Co-ordinate Geometry
Difficulty: Easy

Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Co-ordinate Geometry
Sub-Topic	Co-ordinate Geometry
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 1

Time allowed: **45 minutes**

Score: **/35**

Percentage: **/100**

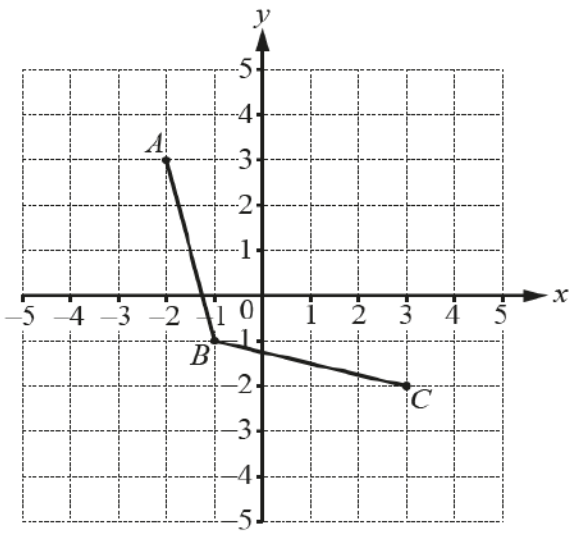
Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%



The diagram shows two sides of a rhombus $ABCD$.

(a) Write down the co-ordinates of A. [1]

(b) Complete the rhombus $ABCD$ on the grid. [1]

$y = mx + c$

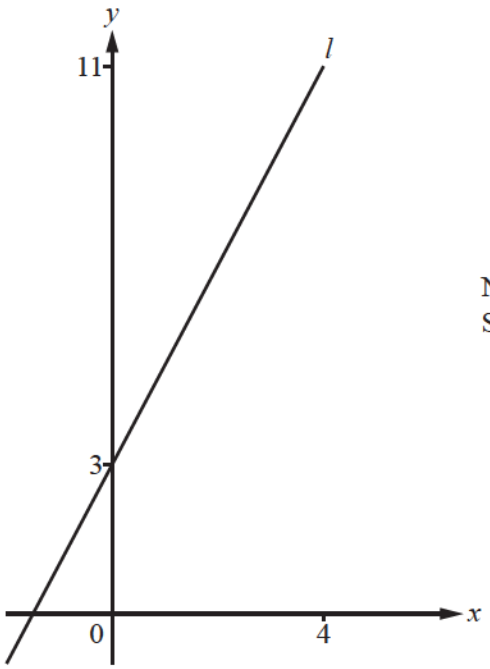
Find the value of y when $m = -2$, $x = -7$ and $c = -3$. [2]

Question 3

The point A has co-ordinates $(-4, 6)$ and the point B has co-ordinates $(7, -2)$.

Calculate the length of the line AB. [3]

Question 4



NOT TO SCALE

The diagram shows the straight line, l, which passes through the points (0, 3) and (4, 11).

(a) Find the equation of line l in the form $y = mx + c$.

[3]

(b) Line p is perpendicular to line l.

Write down the gradient of line p.

[1]

Find the equation of the line passing through the points with co-ordinates (5, 9) and (–3, 13). [3]

$A(5, 23)$ and $B(-2, 2)$ are two points.

(a) Find the co-ordinates of the midpoint of the line AB. [2]

(b) Find the equation of the line AB. [3]

(c) Show that the point (3, 17) lies on the line AB. [1]

Find the equation of the line passing through the points (0, –1) and (3, 5). [3]

Question 8

(a) The two lines $y = 2x + 8$ and $y = 2x - 12$ intersect the x-axis at P and Q.

Work out the distance PQ.

[2]

(b) Write down the equation of the line with gradient -4 passing through (0, 5).

[2]

(c) Find the equation of the line parallel to the line in **part (b)** passing through (5, 4).

[3]

(a) Find the co-ordinates of the midpoint of the line joining $A(-8, 3)$ and $B(-2, -3)$.

