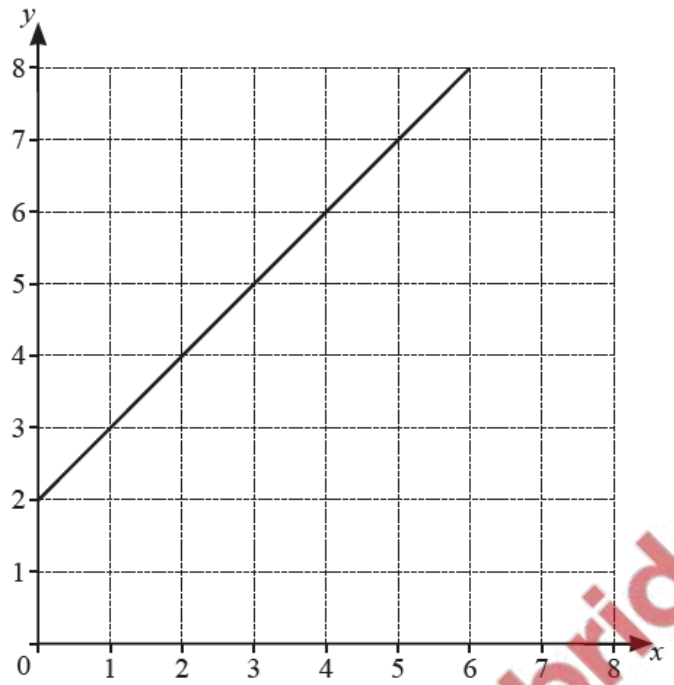
Graphical representation of inequalities – 2022 O Level Math D

1. June/2022/Paper_22/No.6



The line $y = x + 2$ is drawn on the grid.

(a) On the grid, draw the line $x + 2y = 7$. [2]

(b) Use your graph to find the solution of these simultaneous equations.

$y = x + 2$
$x + 2y = 7$

$x =$ .....

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

(c) The region R is defined by these three inequalities.

$y \leqslant x+2 \qquad x+2y \geqslant 7 \qquad x \leqslant 5$

(i) Shade and label region R. [2]

(ii) The point Z is in region R.
The x-coordinate and the y-coordinate of point Z are both integers.
Point Z does **not** lie on the boundary of region R.

(a) Find the number of possible positions of point Z.

..... [1]

(b) The y-coordinate of point Z is one more than its x-coordinate.

Write down all the possible coordinates for point Z.

..... [2]