

Name: \_\_\_\_\_

## GCSE (1 – 9)

# Inequalities Regions

### Instructions

- Use **black** ink or ball-point pen.
- Answer all questions.
- Answer the questions in the spaces provided  
– *there may be more space than you need.*
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out.**

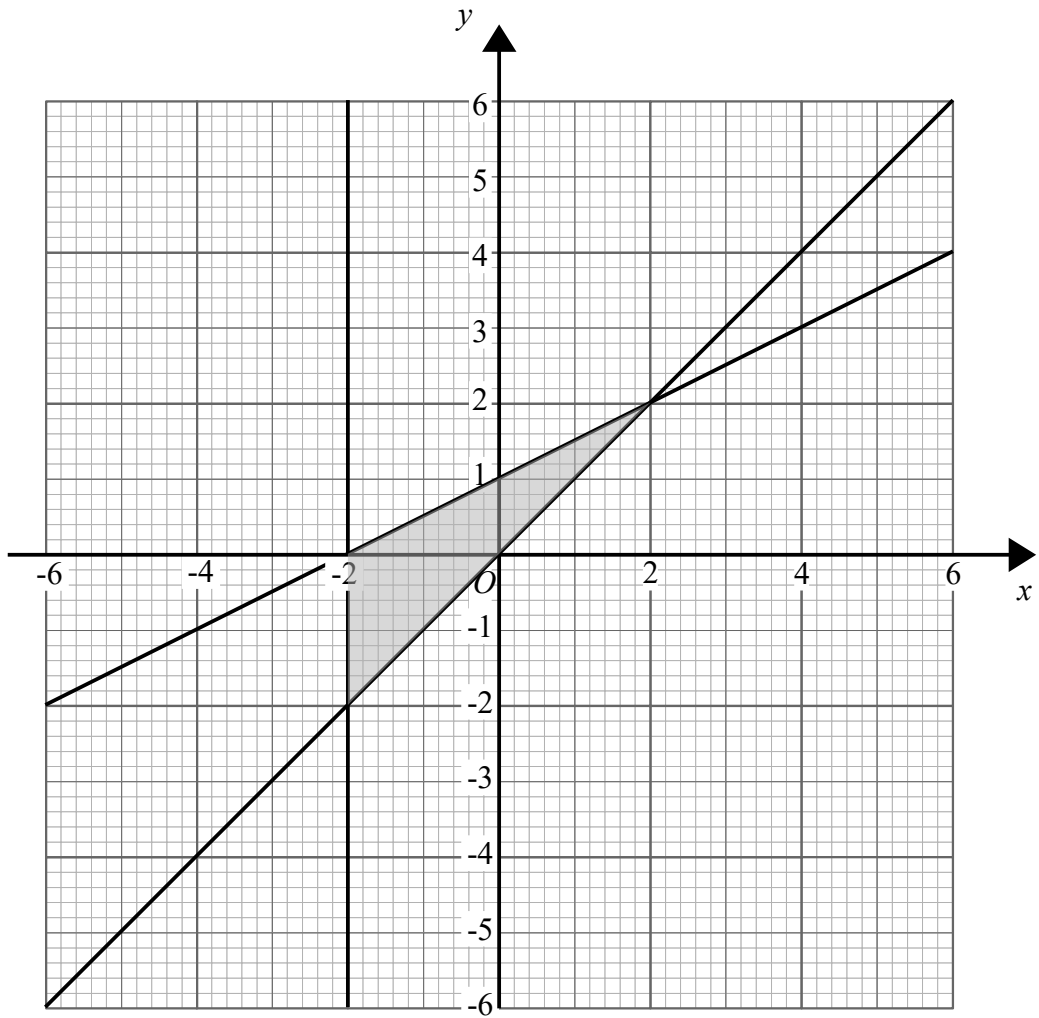
### Information

- The marks for each question are shown in brackets  
– *use this as a guide as to how much time to spend on each question.*

### Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end

1

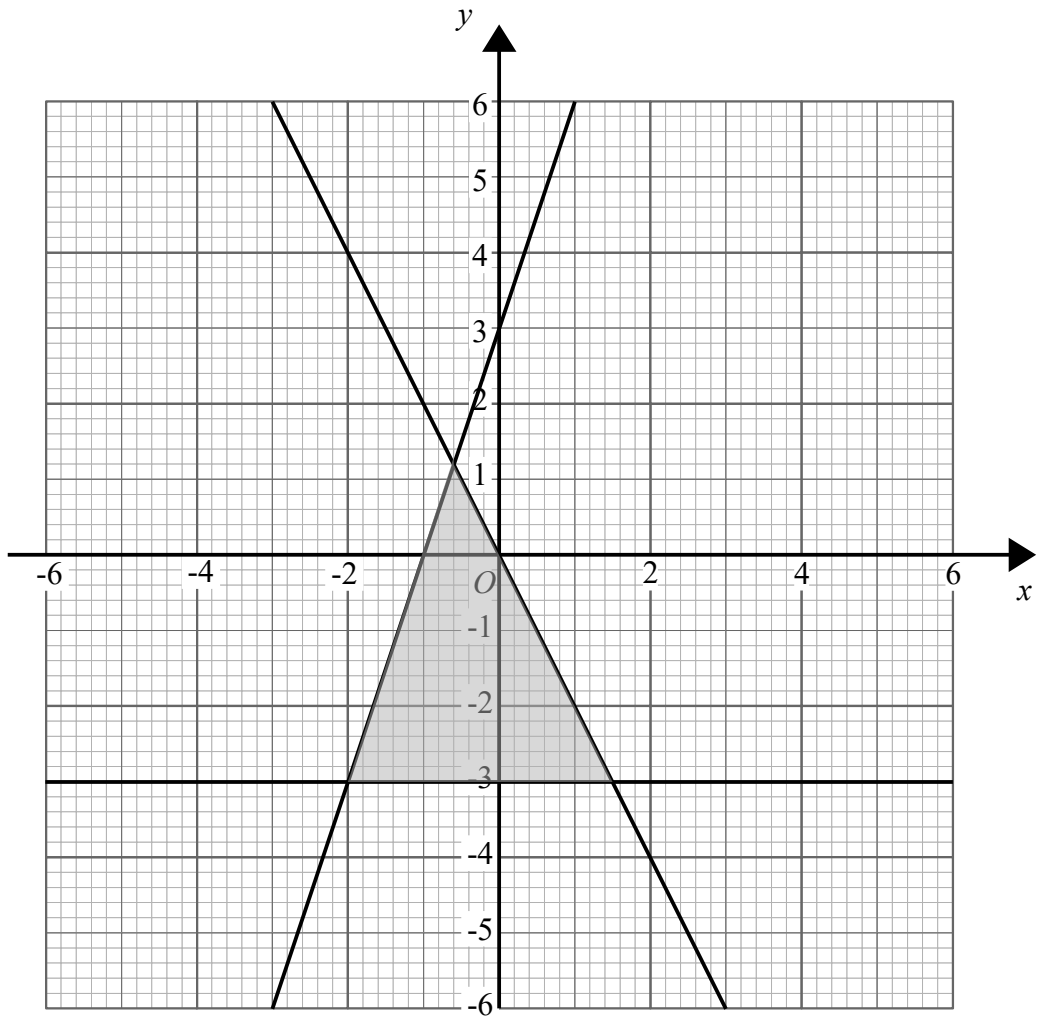


Write down the three inequalities that define the shaded region

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

(Total for Question 1 is 4 marks)