[2]

(b) The line $y = 4x + c$ passes through $(2, 6)$.

Find the value of c.

[1]

(c) The lines $5x = 4y + 10$ and $2y = kx - 4$ are parallel.

Find the value of k.

[2]

Co-ordinate Geometry
Difficulty: Easy

Question Paper 2

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Co-ordinate Geometry
Sub-Topic	Co-ordinate Geometry
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 2

Time allowed: **46 minutes**

Score: **/36**

Percentage: **/100**

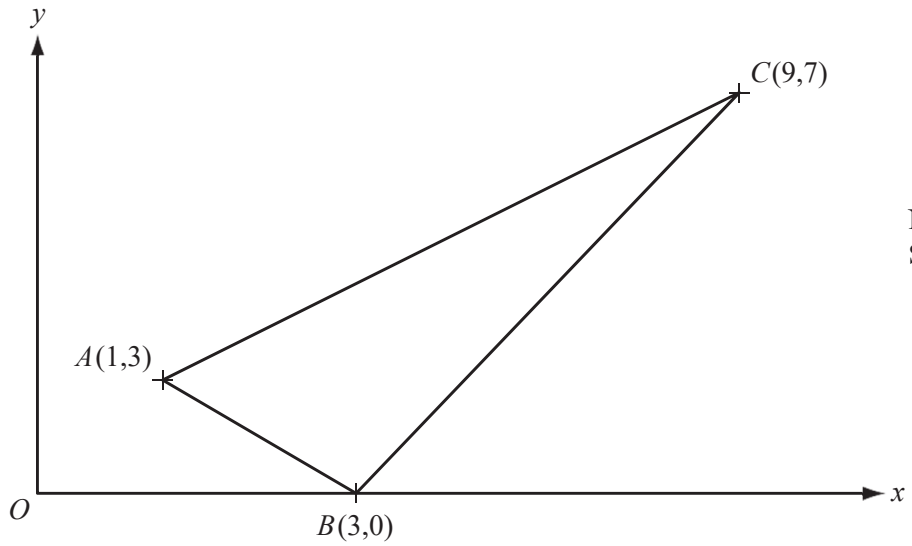
Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

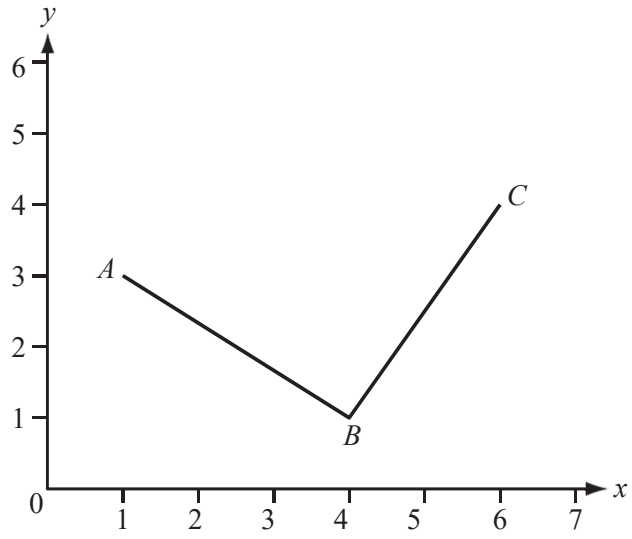
9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%



The co-ordinates of A, B and C are shown on the diagram, which is not to scale.

