

Name:

Date:

Inequalities Regions

GCSE

Edexcel

Mathematics

Grade (9-1)

Mark

Score (%)

— 23

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Materials

For this paper you must have:

- Ruler
- Pencil, Rubber, Protractor and Compass
- Scientific calculator, which you are expected to use when appropriate

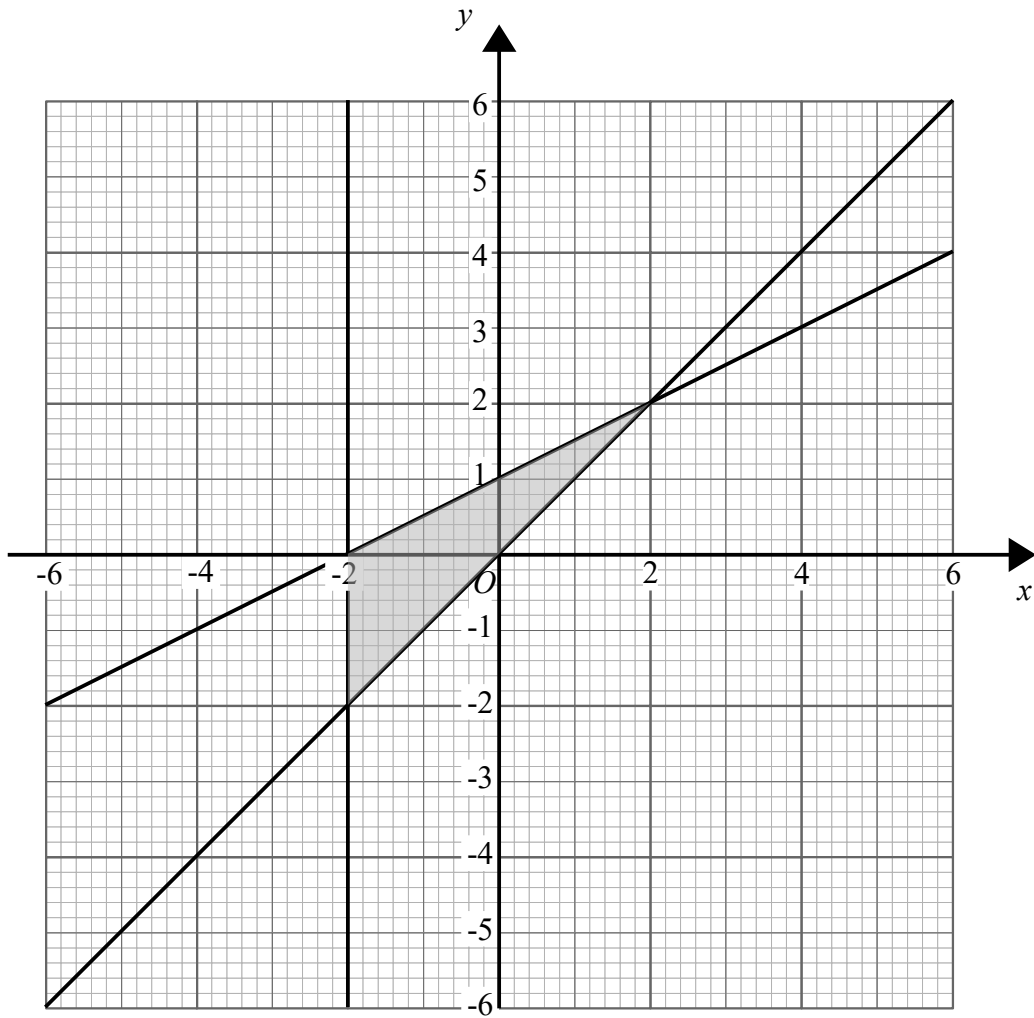
Instructions

- Answer all questions
- Answer questions in the space provided
- All working must be shown
- Do all rough work in this book. Cross out any rough work you don't want to be marked

