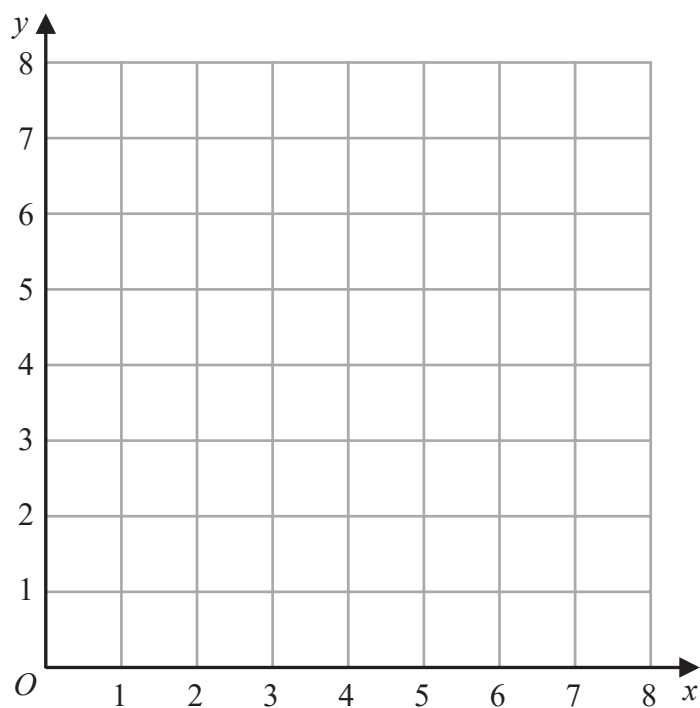


1 (a) On the grid, draw and label with its equation the straight line with equation

(i) $y = 1$

(ii) $x = 2$

(iii) $x + y = 7$



(3)

(b) Show, by shading on the grid, the region that satisfies **all three** of the inequalities

$y \geq 1$

$x \geq 2$

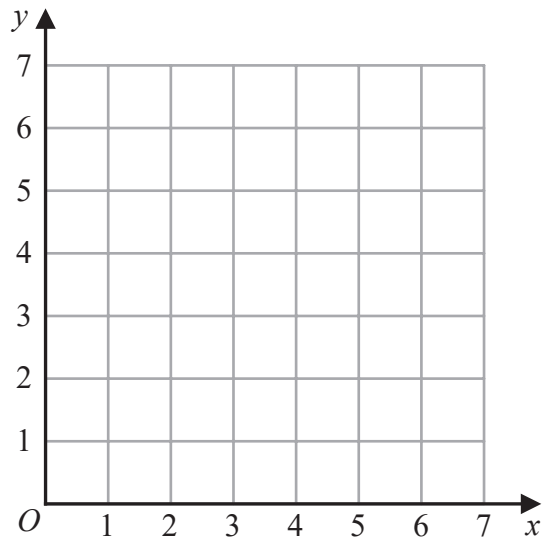
$x + y \leq 7$

Label the region **R**.

(1)

(Total for Question 1 is 4 marks)

2



(a) On the grid, draw and **label** the straight line with equation

(i) $x = 1.5$

(ii) $y = x$

(iii) $x + y = 6$

(3)

(b) Show, by shading on the grid, the region that satisfies **all three** of the inequalities