(a) Find the length of the line AB. [3]

(b) Find the equation of the line AC. [3]



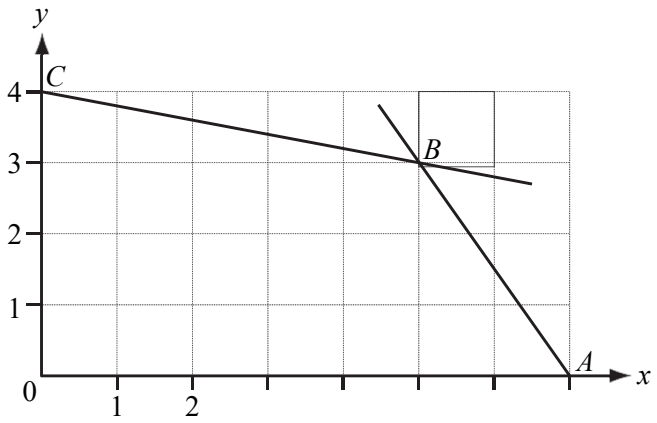
$A(1, 3)$, $B(4, 1)$ and $C(6, 4)$ are shown on the diagram.

(b) Work out the equation of the line BC. [3]

(c) ABC forms a right-angled isosceles triangle of area 6.5 cm^2.

Calculate the length of AB. [2]

Find the length of the straight line from Q (−8, 1) to R (4 , 6). [3]

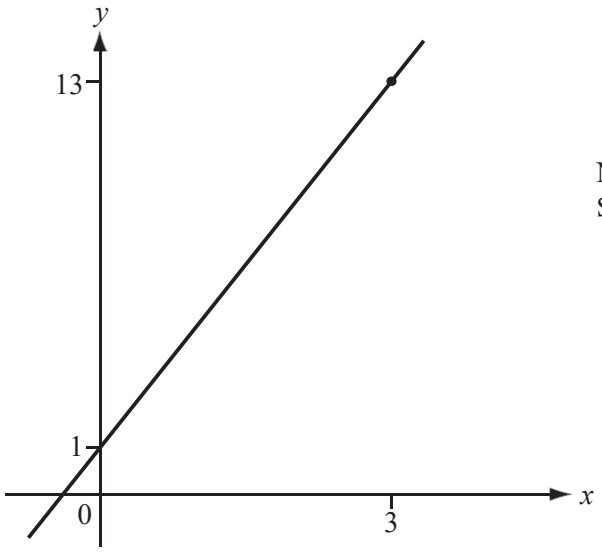


The lines AB and CB intersect at B.

(a) Find the co-ordinates of the midpoint of AB. [1]

(b) Find the equation of the line CB. [3]

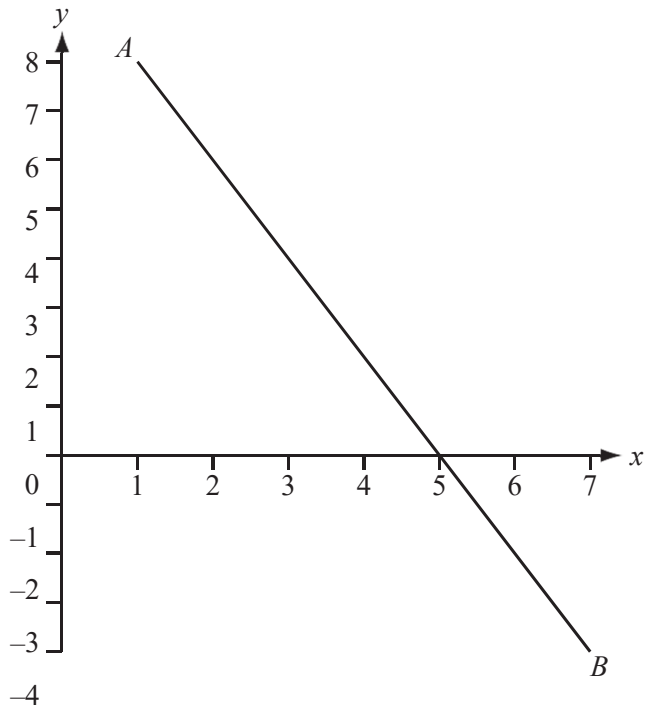
Question 5



NOT TO SCALE

The diagram shows the straight line which passes through the points (0, 1) and (3, 13).