Information

- The marks for the questions are shown in brackets

1



Write down the three inequalities that define the shaded region

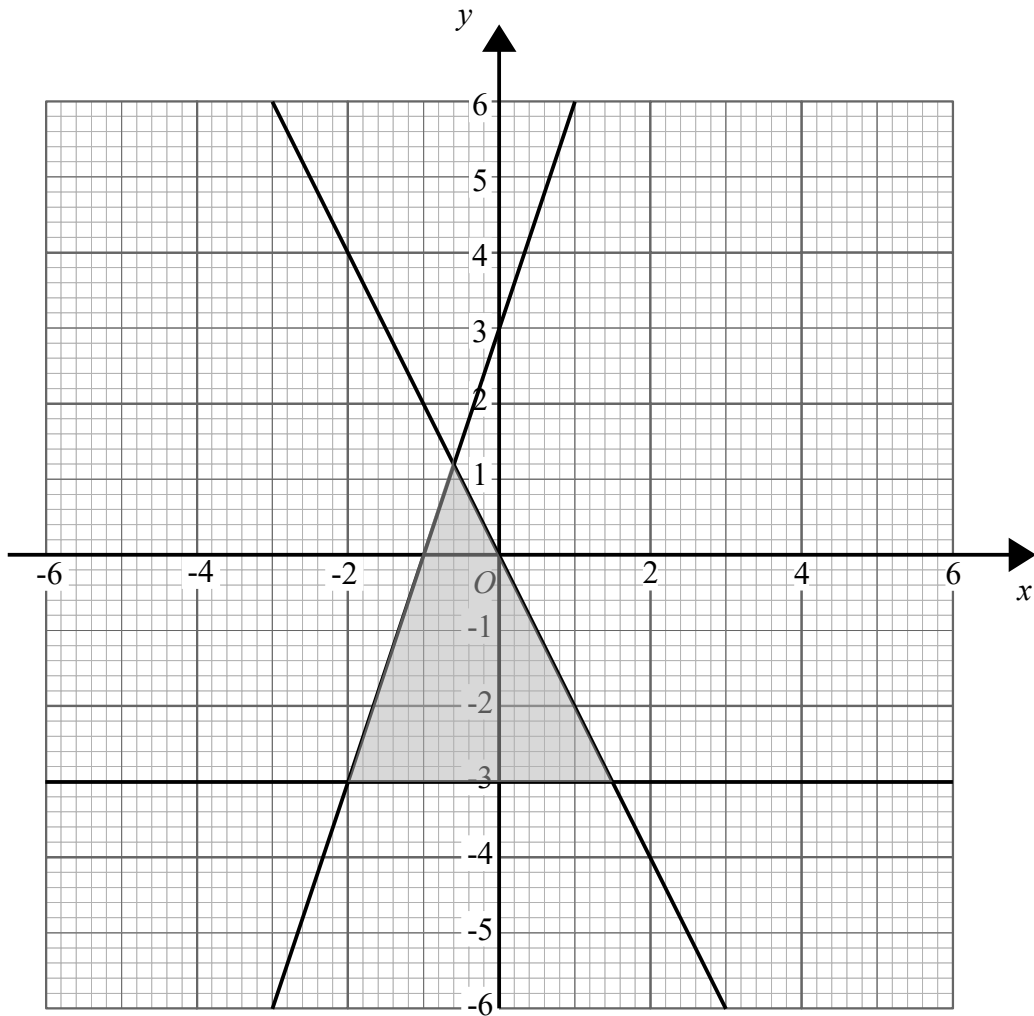
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(Total for question 1 is 4 marks)