$$x \geq 1.5$$

$$y \geq x$$

$$x + y \leq 6$$

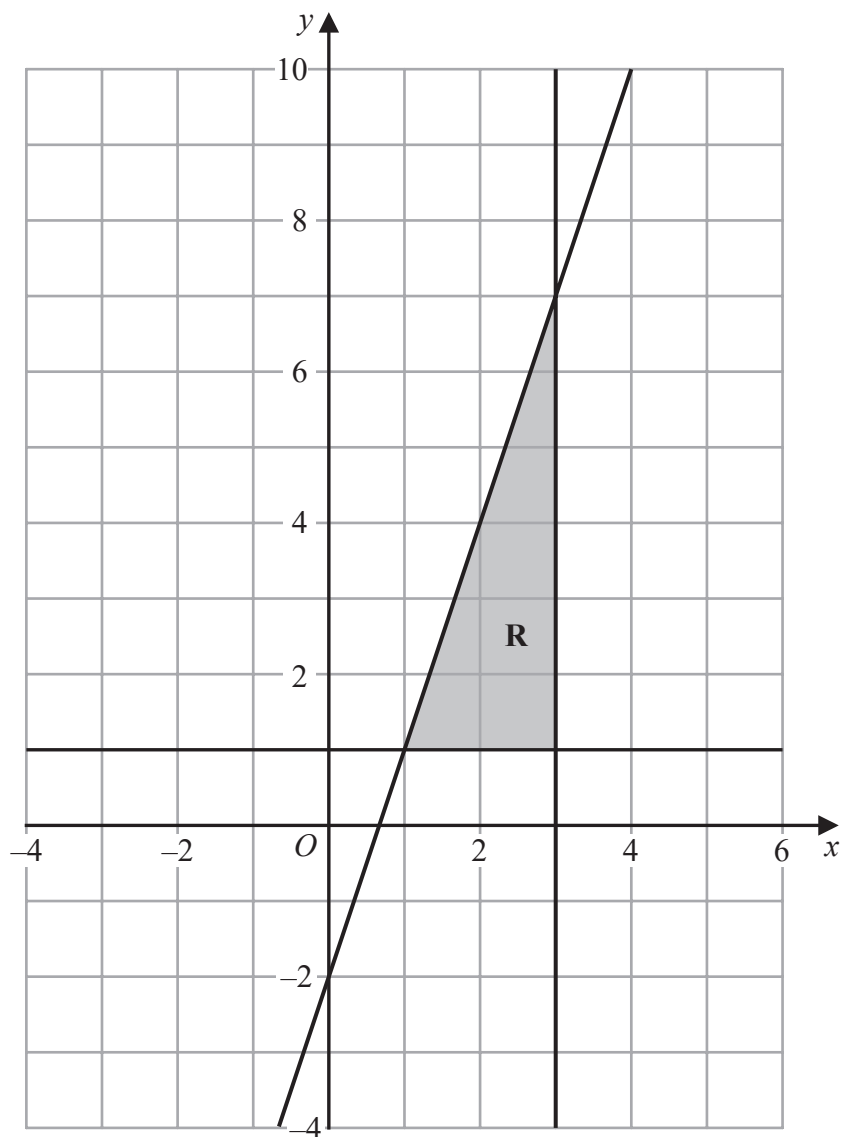
Label the region **R**.

(1)

(Total for Question 2 is 4 marks)

- 3 The shaded region **R**, shown in the diagram below, is bounded by the straight line with equation $y = 3x - 2$ and by two other straight lines.

Write down the three inequalities that define region **R**.



.....
.....
.....

(Total for Question 3 is 3 marks)

- 4 (a) Write down an equation of the straight line with gradient -3 and which passes through the point with coordinates $(0, 5)$

.....
(2)