Find the equation of the straight line. [3]



(a) Using a straight edge and compasses only, construct the perpendicular bisector of AB on the diagram above. [2]

(b) Write down the co-ordinates of the midpoint of the line segment joining $A(1, 8)$ to $B(7, -4)$.

[1]

(c) Find the equation of the line AB.

[3]

(a) The line $y = 2x + 7$ meets the y-axis at A.

Write down the co-ordinates of A.

[1]

(b) A line parallel to $y = 2x + 7$ passes through $B(0, 3)$.

(i) Find the equation of this line.

[2]

(ii) C is the point on the line $y = 2x + 1$ where $x = 2$.

Find the co-ordinates of the midpoint of BC.

[3]

Find the equation of the straight line which passes through the points (0, 8) and (3, 2).

[3]

Co-ordinate Geometry
Difficulty: Easy

Question Paper 3

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Co-ordinate Geometry
Sub-Topic	Co-ordinate Geometry
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 3

Time allowed: **40 minutes**

Score: **/31**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

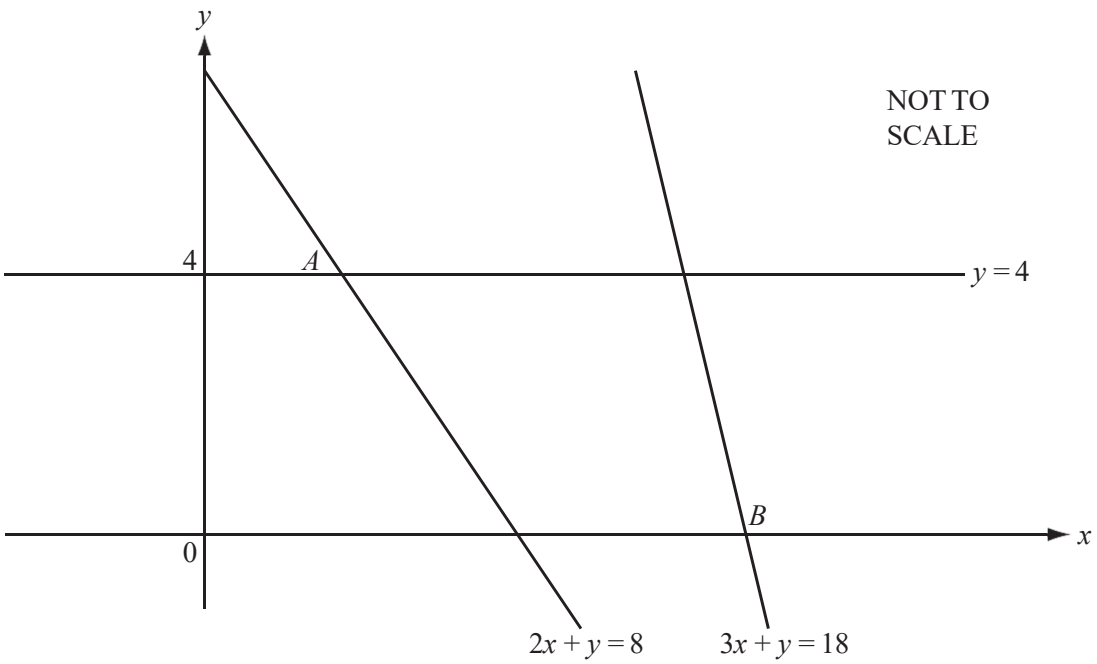
9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

The points (2, 5), (3, 3) and (k, 1) all lie in a straight line.

(a) Find the value of k. [1]

(b) Find the equation of the line. [3]



(a) The line $y = 4$ meets the line $2x + y = 8$ at the point A.
Find the co-ordinates of A.

[1]

(b) The line $3x + y = 18$ meets the x axis at the point B.
Find the co-ordinates of B.

[1]

(c) (i) Find the co-ordinates of the mid-point M of the line joining A to B.

