1. Nov/2020/Paper_13/No.11

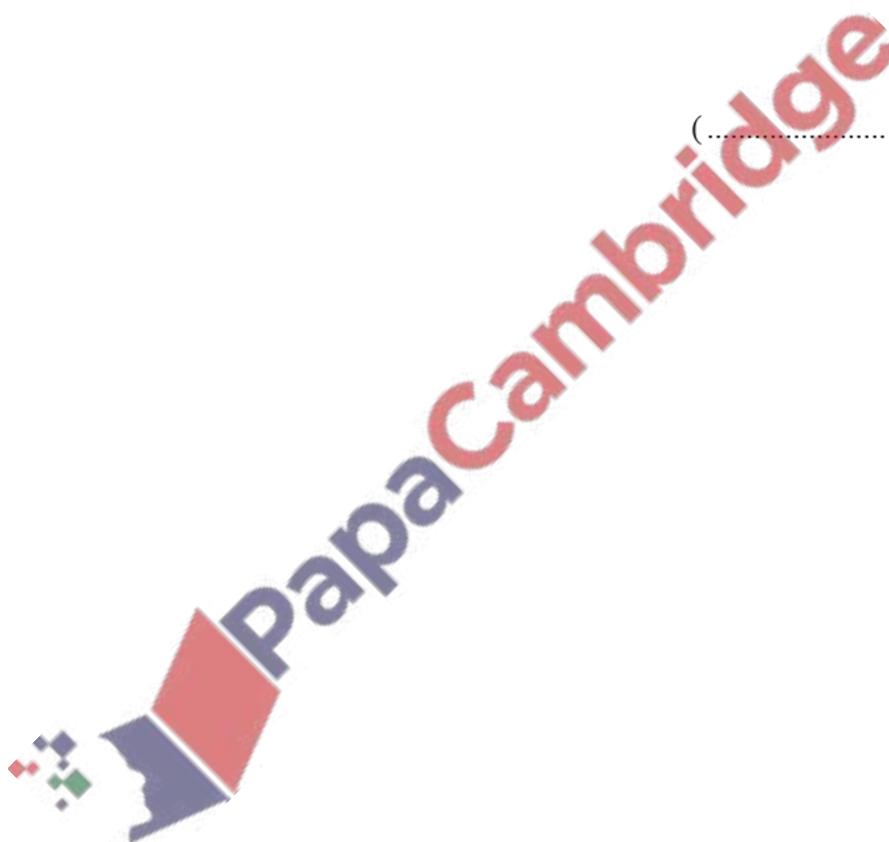A straight line, l, has equation $y = 5x + 12$.

(a) Write down the slope of line l.

.... [1]

(b) Find the coordinates of the point where line l crosses the x-axis.

(.................... , ...) [2]

2.

A straight line, l, has equation $y = 5x + 12$.

(a) Write down the slope of line l.

.... [1]

(b) Find the coordinates of the point where line l crosses the x-axis.

(.................... , ...) [2]

(c) A line perpendicular to line l has slope k.

Find the value of k.

$k =$ .... [1]