2

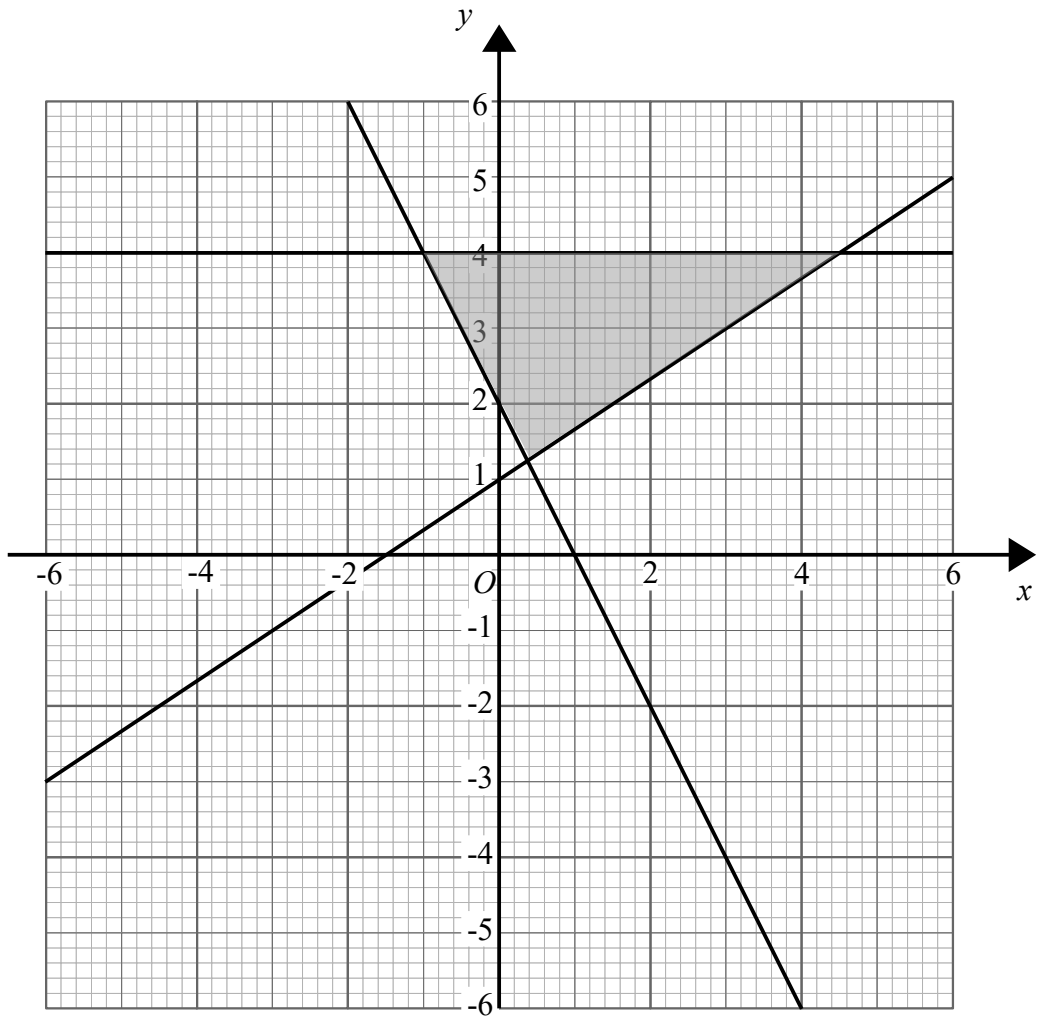


Write down the three inequalities that define the shaded region

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

(Total for Question 2 is 4 marks)

3



Write down the three inequalities that define the shaded region

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

(Total for Question 3 is 4 marks)

