5%	70%	62.5%	57.5%	45%	<45%

1



The diagram shows a triangle ABC in which A is $(3, -2)$ and B is $(15, 22)$. The gradients of AB , AC and BC are $2m$, $-2m$ and m respectively, where m is a positive constant.

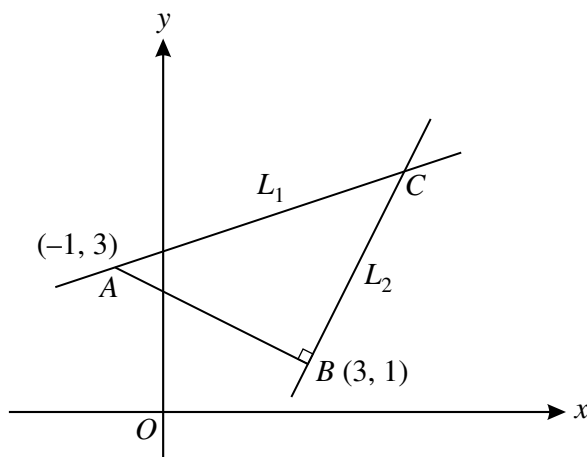
(i) Find the gradient of AB and deduce the value of m . [2]

(ii) Find the coordinates of C . [4]

The perpendicular bisector of AB meets BC at D .

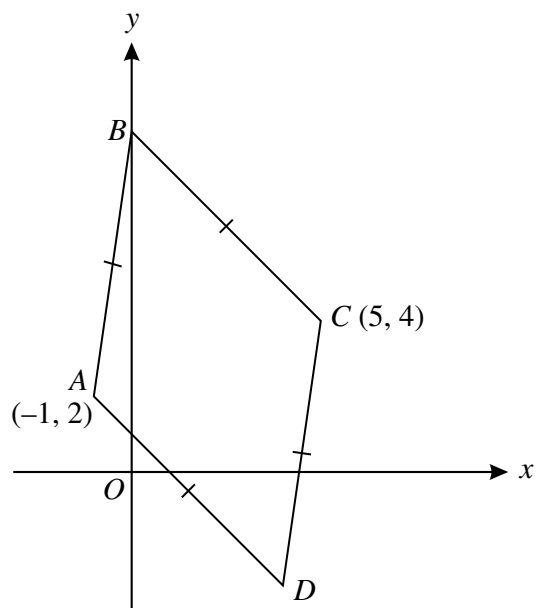
(iii) Find the coordinates of D . [4]

2



In the diagram, A is the point $(-1, 3)$ and B is the point $(3, 1)$. The line L_1 passes through A and is parallel to OB . The line L_2 passes through B and is perpendicular to AB . The lines L_1 and L_2 meet at C . Find the coordinates of C . [6]

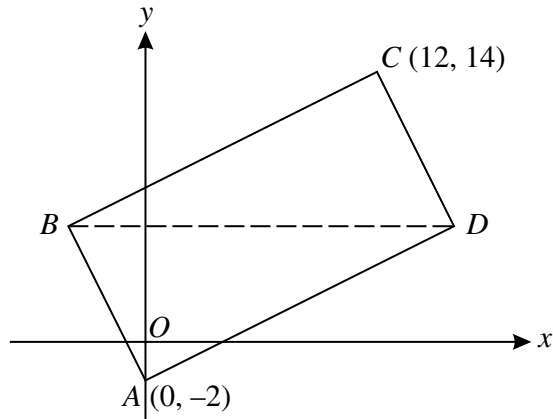
3



The diagram shows a rhombus $ABCD$ in which the point A is $(-1, 2)$, the point C is $(5, 4)$ and the point B lies on the y -axis. Find

- (i) the equation of the perpendicular bisector of AC , [3]
- (ii) the coordinates of B and D , [3]
- (iii) the area of the rhombus. [3]

4



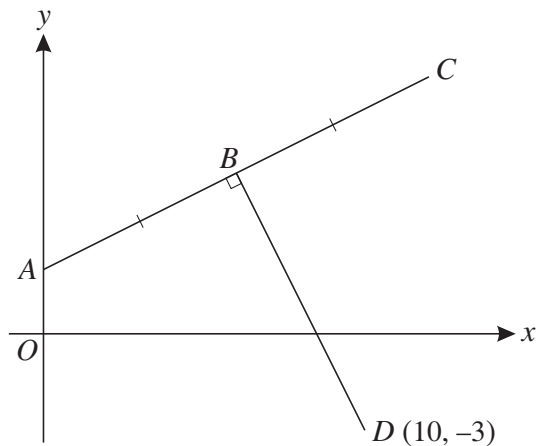
The diagram shows a rectangle $ABCD$. The point A is $(0, -2)$ and C is $(12, 14)$. The diagonal BD is parallel to the x -axis.

- (i) Explain why the y -coordinate of D is 6. [1]

The x -coordinate of D is h .

- (ii) Express the gradients of AD and CD in terms of h . [3]
 (iii) Calculate the x -coordinates of D and B . [4]
 (iv) Calculate the area of the rectangle $ABCD$. [3]

5



The diagram shows points A , B and C lying on the line $2y = x + 4$. The point A lies on the y -axis and $AB = BC$. The line from $D(10, -3)$ to B is perpendicular to AC . Calculate the coordinates of B and C . [7]