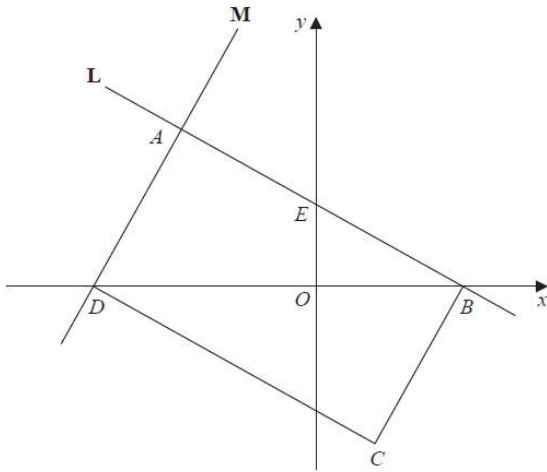


GCSE QUESTIONS

Q1. NON-CALCULATOR



$ABCD$ 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. NON-CALCULATOR

$A(-2, 1)$, $B(6, 5)$ 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)

Q3. CALCULATOR ALLOWED

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)

Q4. CALCULATOR ALLOWED

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)

Q5. CALCULATOR ALLOWED

The straight line L_1 passes through the points with coordinates (4, 6) and (12, 2)

The straight line L_2 passes through the origin and has gradient -3

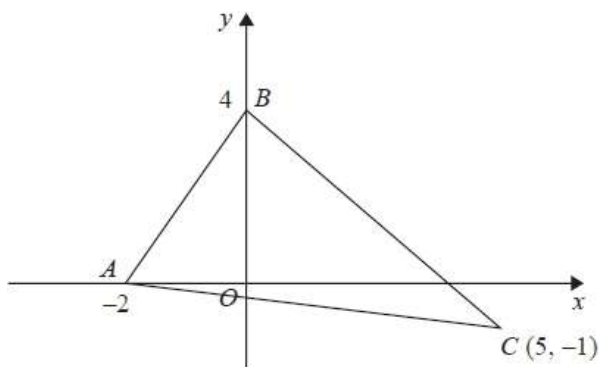
The lines L_1 and L_2 intersect at point P .

Find the coordinates of P .

(..... ,)

(Total for question = 4 marks)

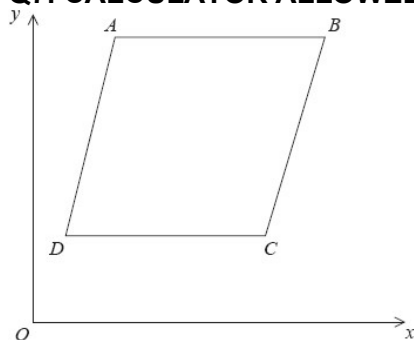
Q6. CALCULATOR ALLOWED



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

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

Q7. CALCULATOR ALLOWED



$ABCD$ 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)