

# Inequalities on Graphs

## Question Paper

Level	GCSE
Subject	Maths
Exam Board	Edexcel GCSE
Topic	Inequalities on Graphs
Grade Level	Grade 4
Booklet	Question Paper

**Time Allowed:** 33 minutes

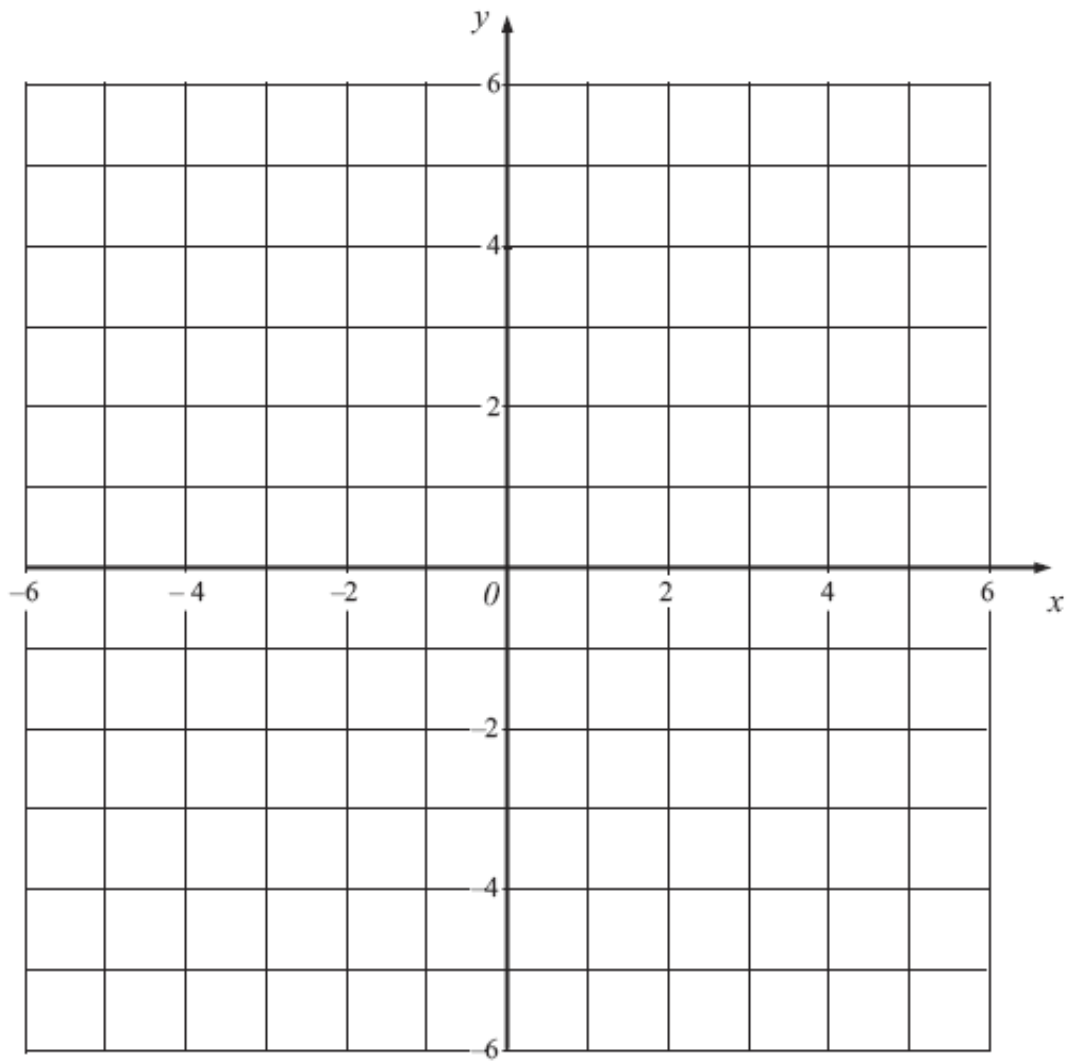
**Score:** /27

**Percentage:** /100

**Grade Boundaries:**

1. On the grid, shade the region that satisfies all three of these inequalities