2



Write down the three inequalities that define the shaded region

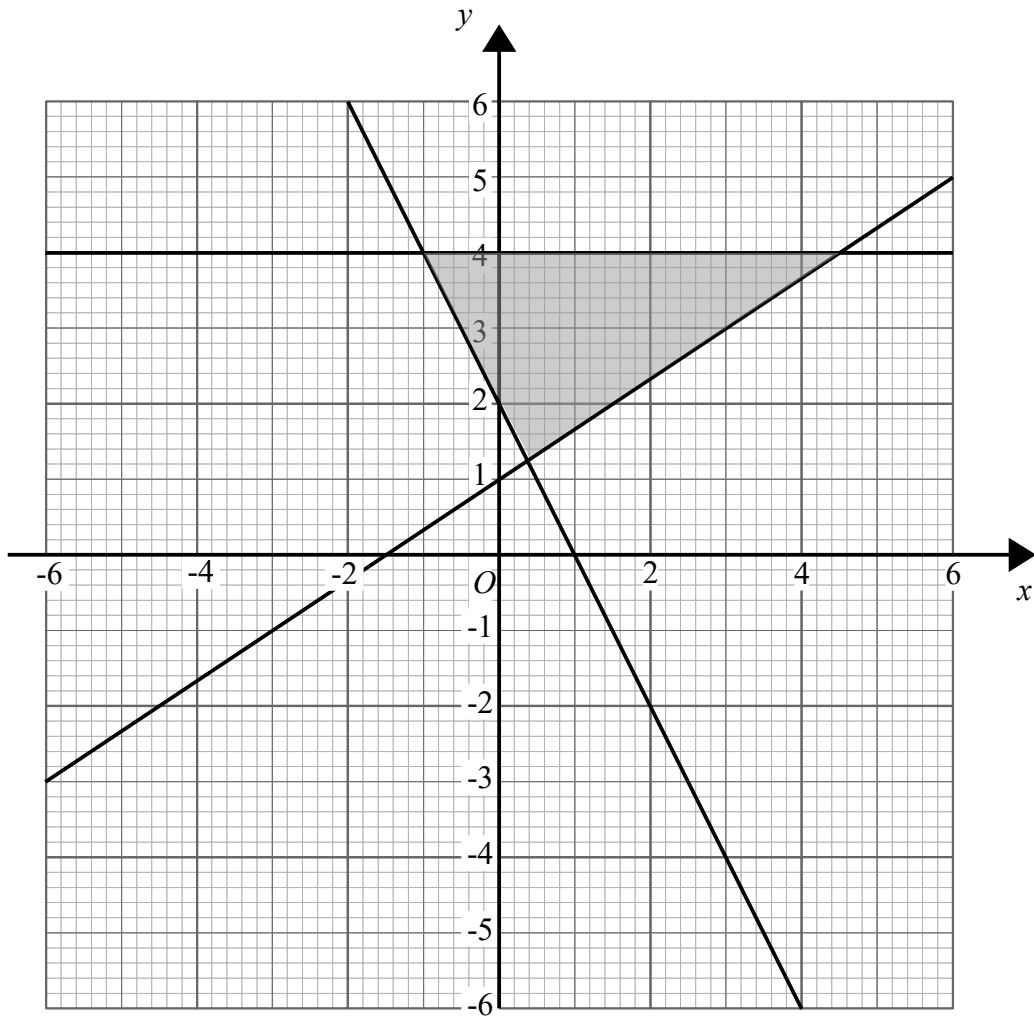
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(Total for question 2 is 4 marks)

3



Write down the three inequalities that define the shaded region

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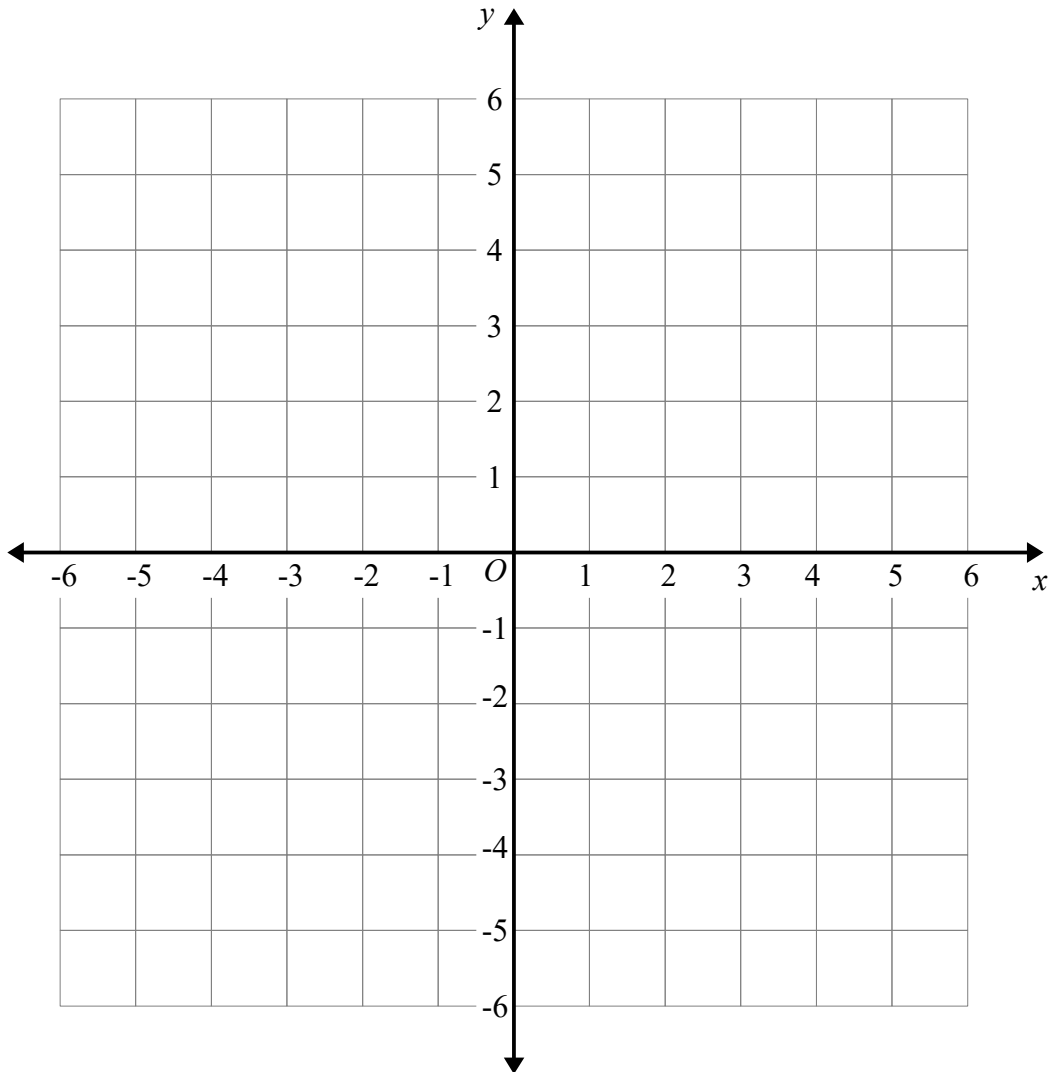
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(Total for question 3 is 4 marks)

