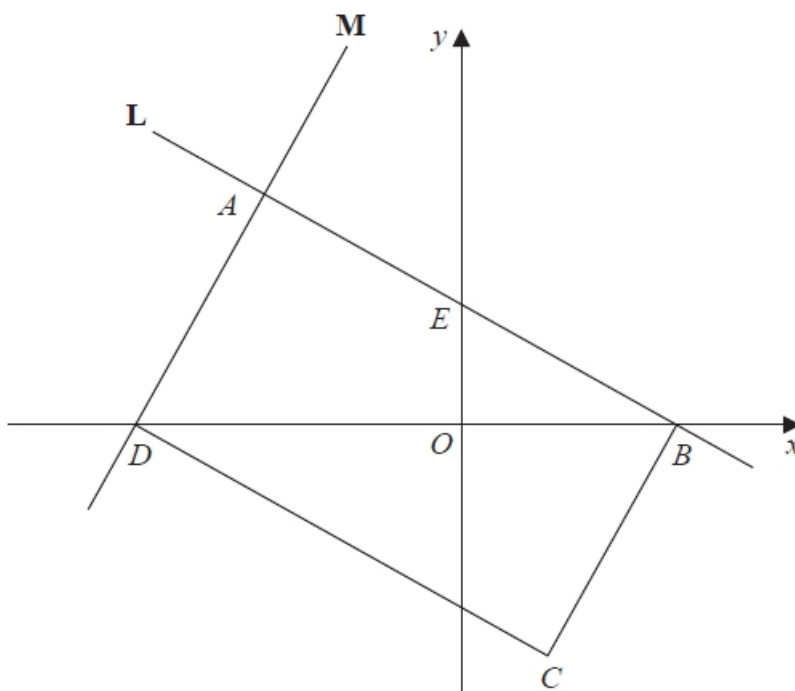


A188 Straight line graphs 2

Q1.



$ABCD$ is a rectangle.

A , E and B are points on the straight line L with equation $x + 2y = 12$

A and D are points on the straight line M .

$$AE = EB$$

Find an equation for M .

.....
(Total for question = 4 marks)

Q2.

P has coordinates $(-9, 7)$

Q has coordinates $(11, 12)$

M is the point on the line segment PQ such that $PM : MQ = 2 : 3$

Line L is perpendicular to the line segment PQ .

L passes through M .

Find an equation of L .

.....
(Total for question = 5 marks)

Q3.

$A(-2, 1)$, $B(6, 5)$ and $C(4, k)$ are the vertices of a right-angled triangle ABC .
Angle ABC is the right angle.

Find an equation of the line that passes through A and C .

Give your answer in the form $ay + bx = c$ where a , b and c are integers.

.....
(Total for question = 5 marks)

Q4.

A triangle has vertices P , Q and R .

The coordinates of P are $(-3, -6)$

The coordinates of Q are $(1, 4)$

The coordinates of R are $(5, -2)$

M is the midpoint of PQ .

N is the midpoint of QR .

Prove that MN is parallel to PR .

You must show each stage of your working.

(Total for question = 4 marks)

Q5.

The straight line **L** has the equation $3y = 4x + 7$

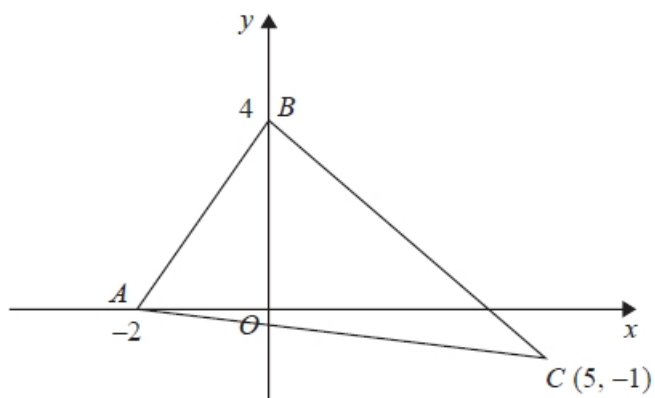
The point **A** has coordinates $(3, -5)$

Find an equation of the straight line that is perpendicular to **L** and passes through **A**.

.....

(Total for question = 3 marks)

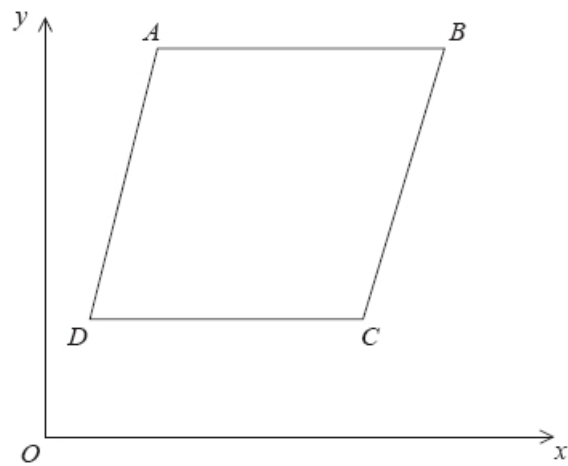
Q6.



Find an equation of the line that passes through C and is perpendicular to AB .

.....
(Total for question is 4 marks)

Q7.



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*.

.....
(Total for question = 4 marks)