EXAM PAPERS PRACTICE

GCSE OCR Math J560

Perpendicular Lines

Question Paper

"We will help you to achieve A Star "

Question 1

The points P and Q have coordinates $(-1, 6)$ and $(9, 0)$ respectively.

The line l is perpendicular to PQ and passes through the mid-point of PQ.

Find an equation for l, giving your answer in the form $ax + by + c = 0$, where a, b and c are integers.

[5 marks]

Question 2

The line l_1 has equation $y = -2x + 3$

The line l_2 is perpendicular to l_1 and passes through the point $(5, 6)$.

(a) Find an equation for l_2 in the form $ax + by + c = 0$, where a, b and c are integers.

[3 marks]

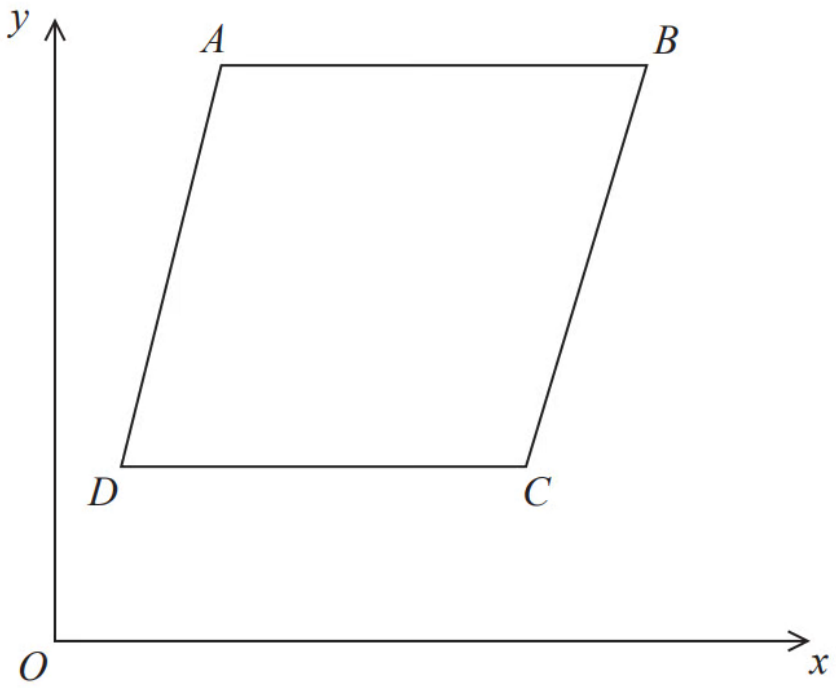
Question 3

The line l_2 crosses the x-axis at the point A and the y-axis at the point B.

(b) Find the x-coordinate of A and the y-coordinate of B.

[2 marks]

Question 4



$ABCD$ is a rhombus.
The coordinates of A are $(5, 11)$
The equation of the diagonal DB is $y = \frac{1}{2}x + 6$

Find an equation of the diagonal AC.

[4 marks]

Question 5

The line l_1 has equation $3x + 5y - 2 = 0$

(a) Find the gradient of l_1.

[2 marks]

Question 6

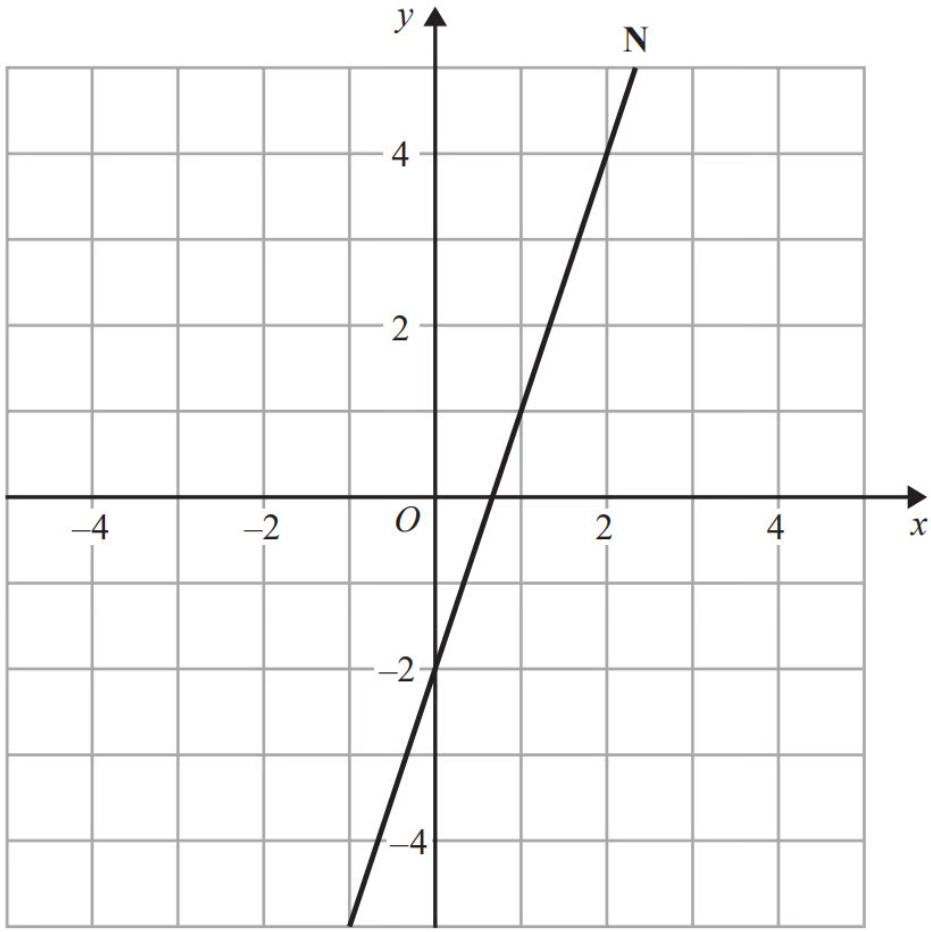
The line l_2 is perpendicular to l_1 and passes through the point (3, 1).

