**Coordinate geometry – 2020 IGCSE 0580**

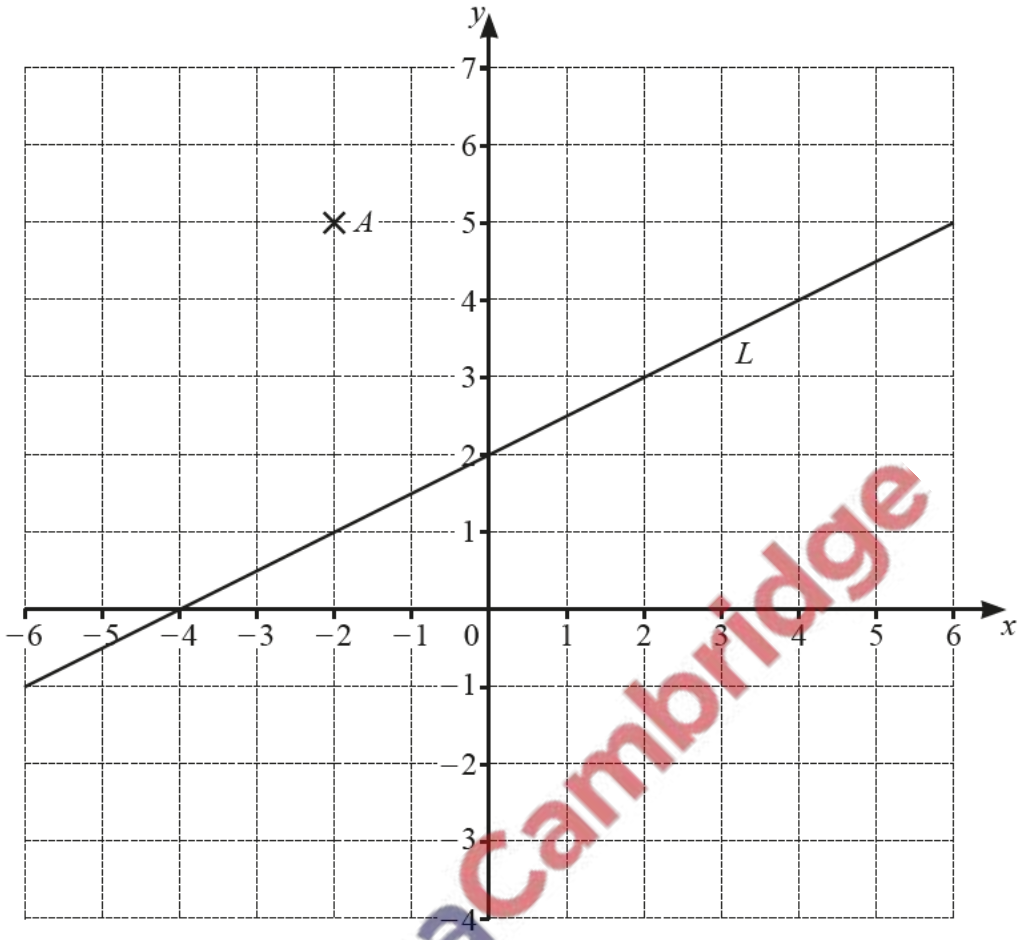
**1.** Nov/2020/Paper_11/No.20


Find the equation of line $L$ in the form $y = mx + c$.

$y =$ ..... [2]

**2.** Nov/2020/Paper_12/No.16

**(a)**




**(i)** Write down the coordinates of point $A$.

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

**(ii)** On the grid, plot the point $(2, -3)$. [1]

**(iii)** The line $L$ is shown on the grid.

Find the equation of the line $L$ in the form $y = mx + c$.

$y =$ ..... [2]

**(b)** Write down the equation of the line parallel to $y = 5x + 6$ that passes through $(0, -7)$.

$y =$ ..... [1]

**3.** Nov/2020/Paper_13/No.11

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

**(a)** Write down the gradient of line $l$.

..... [1]

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

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

**4.** Nov/2020/Paper_21/No.14

Find the gradient of a line that is perpendicular to $8y + 4x = 5$.