2
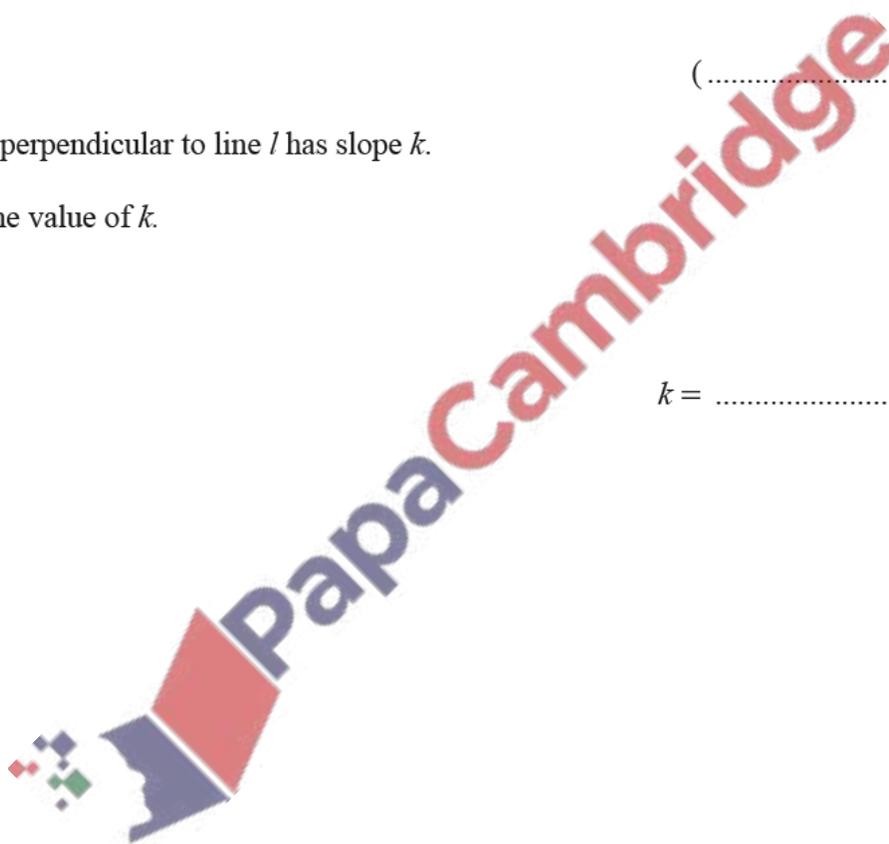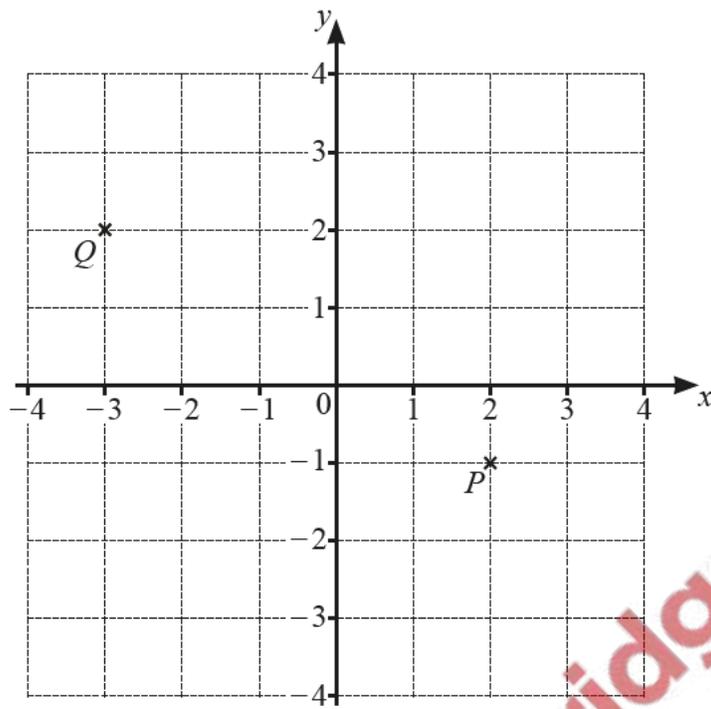
(a) Write $\overrightarrow{PQ}$ as a column vector.

$\begin{pmatrix} \\ \end{pmatrix}$ [1]

(b) $\overrightarrow{QR} = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$

Find the coordinates of R.

(.................... , ...) [1]