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

$$x < 3 \quad y > -2 \quad y \leq 2x - 1$$

Label the region **R**.



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(Total for question 4 is 3 marks)

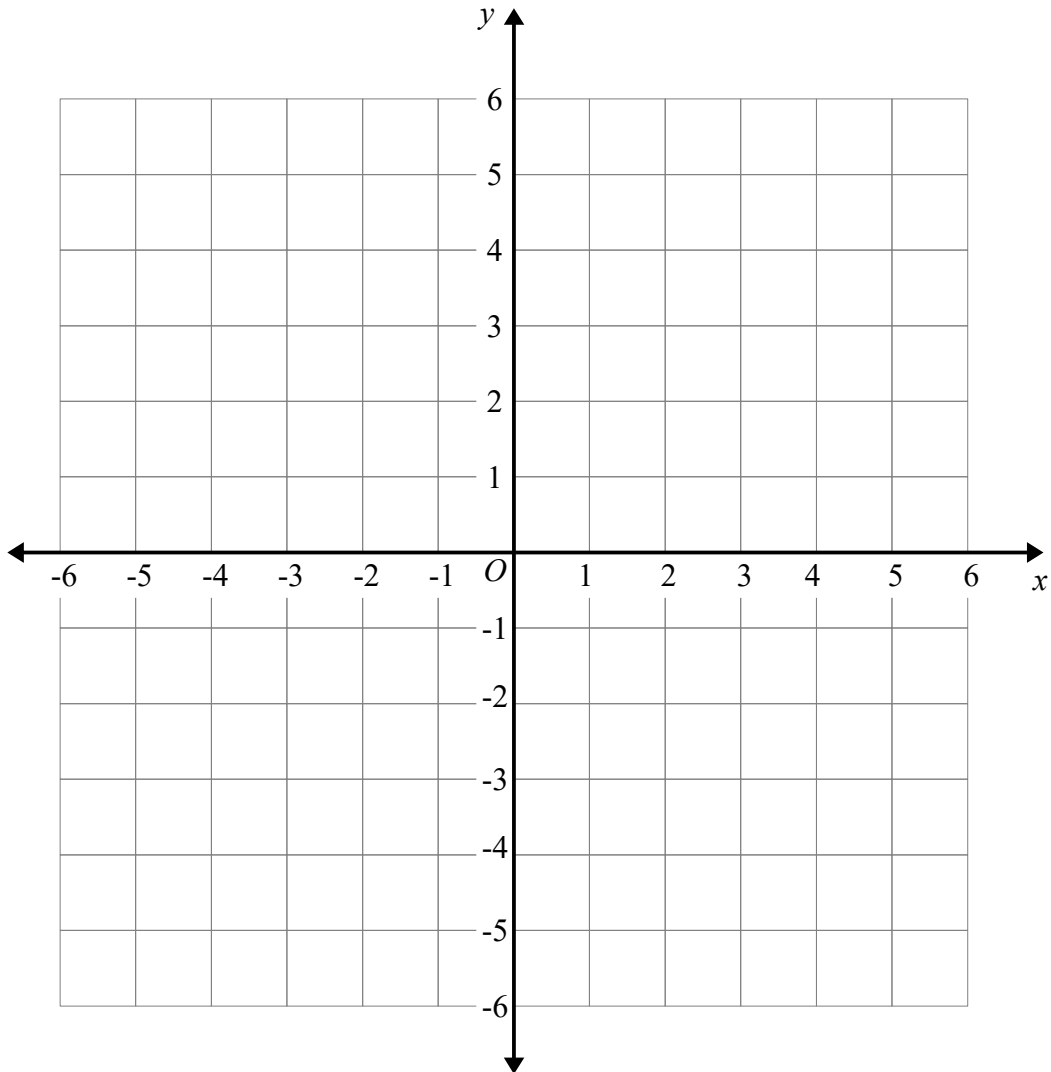
5 On the grid shade the region that satisfies all these inequalities