(b) Find the equation of l_2 in the form $y = mx + c$, where m and c are constants.

[3 marks]

Question 7

The line **N** is drawn below.



Find an equation of the line perpendicular to line **N** that passes through the point (0, 1).

[3 marks]

Question 8

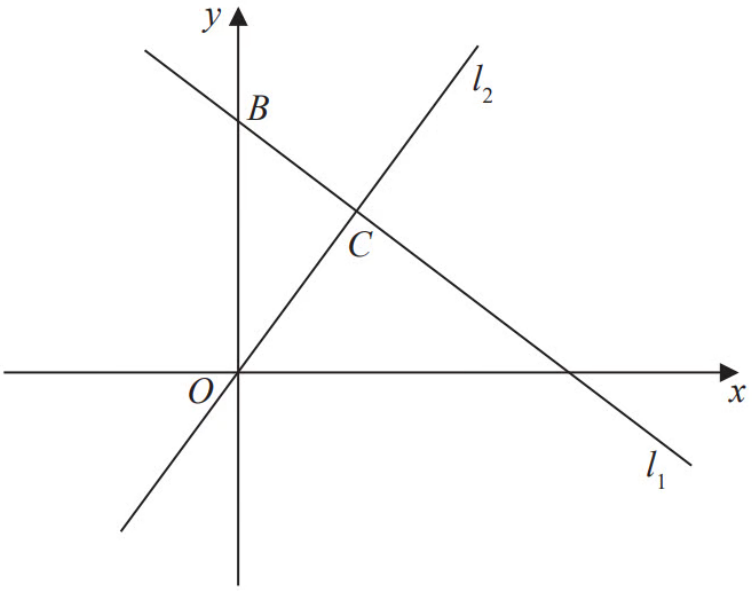


Figure 2

The line l_1, shown in Figure 2 has equation $2x + 3y = 26$

The line l_2 passes through the origin O and is perpendicular to l_1

(a) Find an equation for the line l_2

[4 marks]

Question 9

The line L has equation $y = 5 - 2x$.

(a) Show that the point $P\,(3, -1)$ lies on L.

[1 mark]

Question 10

(b) Find an equation of the line perpendicular to L, which passes through P. Give your answer in the form $ax + by + c = 0$, where a, b and c are integers.

[4 marks]

Question 11

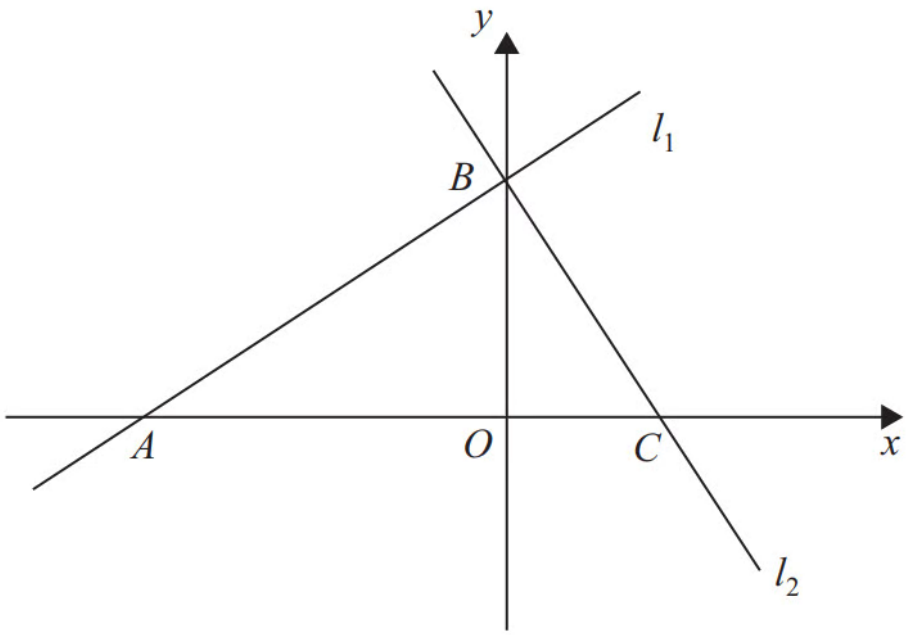


Figure 1

The line l_1 has equation $2x-3y+12=0$

(a) Find the gradient of l_1.

[1 mark]

Question 12

The line l_1 crosses the x-axis at the point A and the y-axis at the point B, as shown in Figure 1.

The line l_2 is perpendicular to l_1 and passes through B.

(b) Find an equation of l_2.

[3 marks]

Question 13

The points A and B have coordinates $(3, 4)$ and $(7, -6)$ respectively. The straight line l passes through A and is perpendicular to AB. Find an equation for l, giving your answer in the form $ax + by + c = 0$, where a, b and c are integers.

[5 marks]

Question 14

A is the point with coordinates (1, 3)

B is the point with coordinates (4, –1)
The straight line L goes through both A and B.

Is the line with equation $2y = 3x - 4$ perpendicular to line L?
You must show how you got your answer.

[4 marks]

Question 15

The point P has coordinates $(3, 4)$
The point Q has coordinates (a, b)

A line perpendicular to PQ is given by the equation $3x + 2y = 7$

Find an expression for b in terms of a.

[5 marks]