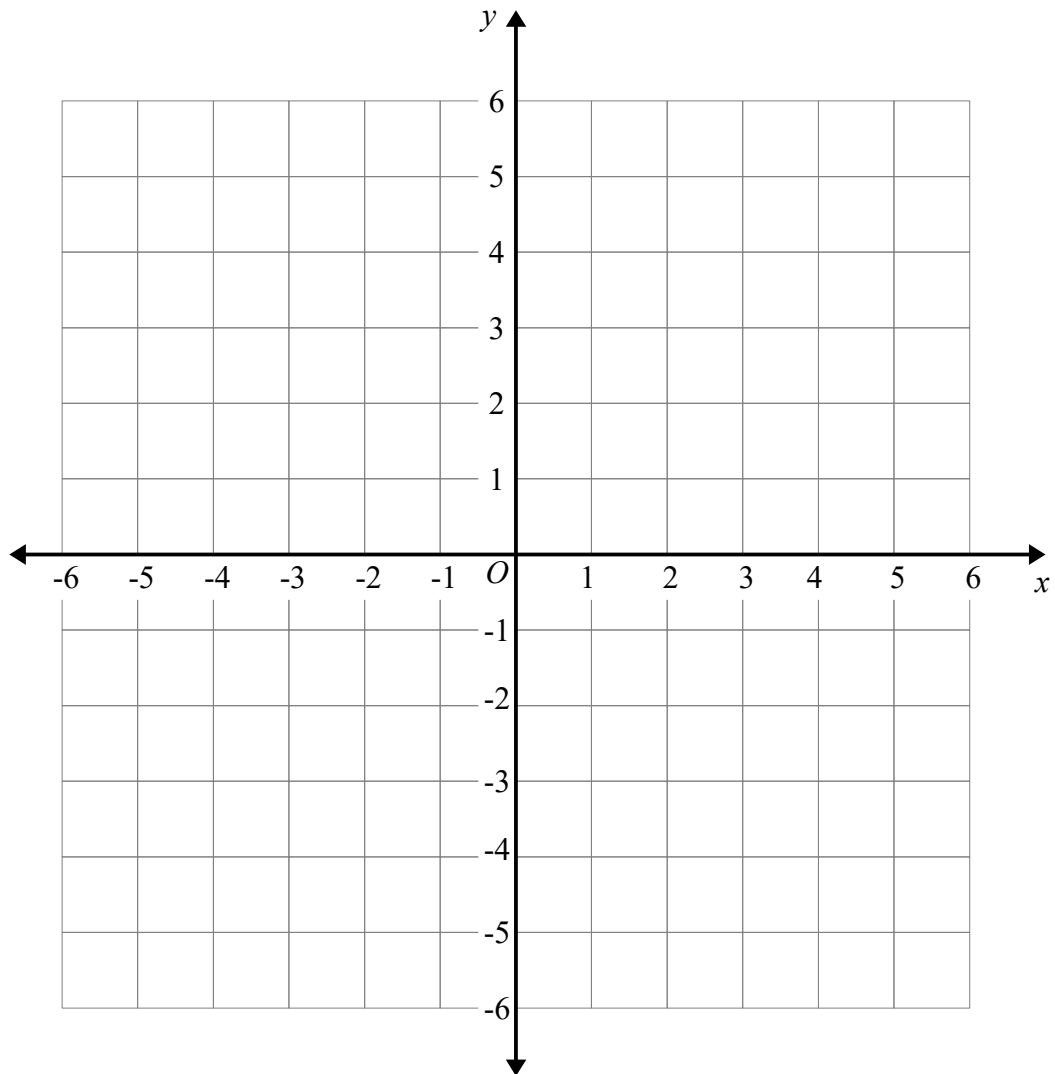
4 On the grid shade the region that satisfies all these inequalities

$$x < 3$$

$$y > -2$$

$$y \leq 2x - 1$$

Label the region **R**.



