

Equation of a Straight Line

For Pearson Edexcel GCSE Mathematics (1MA1) • Higher tier

Name _____

Total marks: **25**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

- 1** Find the gradient of the straight line that passes through the points (2, 5) and (6, 17)

.....
(2)

(Total for Question 1 is 2 marks)

- 2** The straight line L has gradient -3
 L passes through the points (1, 5) and $(k, -10)$
Work out the value of k .

$k =$
(3)

(Total for Question 2 is 3 marks)

- 3** Find an equation of the straight line that passes through the points $(-2, 7)$ and $(3, -3)$

.....
(3)

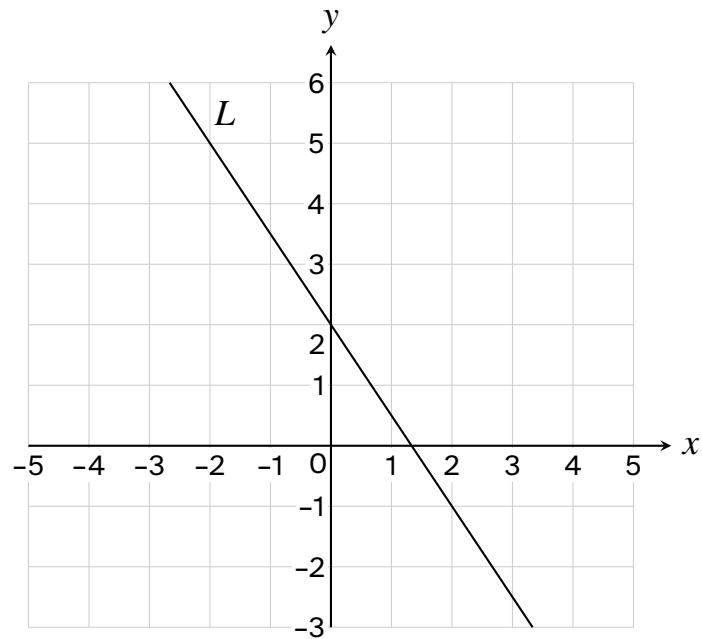
(Total for Question 3 is 3 marks)

- 4** The line L has equation $3x + 2y = 8$
Find the gradient of L and the coordinates of the point where L crosses the y -axis.

.....
(3)

(Total for Question 4 is 3 marks)

- 5 The straight line L is drawn on the grid.



- (a) Find an equation for L .

.....
(3)

- (b) The line N is parallel to L and passes through the point $(0, -4)$
Write down an equation for N .

.....
(1)

(Total for Question 5 is 4 marks)

- 6** A is the point $(4, 1)$ and B is the point $(10, 5)$
 M is the midpoint of AB .
Find the equation of the line through M with gradient 3

.....
(3)

(Total for Question 6 is 3 marks)

- 7** Show that the point $(5, 12)$ lies on the line through $(1, 4)$ and $(3, 8)$

(2)

(Total for Question 7 is 2 marks)

- 8 In the diagram, A is the point $(-2, 1)$ and B is the point $(10, 7)$

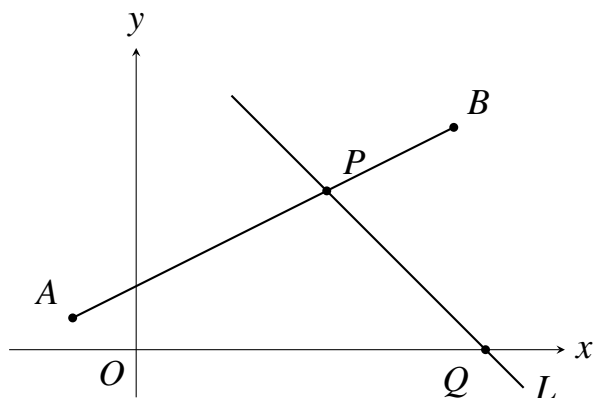


Diagram **NOT** accurately drawn

P is the point on AB such that $AP:PB = 2:1$
The line L passes through P and has gradient -1
 L crosses the x -axis at the point Q .
Find the coordinates of Q .

.....
(5)

(Total for Question 8 is 5 marks)