$$y > -4 \quad x < 2 \quad y < 2x + 1$$

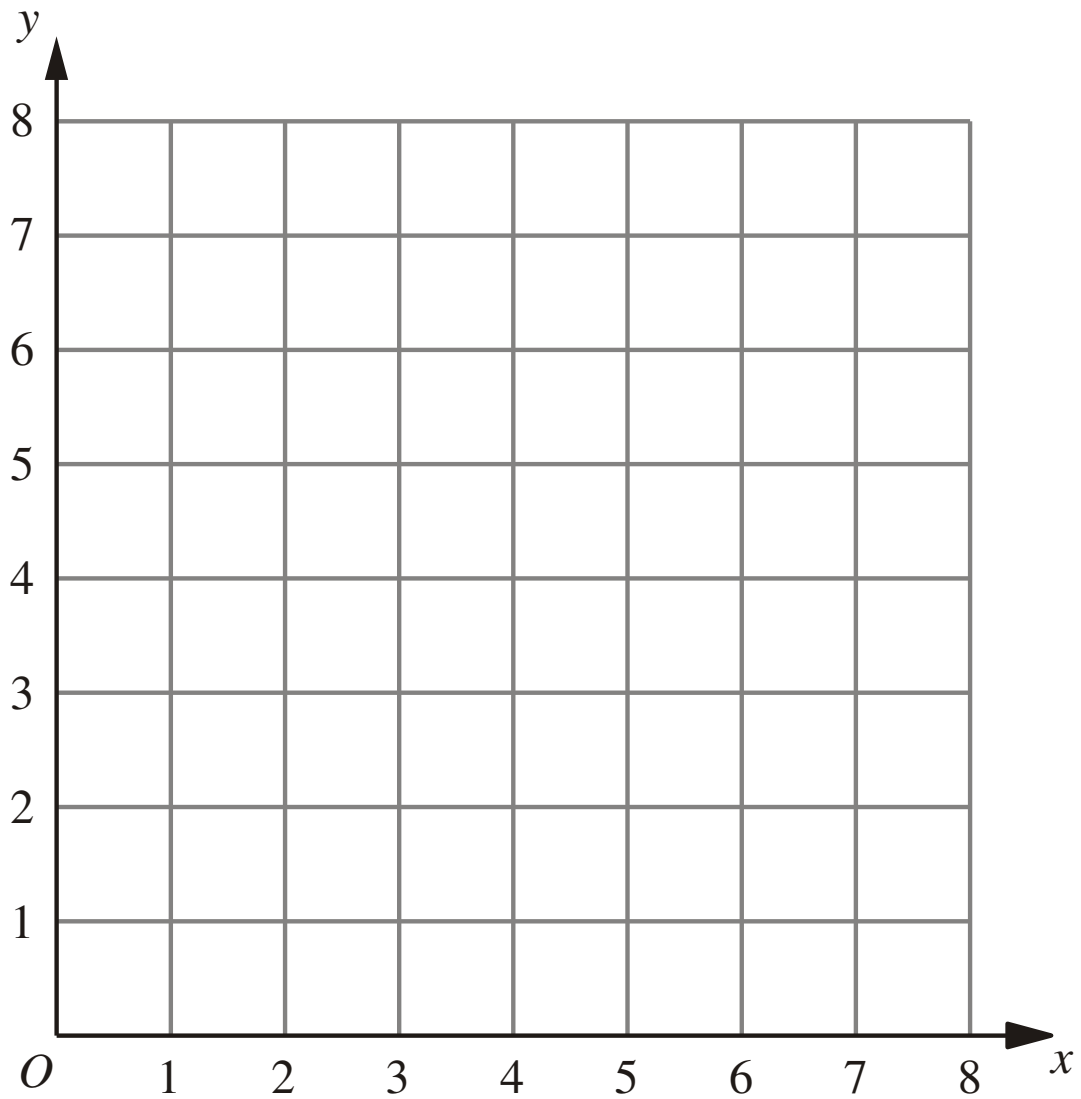


(Total for Question 19 = 4 marks)

2. The region **R** satisfies the inequalities

$$x \geq 2, \quad y \geq 1, \quad x + y \leq 6$$

On the grid below, draw straight lines and use shading to show the region **R**.