..... [2]

**5.** Nov/2020/Paper_22/No.24

A line from the point (2, 3) is perpendicular to the line $y = \frac{1}{3}x + 1$.
The two lines meet at the point $P$.

Find the coordinates of $P$.



( ..... , ..... ) [5]

**6.** Nov/2020/Paper_23/No.12

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

**(a)** Write down the gradient 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 gradient $k$.

Find the value of $k$.

$k =$ ..... [1]

**7.** March/2020/Paper_12/No.9

**(a)** Write down the gradient of the line $y = 2x - 3$.

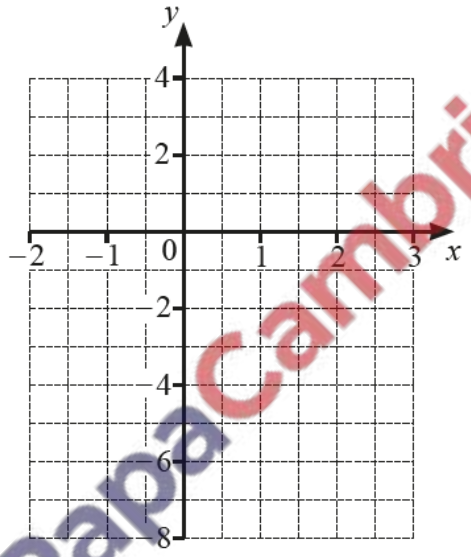
..... [1]

**(b)** Complete the table of values for $y = 2x - 3$.

| $x$ | $-2$ | 0 | 3 |
|---|---|---|---|
| $y$ | | | |

[2]

**(c)** On the grid, draw the graph of $y = 2x - 3$ for $-2 \leqslant x \leqslant 3$.




[1]

**8.** March/2020/Paper_22/No.3

Point $A$ has coordinates (6, 4) and point $B$ has coordinates (2, 7).

Write $\overrightarrow{AB}$ as a column vector.

$\overrightarrow{AB} = \begin{pmatrix} \quad \\ \quad \end{pmatrix}$ [1]

**9.** March/2020/Paper_22/No.17

$A$ is the point $(3, 5)$ and $B$ is the point $(1, -7)$.

Find the equation of the line perpendicular to $AB$ that passes through the point $A$.
Give your answer in the form $y = mx + c$.

$y =$ ..... [4]

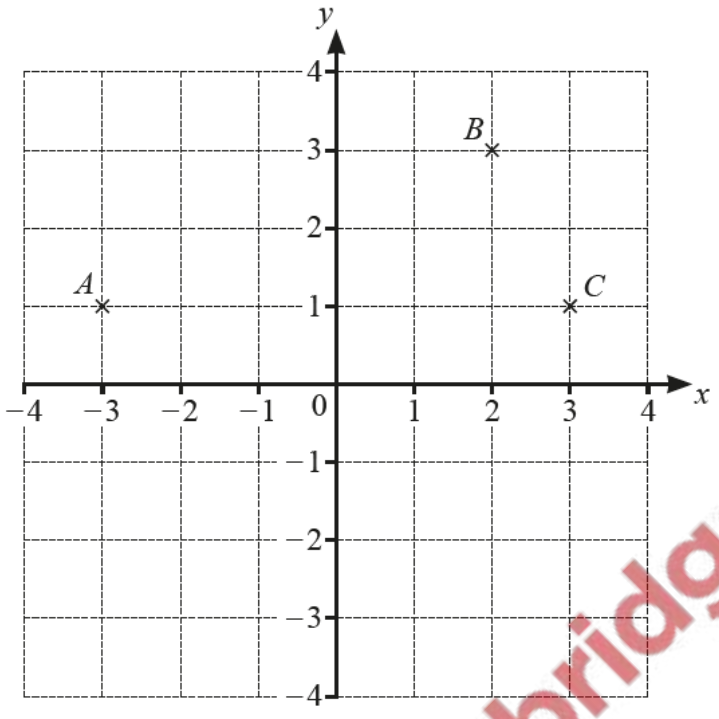
**10.** June/2020/Paper_11/No.21

Lucia invests $5000 at a rate of 4.5% per year compound interest.