[1]

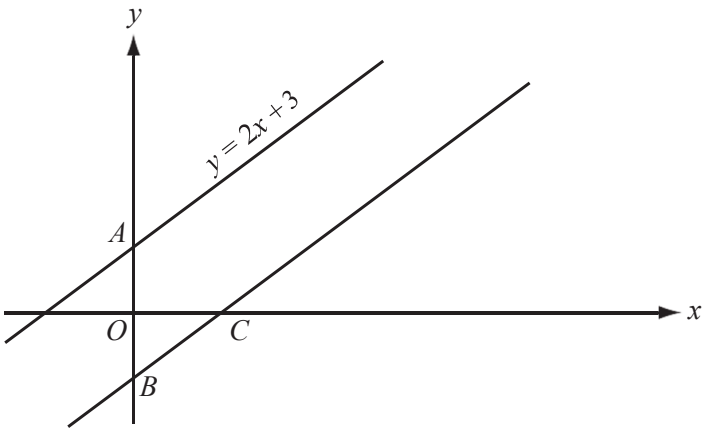
(ii) Find the equation of the line through M parallel to $3x + y = 18$.

[2]

Question 3

Find the length of the line joining the points $A(-4, 8)$ and $B(-1, 4)$. [2]

Question 4

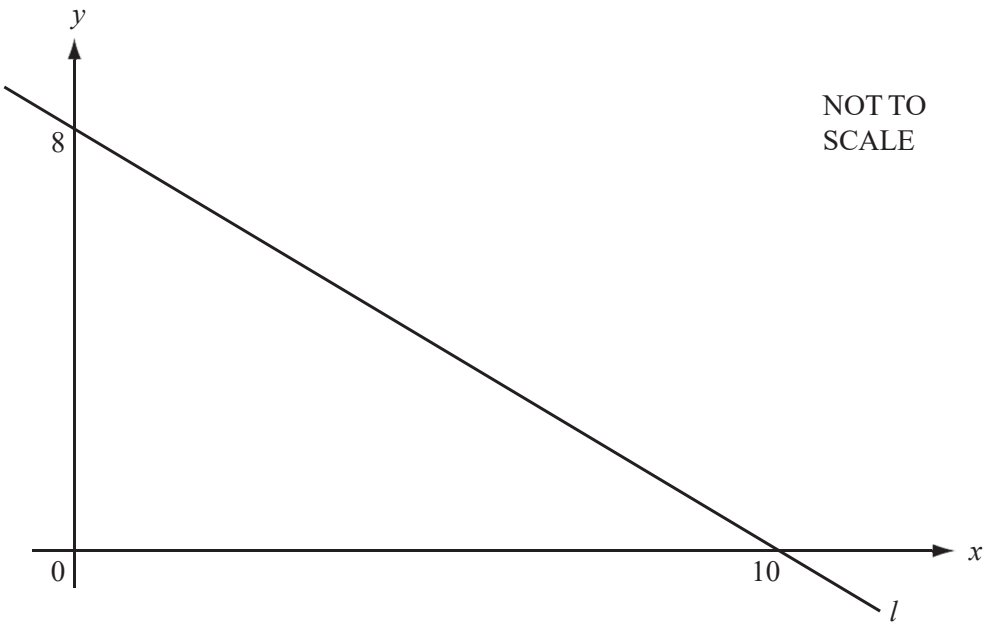


NOT TO SCALE

The distance AB is 7 units.

(a) Write down the equation of the line through B which is parallel to $y = 2x + 3$. [2]

(b) Find the co-ordinates of the point C where this line crosses the x axis. [1]



The line l passes through the points (10, 0) and (0, 8) as shown in the diagram.