$$x + y < 4$$

$$y > 2x + 1$$

$$y > -1$$

Label the region **R**.



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(Total for question 5 is 3 marks)

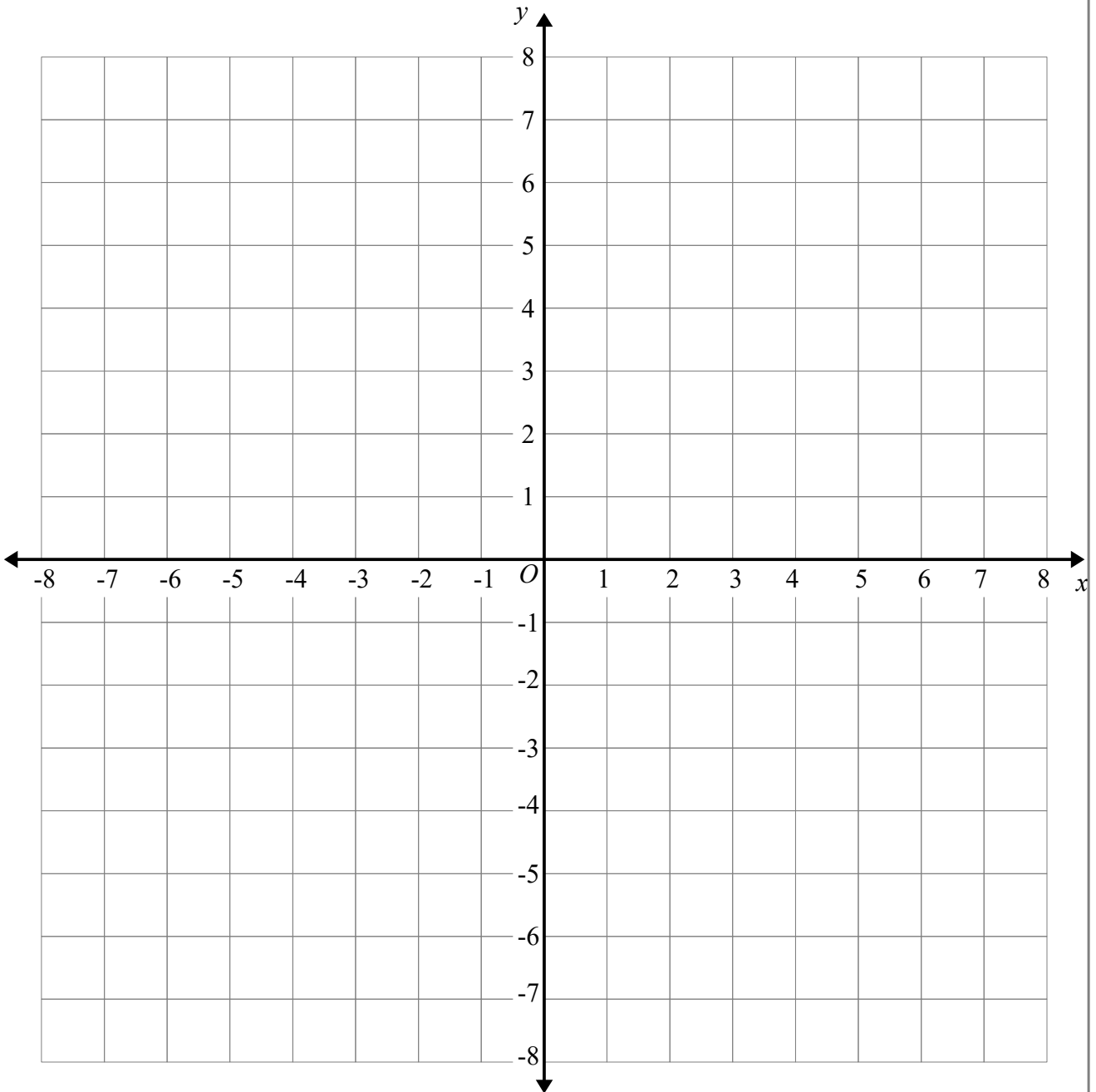
6 On the grid shade the region that satisfies all these inequalities