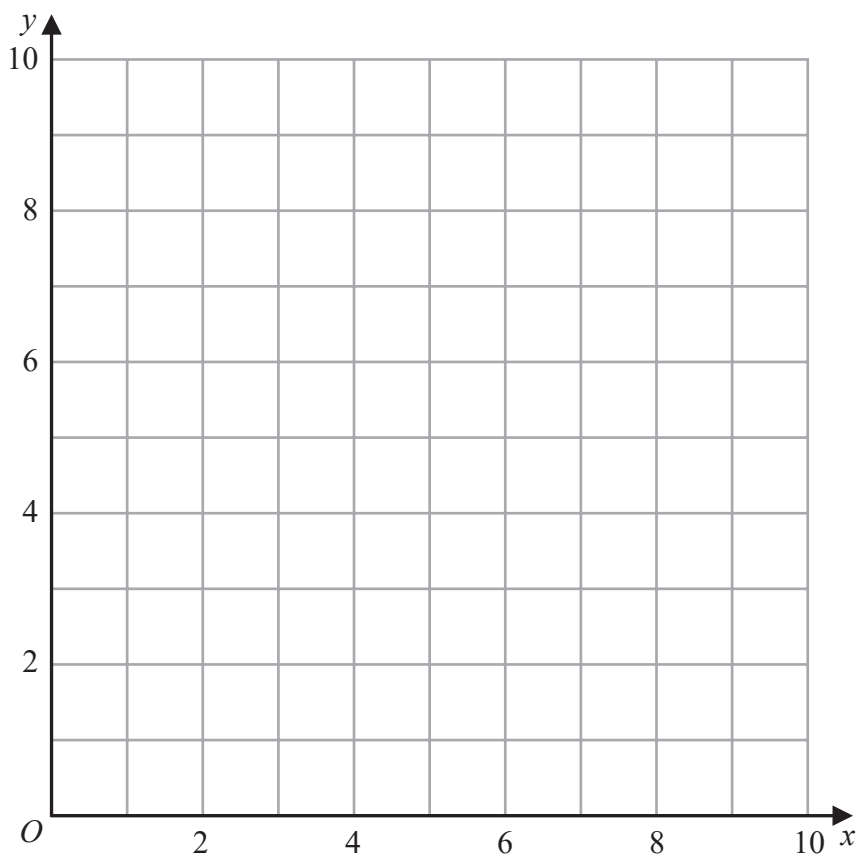
- (b) Show, by shading on the grid, the region defined by **all three** of the inequalities

$$x \leq 6$$

$$y \geq 2$$

$$y \leq x + 1$$

Label the region **R**



(3)

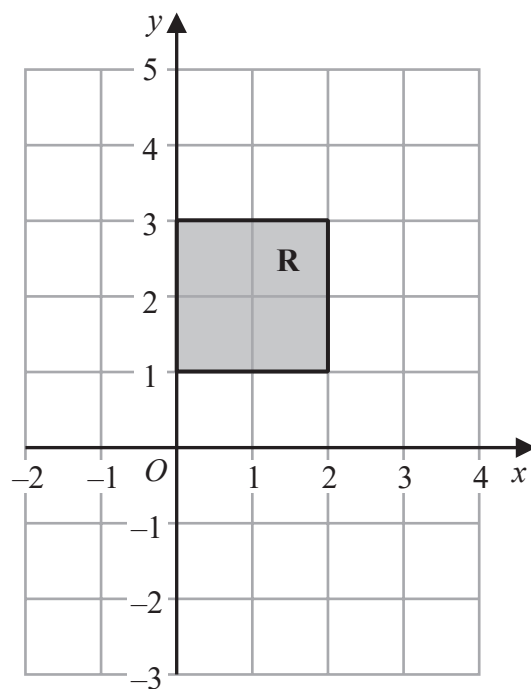
(Total for Question 4 is 5 marks)

5 The straight line **L** has gradient 5 and passes through the point with coordinates $(0, -3)$

(a) Write down an equation for **L**.

.....
(2)

(b)



