1 Here are the equations of two straight lines.

$$y = \frac{1}{2}x - 6 \qquad 6y = 3x + 7$$

Oscar says that these lines are parallel.

Is Oscar correct?
You must give a reason for your answer.

.....

.....

.....

(Total for Question 1 is 2 marks)

2 The equation of line $\mathbf{L_1}$ is $y = 2x - 5$
The equation of line $\mathbf{L_2}$ is $6y + kx - 12 = 0$

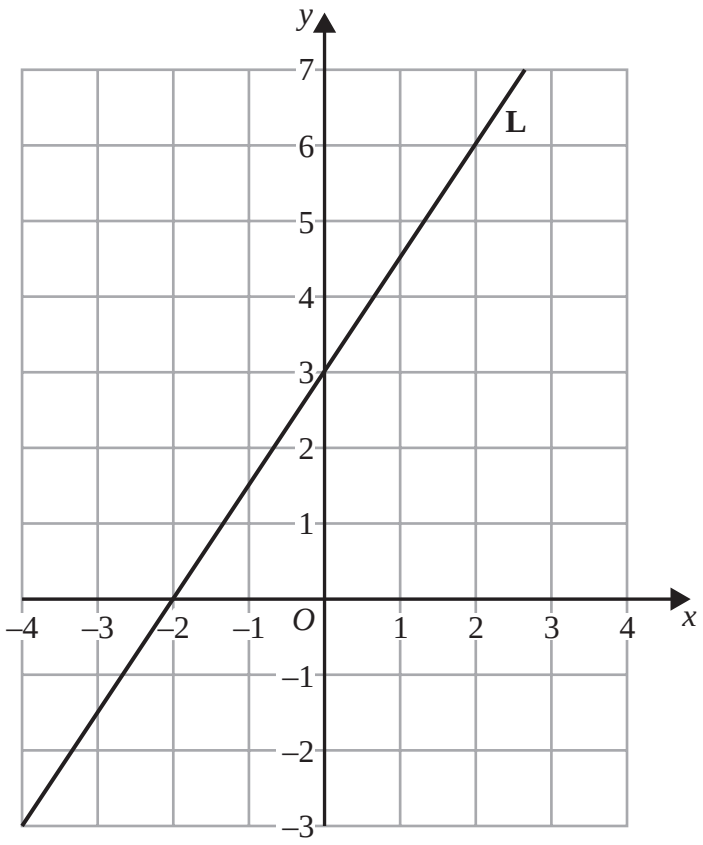
$\mathbf{L_1}$ is perpendicular to $\mathbf{L_2}$

Find the value of k.
You must show all your working.

$k =$ .....

(Total for Question 2 is 3 marks)

3 Here is a straight line **L** drawn on a grid.



(a) Find an equation for **L**.

.....

(3)

M is a different straight line with equation $y = 5x$

(b) Write down the equation of a straight line parallel to **M**.

.....

(1)

(Total for Question 3 is 4 marks)

4 **C** is a circle with centre (0, 0)
L is a straight line.

The circle **C** and the line **L** intersect at the points P and Q.
The coordinates of P are (5, 10)
The x coordinate of Q is –2

L has a positive gradient and crosses the y-axis at the point (0, k)

Find the value of k.

k = ...

(Total for Question 4 is 5 marks)