



Summer 2019

Paper 2 - Calculator

Question 16

Revision on Equation of a line



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

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

$$\frac{4}{11} - x \frac{4}{3} = 7$$

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

(Total for Question 16 is 3 marks)

Summer 2018

Paper 1 - Non-Calculator

Question 19

The point *P* has coordinates $(3, 4)$

The point *Q* has coordinates (a, b)

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

$$2 + a \frac{3}{2} = 7$$

Find an expression for *b* in terms of *a*.

(Total for Question 19 is 5 marks)



Autumn 2017

Paper 2 - Calculator

Question 19

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 19 is 4 marks)

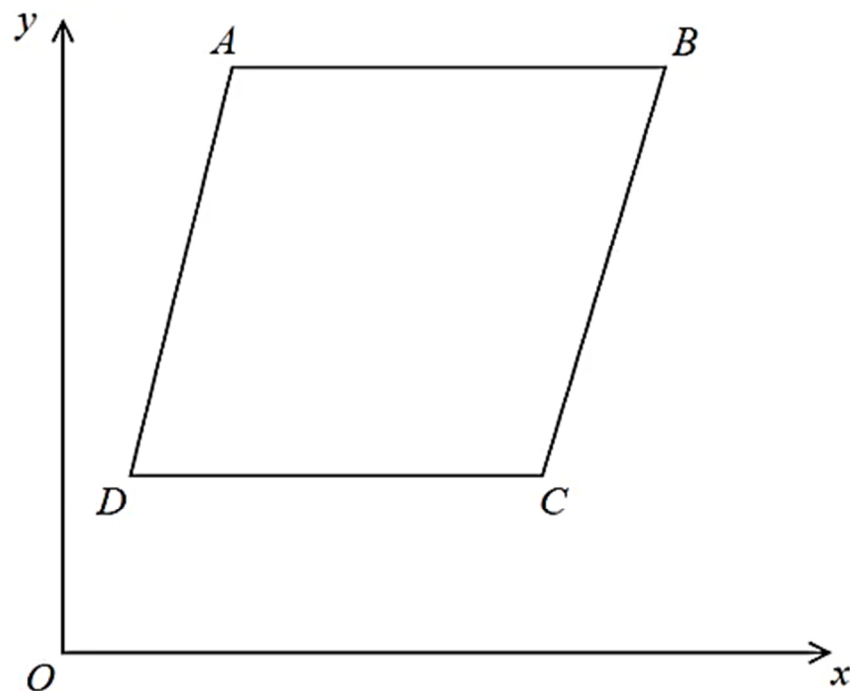
M1	for a method to find coordinates of $M(-1, -1)$ or $N(3, 1)$
M1	for method to find gradient of MN or PR or for method to find column vector for MN or PR or for differences of x coordinates and differences of y coordinates for MN or PR
A1	for gradients of MN and PR , ie $\frac{1}{2}$ or or for column vectors of MN and PR , $\overrightarrow{MN} = \begin{pmatrix} 4 \\ 2 \end{pmatrix}$ and $\overrightarrow{PR} = \begin{pmatrix} 8 \\ 4 \end{pmatrix}$ or for differences of x coordinates and of y coordinates for MN and PR
C1	for conclusion from reasoning and correct working



Summer 2017

Paper 1 - Non-Calculator

Question 18



$ABCD$ 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 18 is 4 marks)

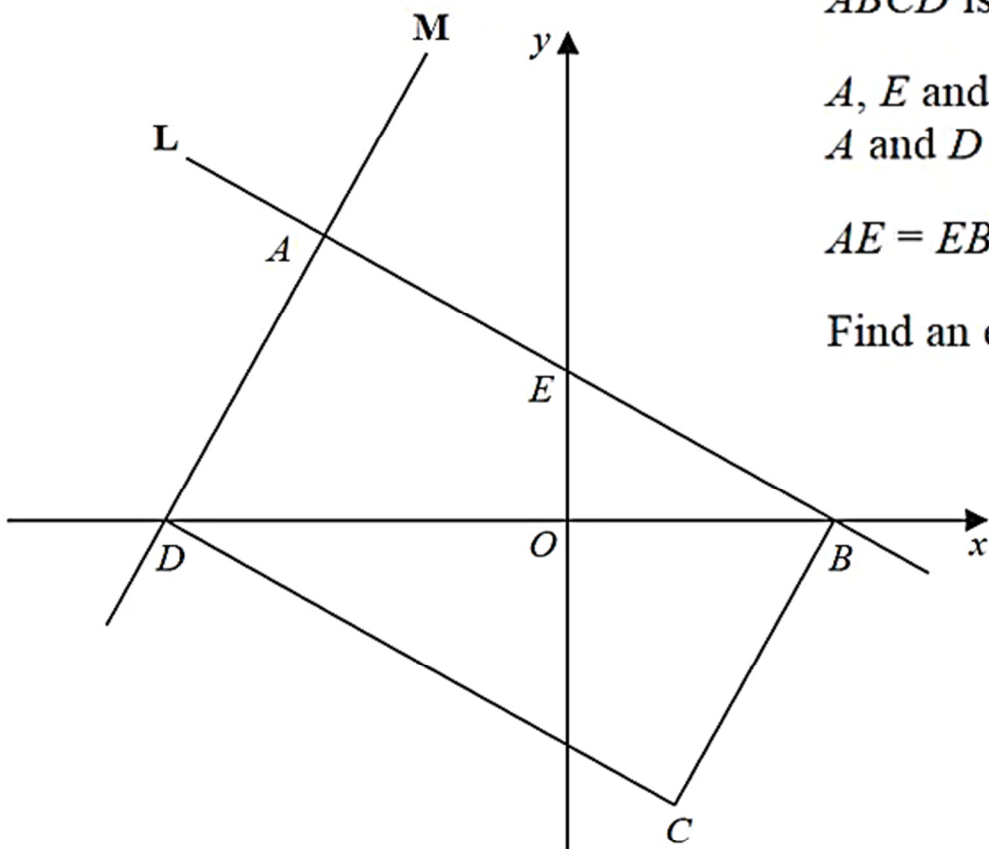
$y = -2x + 21$



Autumn 2017

Paper 1 - Non-Calculator

Question 19



$ABCD$ 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 .

$$y + 2x = 4$$

(Total for Question 19 is 4 marks)