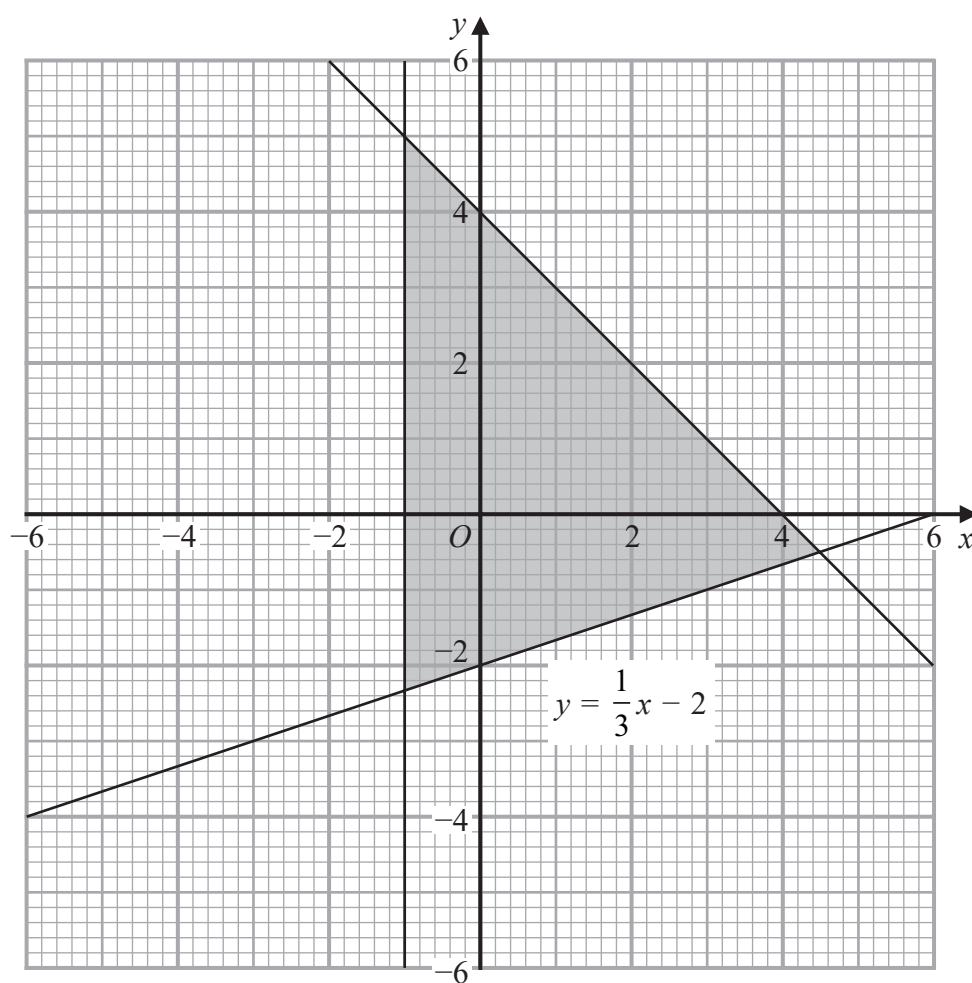
The region **R**, shown shaded in the diagram, is bounded by four straight lines.

Write down the inequalities that define **R**.

.....
(2)

(Total for Question 5 is 4 marks)

- 6 The shaded region in the diagram is bounded by three lines.
The equation of one of the lines is given.



Write down the three inequalities that define the shaded region.

.....
.....
.....

(Total for Question 6 is 3 marks)

7 (a) Write down the integer values of x that satisfy the inequality $-2 < x \leq 4$

.....
(2)

The region **R**, shown shaded in the diagram, is bounded by three straight lines.

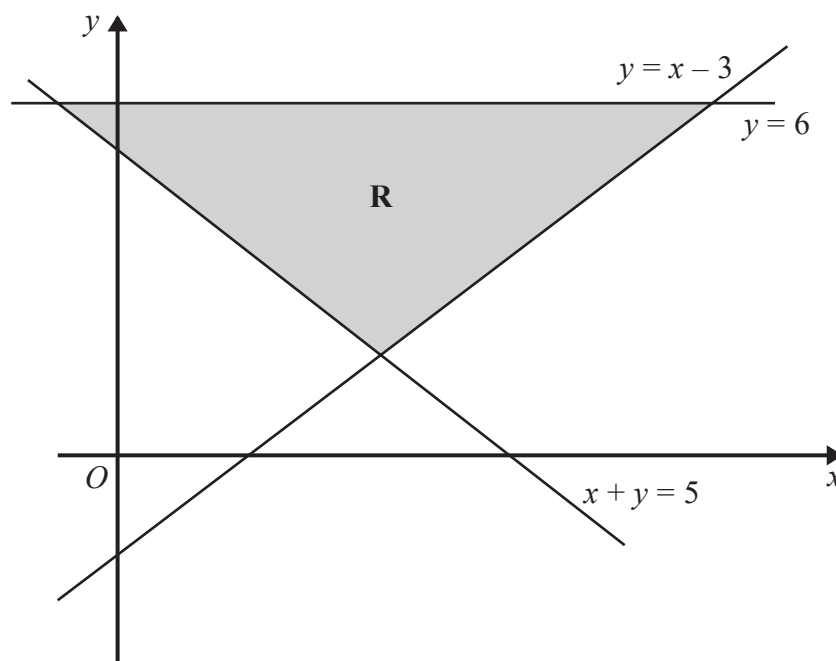


Diagram **NOT**
accurately drawn

(b) Write down the three inequalities that define the region **R**.