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(Total for Question 4 is 3 marks)

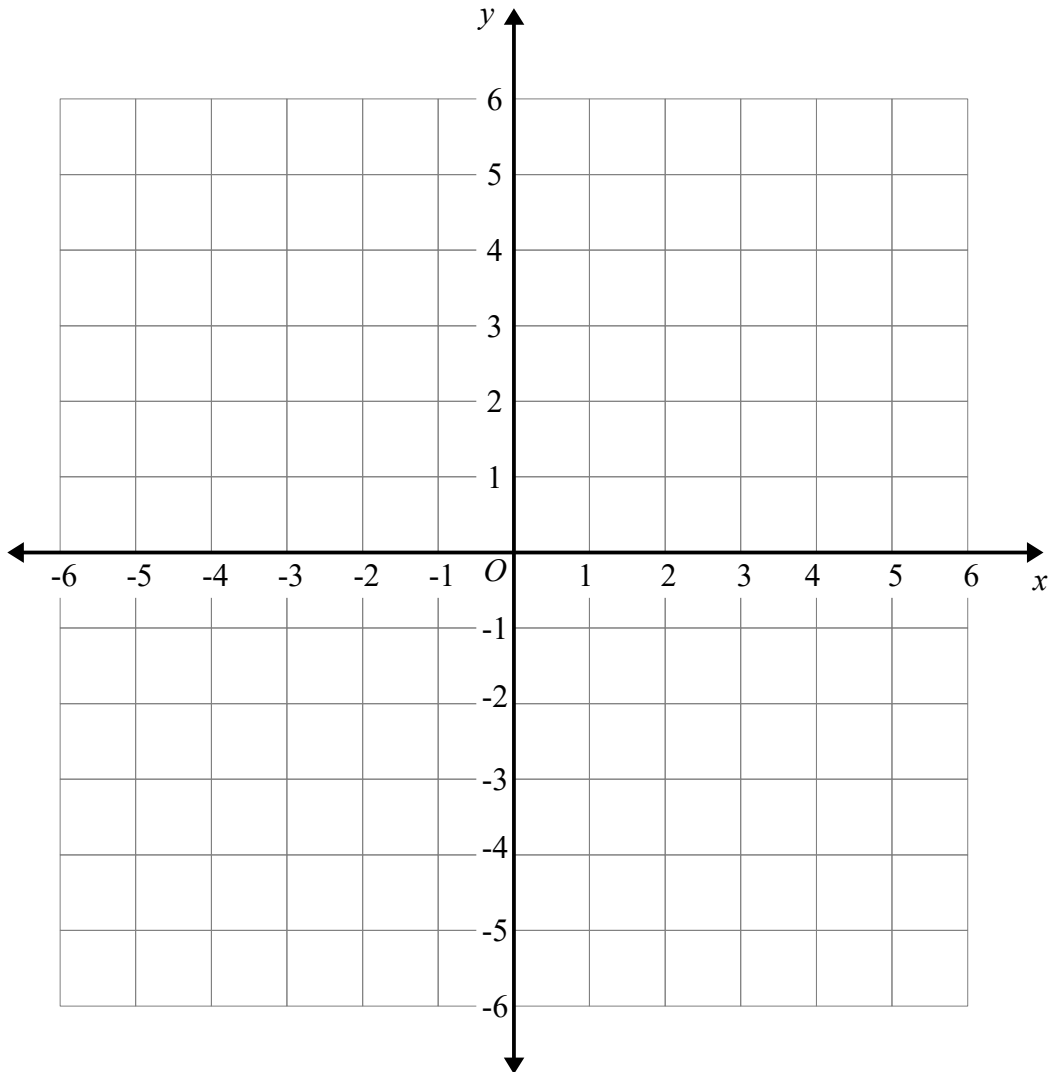
5 On the grid shade the region that satisfies all these inequalities

$$x + y < 4$$

$$y > 2x + 1$$

$$y > -1$$

Label the region **R**.