(a) Find the gradient of the line as a fraction in its simplest form. [1]

(b) **Write down** the equation of the line parallel to l which passes through the origin. [1]

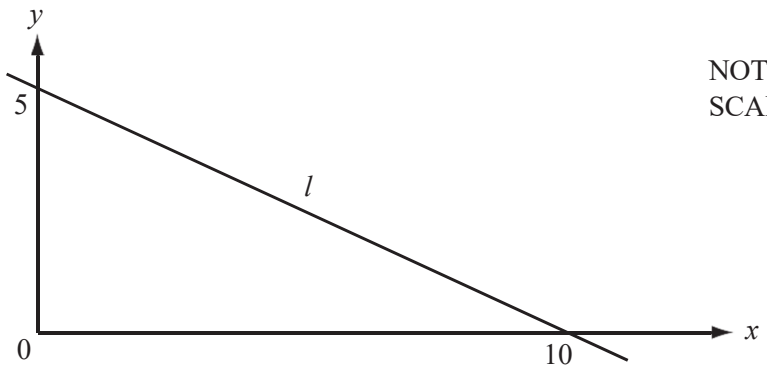
(c) Find the equation of the line parallel to l which passes through the point (3, 1). [2]

The equation of a straight line can be written in the form $3x + 2y - 8 = 0$.

(a) Rearrange this equation to make y the subject. [2]

(b) Write down the gradient of the line. [1]

(c) Write down the co-ordinates of the point where the line crosses the y axis. [1]



NOT TO SCALE

(a) Calculate the gradient of the line l.

[2]

(b) Write down the equation of the line l.

[2]

The straight line graph of $y = 3x - 6$ cuts the x-axis at A and the y-axis at B.

(a) Find the coordinates of A and the coordinates of B. [2]

(b) Calculate the length of AB. [2]

(c) M is the mid-point of AB.
Find the coordinates of M. [1]

Co-ordinate Geometry
Difficulty: Hard

Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Co-ordinate Geometry
Sub-Topic	Co-ordinate Geometry
Paper	Paper 2
Difficulty	Hard
Booklet	Question Paper 1

Time allowed: **32 minutes**

Score: **/25**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

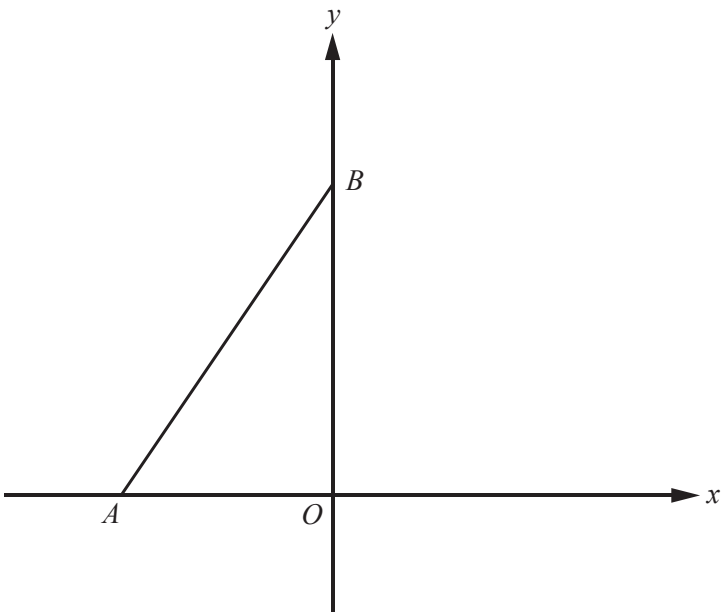
9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

A line has gradient 5.
M and N are two points on this line.
M is the point $(x, 8)$ and N is the point $(k, 23)$.

Find an expression for x in terms of k. [3]