$$y \geq x - 1$$

$$x \leq 6 - 2y$$

$$x \geq -3$$

Label the region **R**.



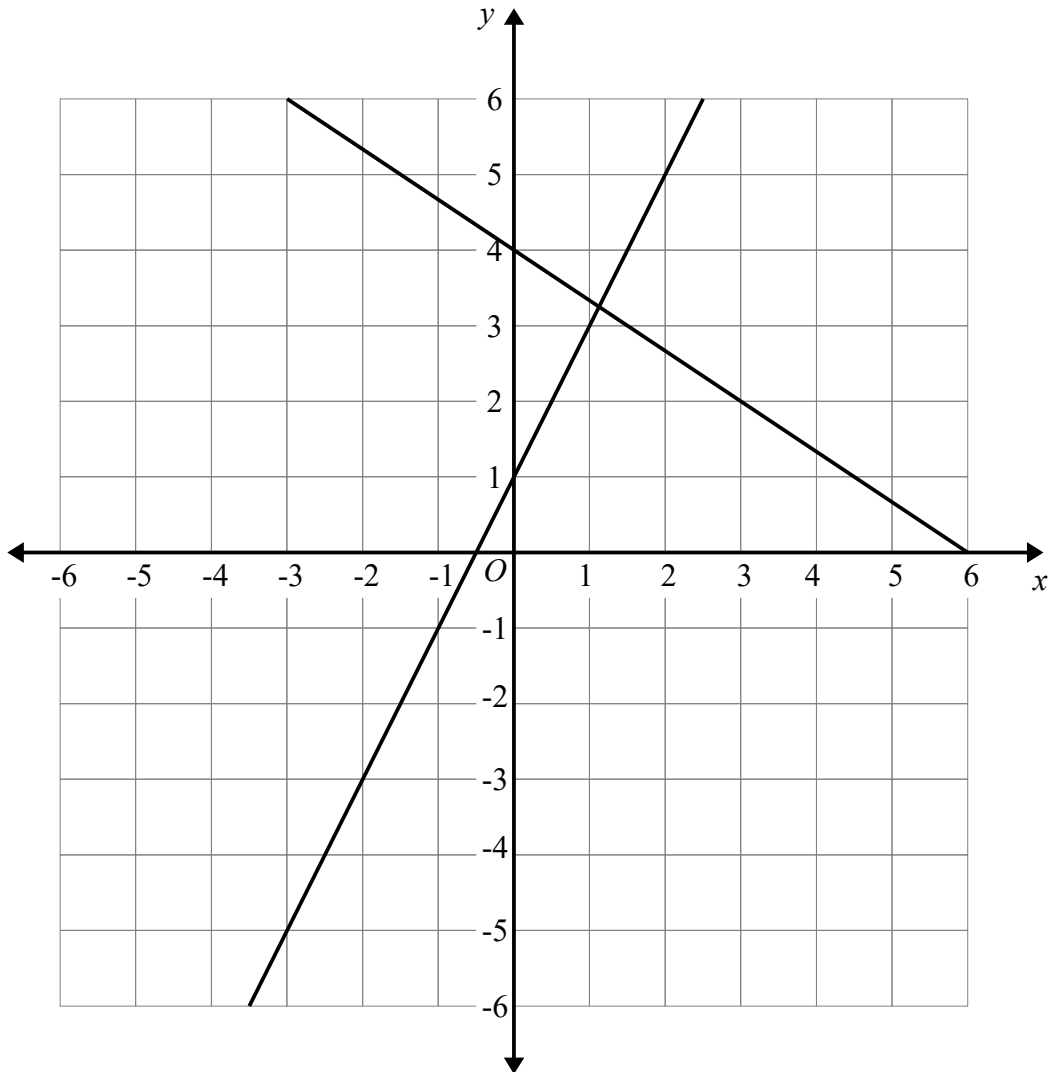
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(Total for question 6 is 3 marks)

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 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)