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(Total for Question 5 is 3 marks)

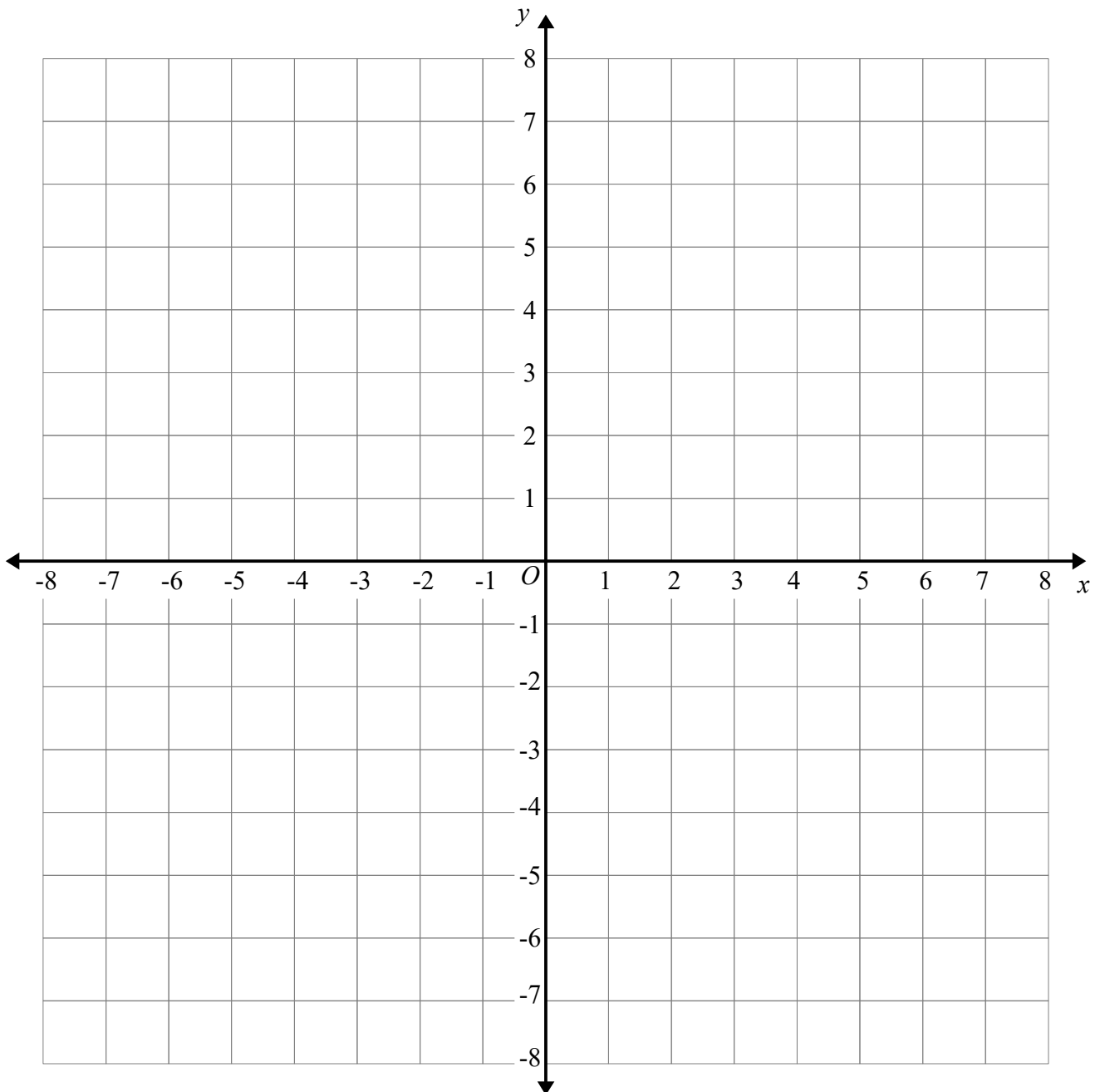
6 On the grid shade the region that satisfies all these inequalities