4.
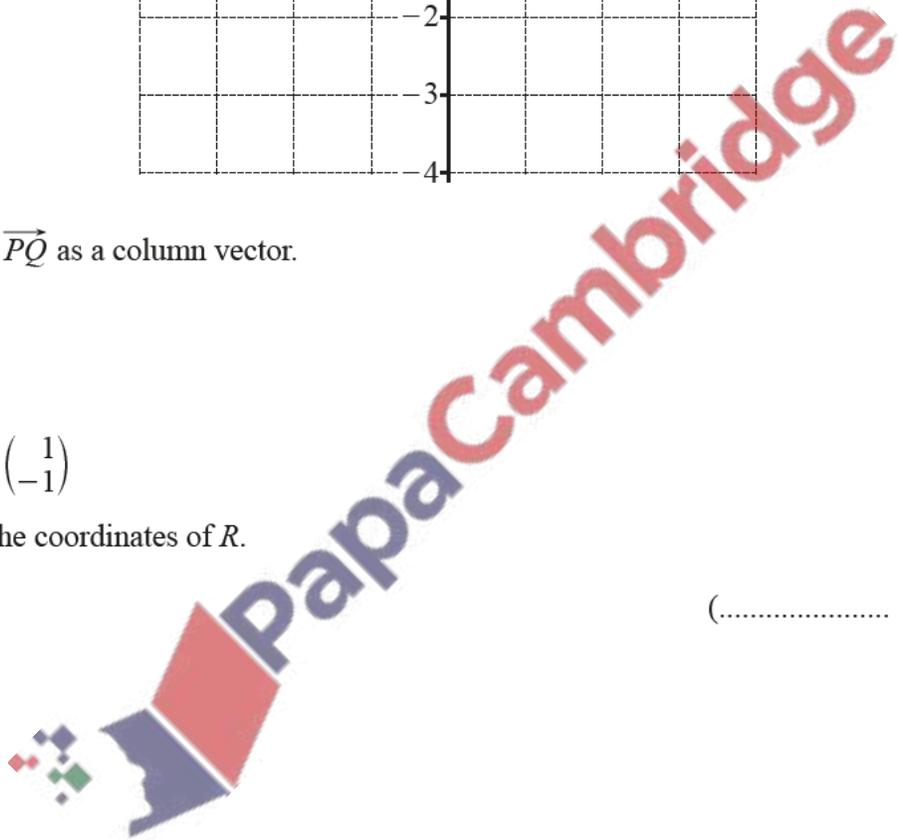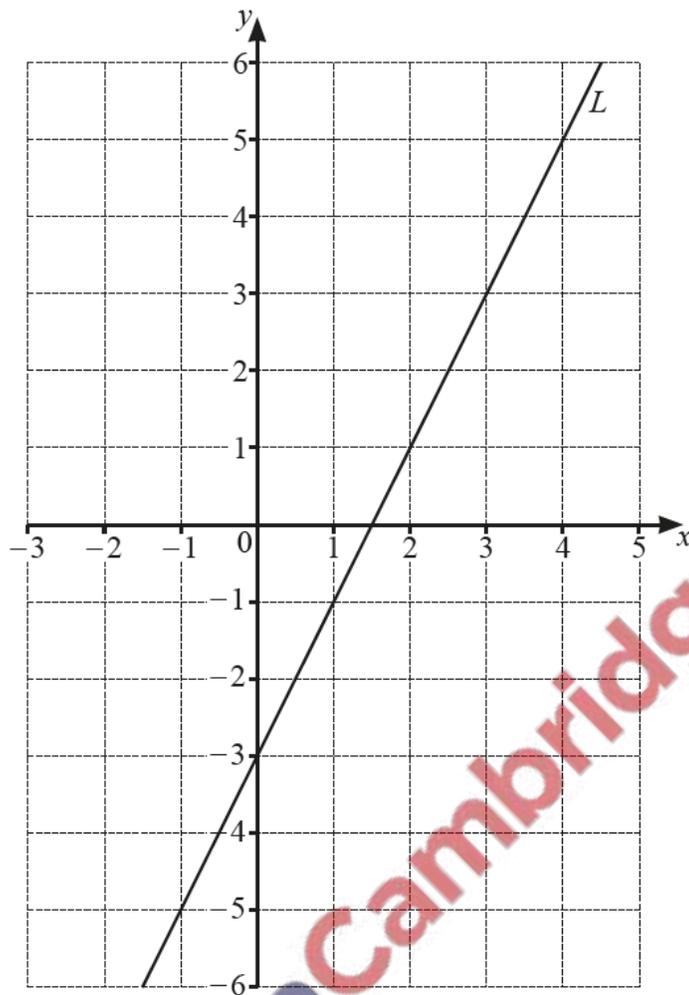
(a) Find the equation of line L in the form $y = mx + b$.

$y =$ .... [2]

(b) On the grid, draw a line that is perpendicular to line L. [1]

A rhombus $ABCD$ has a diagonal AC where A is the point $(-3, 10)$ and C is the point $(4, -4)$.

(a) Calculate the length AC.

.... [3]

(b) Show that the equation of the line AC is $y = -2x + 4$.

[2]

(c) Find the equation of the line BD.

.... [4]