Question 2

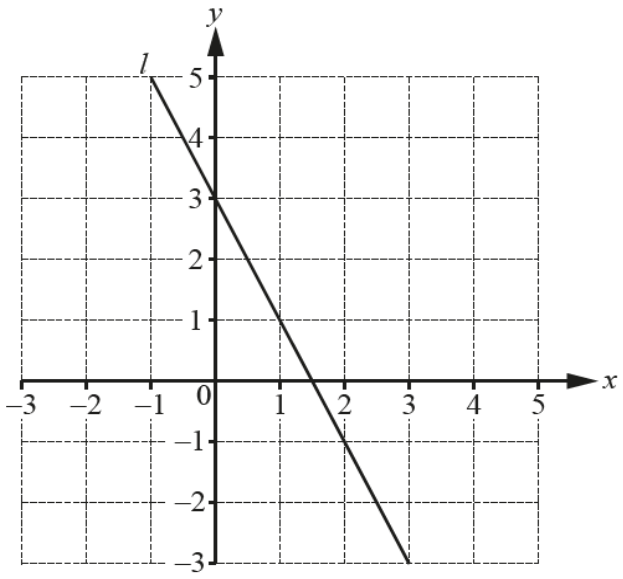


NOT TO SCALE

A is the point $(-2,\ 0)$ and B is the point $(0, 4)$.

(a) Find the equation of the straight line joining A and B. [3]

(b) Find the equation of the perpendicular bisector of AB. [4]

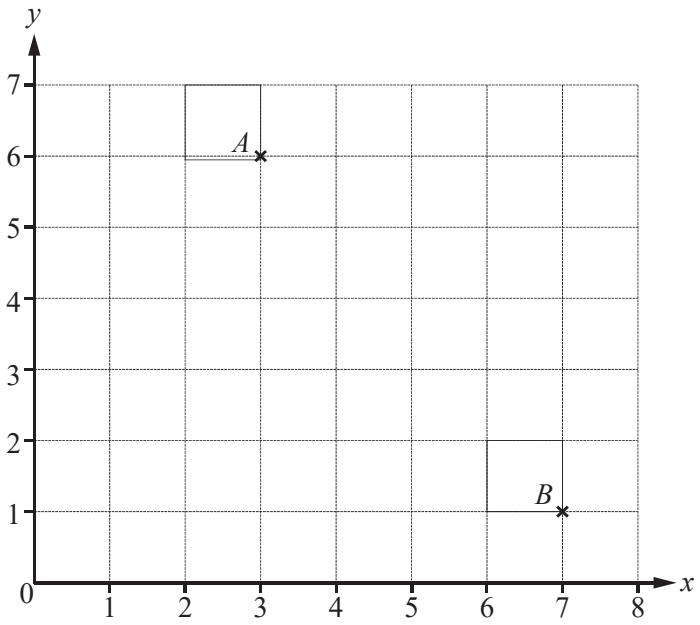


(a) Find the equation of the line l.
Give your answer in the form $y = mx + c$. [3]

(b) A line perpendicular to the line l passes through the point $(3, -1)$.

Find the equation of this line. [3]

Question 4



Point A has co-ordinates (3, 6).

(a) Write down the co-ordinates of point B. [1]

(b) Find the gradient of the line AB.

[2]

(c) Find the equation of the line that

- is perpendicular to the line AB

and

- passes through the point (0, 2). [3]

A is the point (8, 3) and B is the point (12, 1).

Find the equation of the line, perpendicular to the line AB, which passes through the point (0, 0).

[3]

Co-ordinate Geometry
Difficulty: Hard

Question Paper 2

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Co-ordinate Geometry
Sub-Topic	Co-ordinate Geometry
Paper	Paper 2
Difficulty	Hard
Booklet	Question Paper 2

Time allowed: **35 minutes**

Score: **/27**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

A is the point (4, 1) and B is the point (10, 15).

Find the equation of the perpendicular bisector of the line AB. [6]