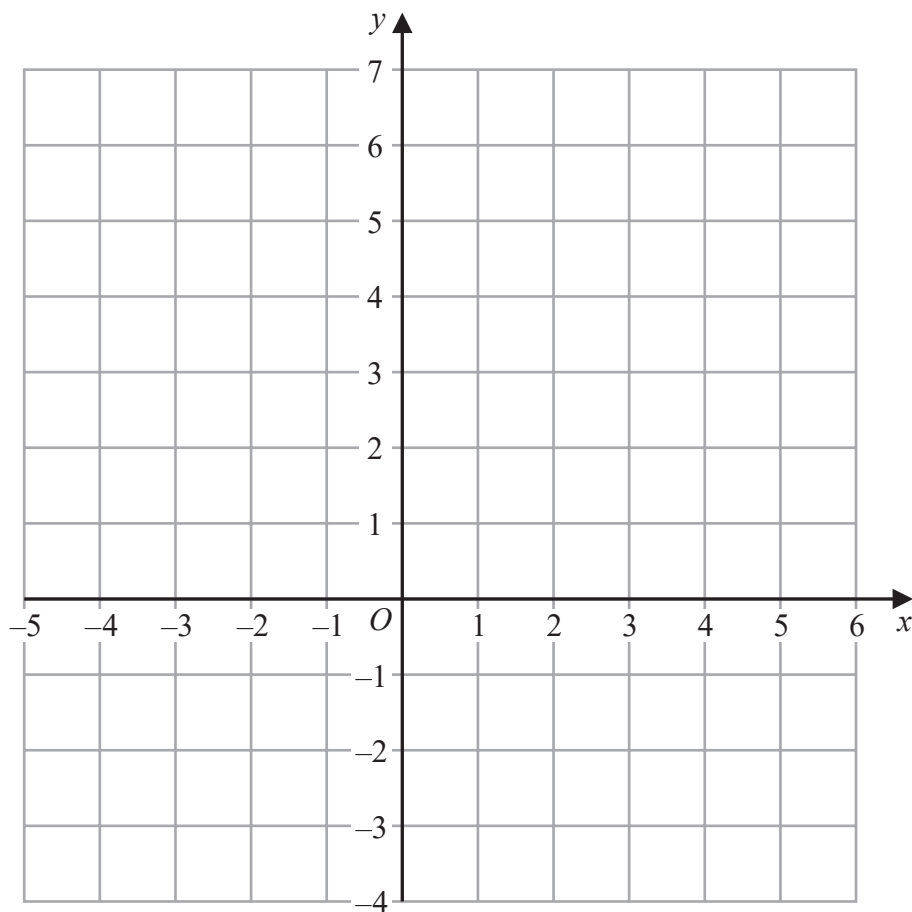
.....
.....
.....
(2)

(Total for Question 7 is 4 marks)