Calculate the value of her investment at the end of 7 years.

$ ..... [2]

**11.** June/2020/Paper_12/No.12




Points $A$, $B$ and $C$ are shown on the grid.

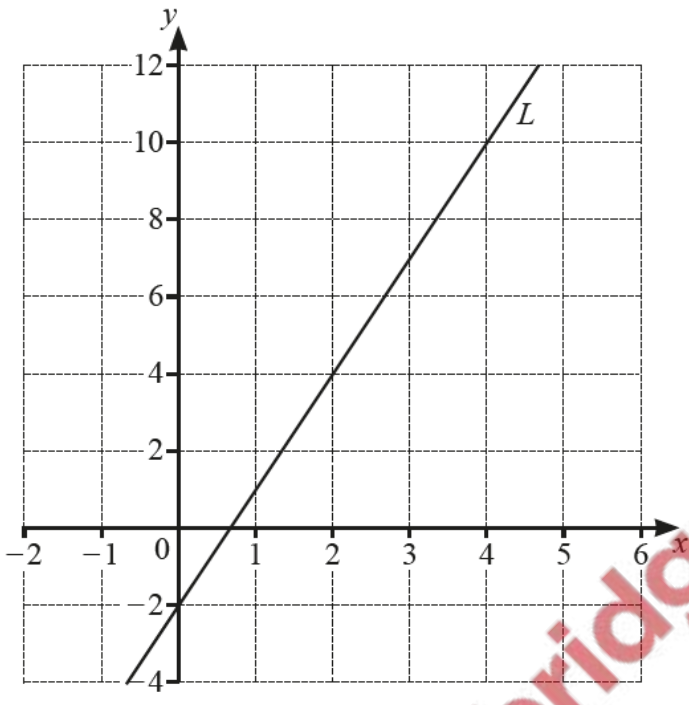
**(a)** Write down the coordinates of point $C$.

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

**(b)** On the grid, plot point $D$ so that $ABCD$ is a parallelogram. [1]

**(c)** On the grid, plot point $E$ so that $\overrightarrow{EA} = \begin{pmatrix} -4 \\ 3 \end{pmatrix}$. [2]

**12.** June/2020/Paper_12/No.23




**(a)** Find the gradient of line $L$.

..... [2]

**(b)** Write down the equation of line $L$ in the form $y = mx + c$.

$y =$ ..... [1]

**13.** June/2020/Paper_22/No.5

$y = mx + c$

Find the value of $y$ when $m = -3$, $x = -2$ and $c = -8$.

$y =$ ..... [2]

**14.** June/2020/Paper_41/No.10

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

**(i)** Calculate the length $AC$.

..... [3]

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

[2]

**(iii)** Find the equation of the line $BD$.

..... [4]

**(b)** A curve has the equation $y = x^3 + 8x^2 + 5x$.

**(i)** Work out the coordinates of the two turning points.

(..... , .....) and (..... , .....) [6]

**(ii)** Determine whether each of the turning points is a maximum or a minimum.
Give reasons for your answers.

[3]

**15.** June/2020/Paper_43/No.9

**(a)** The equation of line $L$ is $3x-8y+20=0$.

**(i)** Find the gradient of line $L$.

..... [2]

**(ii)** Find the coordinates of the point where line $L$ cuts the $y$-axis.

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

**(b)** The coordinates of $P$ are $(-3, 8)$ and the coordinates of $Q$ are $(9, -2)$.

**(i)** Calculate the length $PQ$.

..... [3]

**(ii)** Find the equation of the line parallel to $PQ$ that passes through the point $(6, -1)$.

..... [3]

**(iii)** Find the equation of the perpendicular bisector of $PQ$.

..... [4]