Question 2

Find the equation of the line that

- is perpendicular to the line $y = 3x - 1$

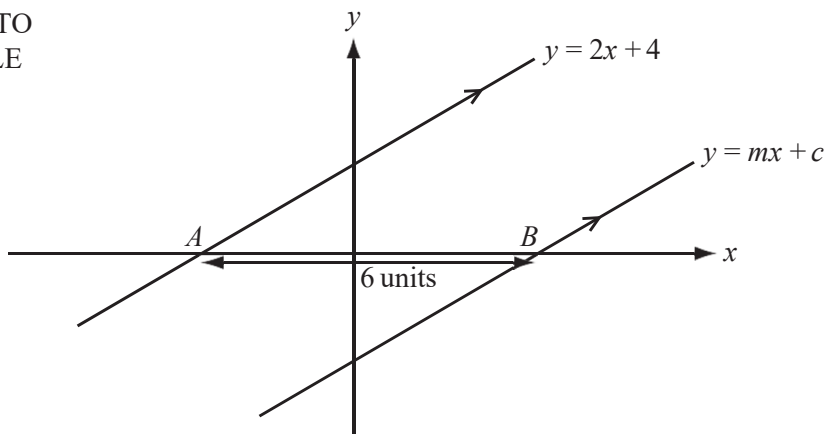
and

- passes through the point $(7, 4)$.

[3]

Question 3

NOT TO SCALE



The line $y = mx + c$ is parallel to the line $y = 2x + 4$.
The distance AB is 6 units.

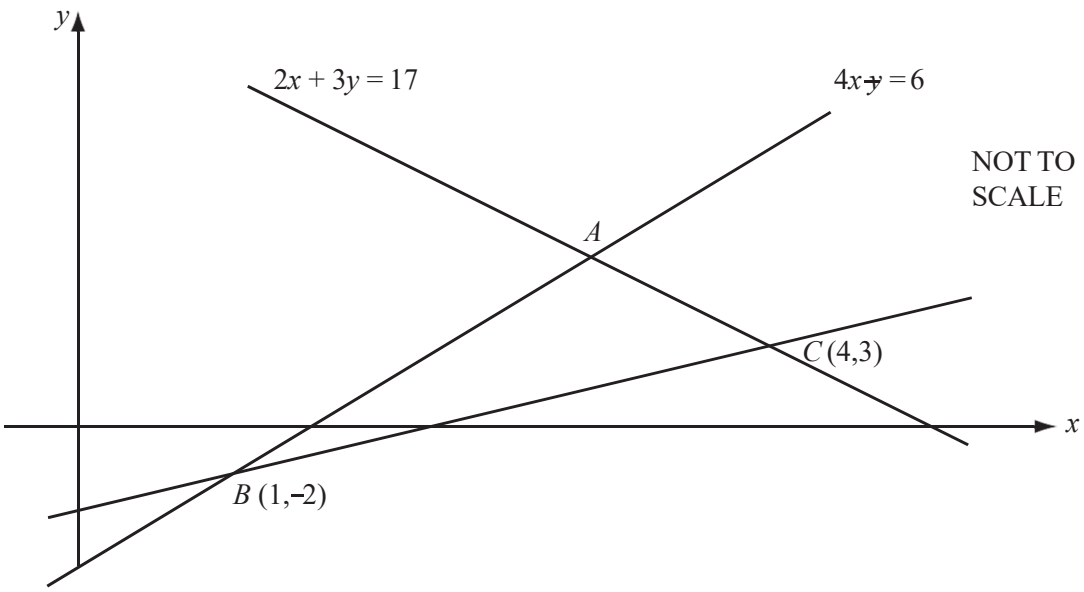
Find the value of m and the value of c. [4]

Question 4

Find the co-ordinates of the mid-point of the line joining the points $A(2, -5)$ and $B(6, 9)$. [2]

Question 5

A straight line passes through two points with co-ordinates (6, 8) and (0, 5).
Work out the equation of the line. [3]



In the diagram, the line AC has equation $2x + 3y = 17$ and the line AB has equation $4x - y = 6$.
The lines BC and AB intersect at $B(1, -2)$.
The lines AC and BC intersect at $C(4, 3)$.

(a) Use algebra to find the coordinates of the point A. [3]

(b) Find the equation of the line BC. [3]

The points $A(6,2)$ and $B(8,5)$ lie on a straight line.

(a) Work out the gradient of this line. [1]

(b) Work out the equation of the line, giving your answer in the form $y = mx + c$. [2]