8 Show, by shading on the grid, the region that satisfies all three of the inequalities

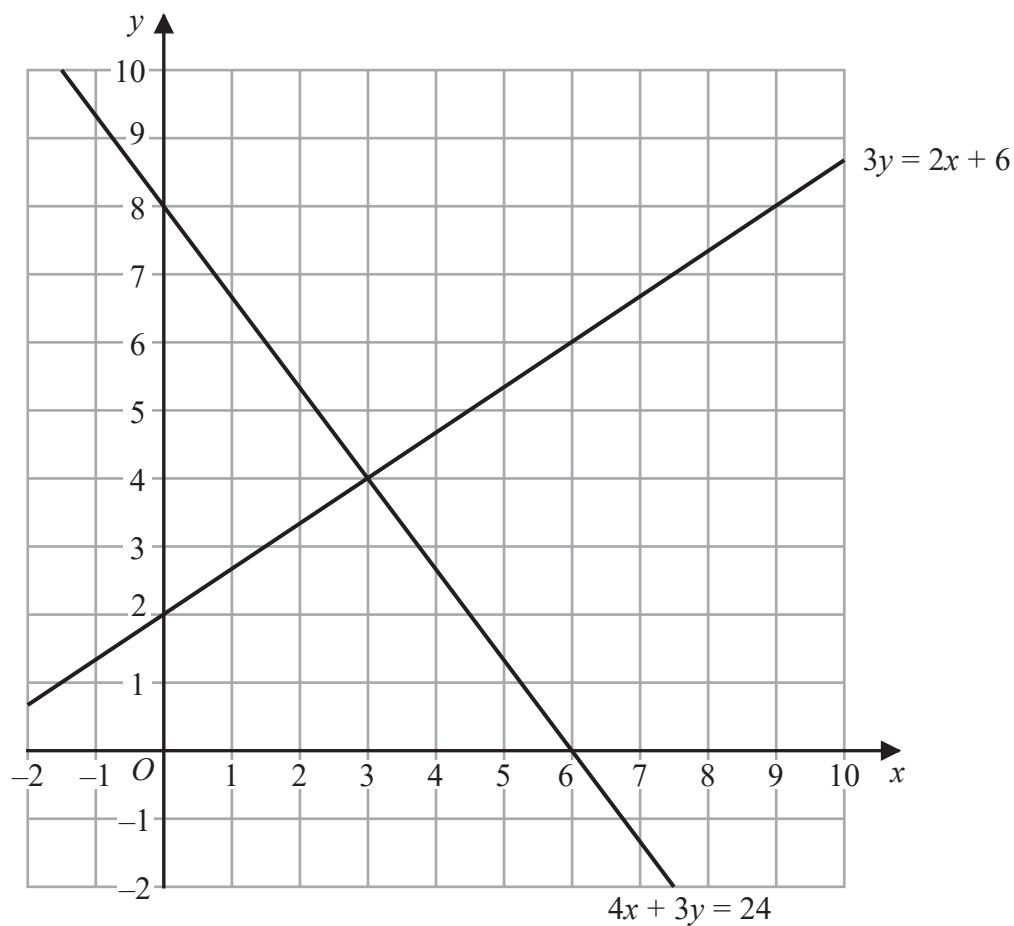
$$x \leq 4 \quad \text{and} \quad y \geq -2 \quad \text{and} \quad y \leq x$$

Label the region **R**.



(Total for Question 8 is 3 marks)

9 The diagram shows two straight lines drawn on a grid.



(a) Write down the solution of the simultaneous equations

$$\begin{aligned} 3y &= 2x + 6 \\ 4x + 3y &= 24 \end{aligned}$$

$x = \dots\dots\dots$

$y = \dots\dots\dots$

(1)

(b) Show, by shading on the grid, the region defined by all five of the inequalities