$$y \geq x - 1$$

$$x \leq 6 - 2y$$

$$x \geq -3$$

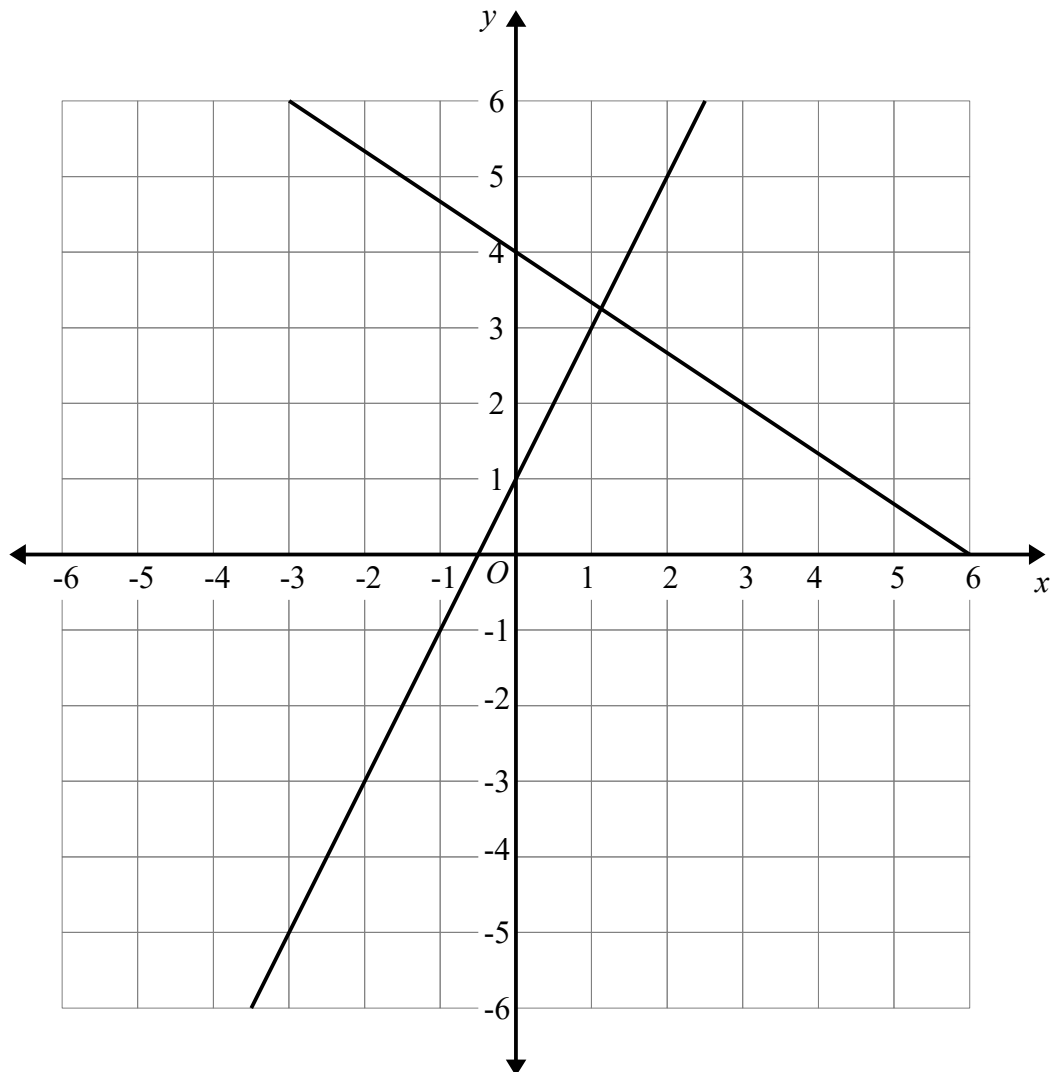
Label the region **R**.



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(Total for Question 6 is 3 marks)

- 7 The graphs of the straight lines with equations  $y = 2x + 1$  and  $3y + 2x = 12$  have been drawn on the grid.



$x$  and  $y$  are both integers.

Mark with a cross ( $\times$ ) all of the points that satisfies all the inequalities

$$y < 2x + 1 \qquad 3y + 2x < 12 \qquad y > 1$$

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(Total for Question 7 is 2 marks)