$$x \geq 0$$

$$y \geq 0$$

$$x + y \geq 4$$

$$3y \leq 2x + 6$$

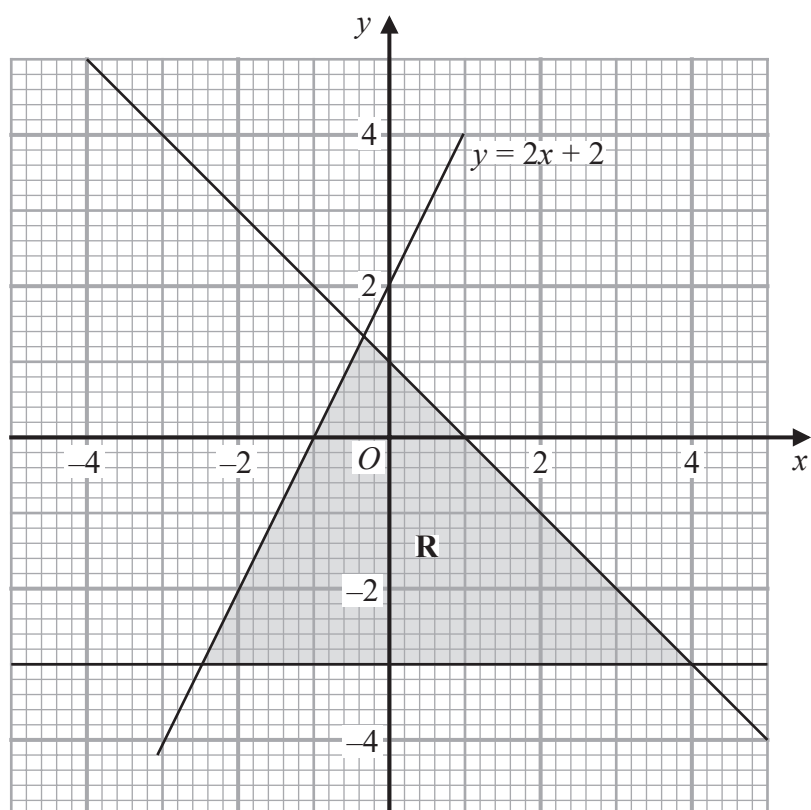
$$4x + 3y \leq 24$$

Label the region **R**.

(3)

(Total for Question 9 is 4 marks)

10



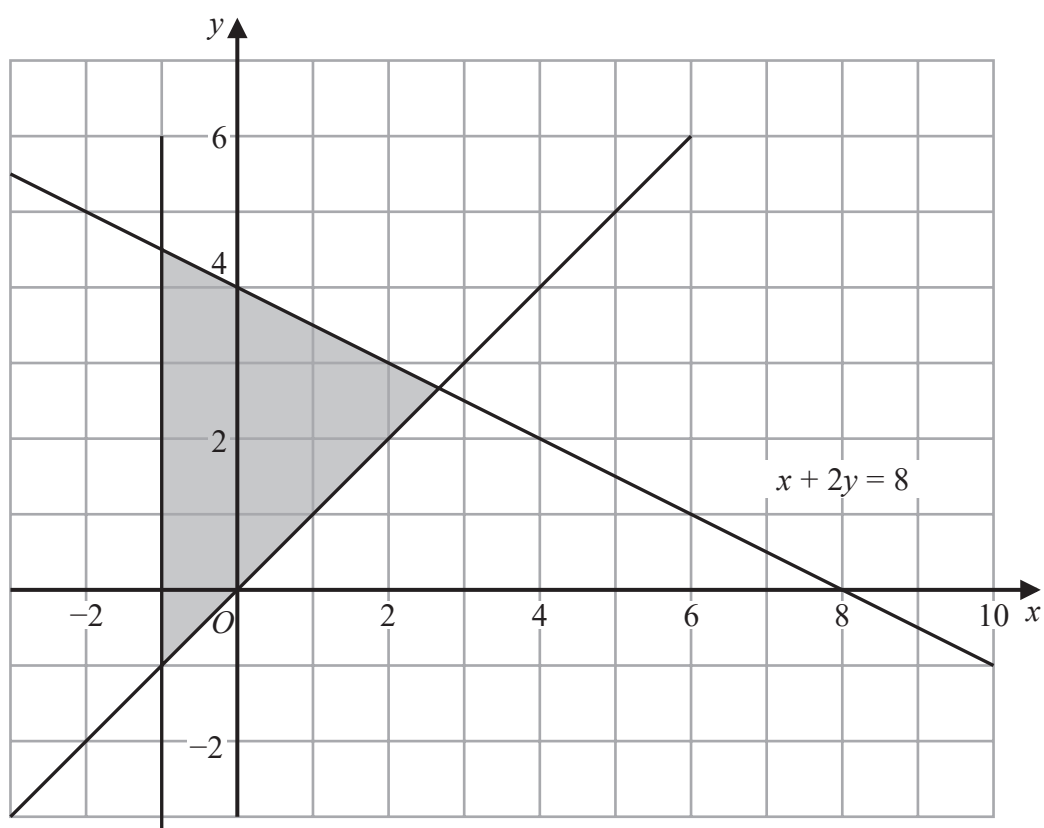
The region **R**, shown shaded in the diagram, is bounded by three straight lines.

Write down the three inequalities that define **R**.

.....
.....
.....

(Total for Question 10 is 3 marks)

- 12 The shaded region in the diagram is bounded by three lines.
The equation of one of the lines is given.



Write down three inequalities that define the shaded region.

.....
.....
.....

(Total for Question 12 is 3 marks)