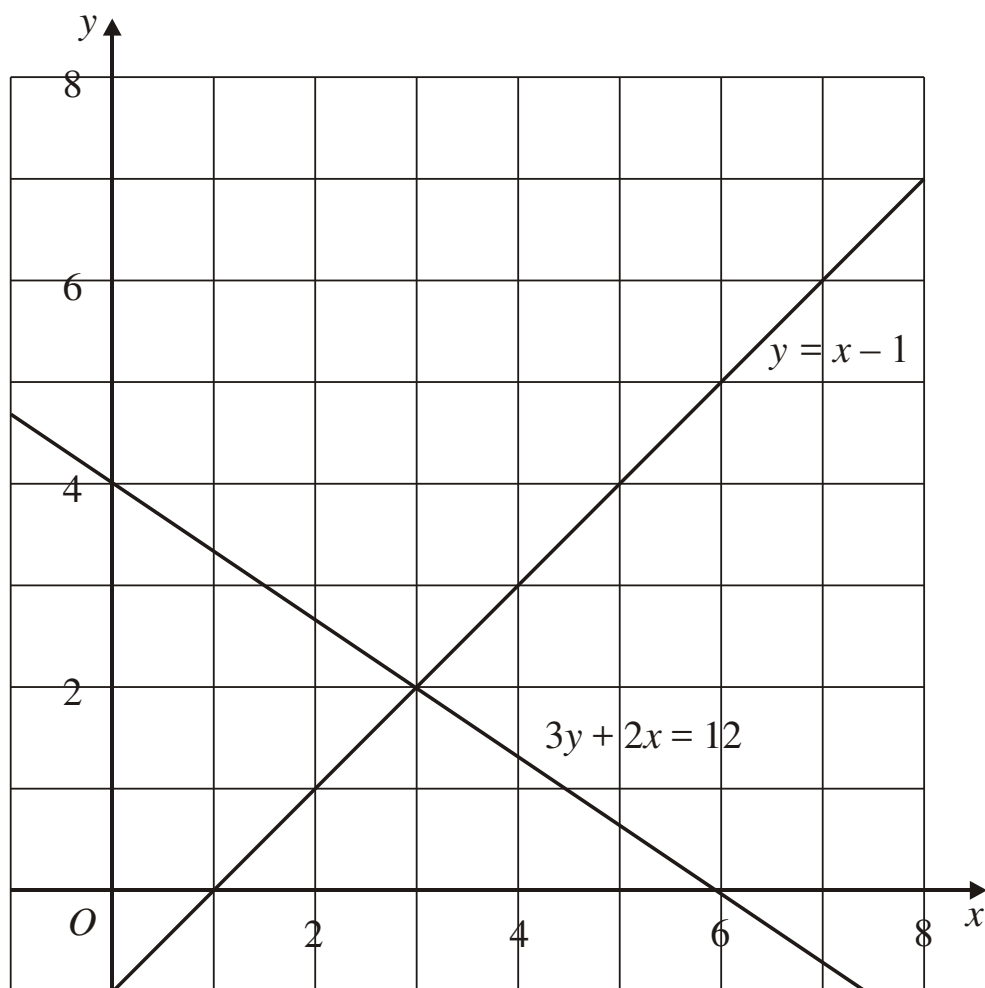
(Total 3 marks)

3. The graphs of the straight lines with equations

$$3y + 2x = 12 \quad \text{and}$$

$$y = x - 1$$

have been drawn on the grid.



$$3y + 2x > 12$$

$$y < x - 1$$

$$x < 6$$

$x$  and  $y$  are integers.

On the grid, mark with a cross ( $\times$ ), each of the **four** points which satisfies **all** 3 inequalities.

**(Total 3 marks)**

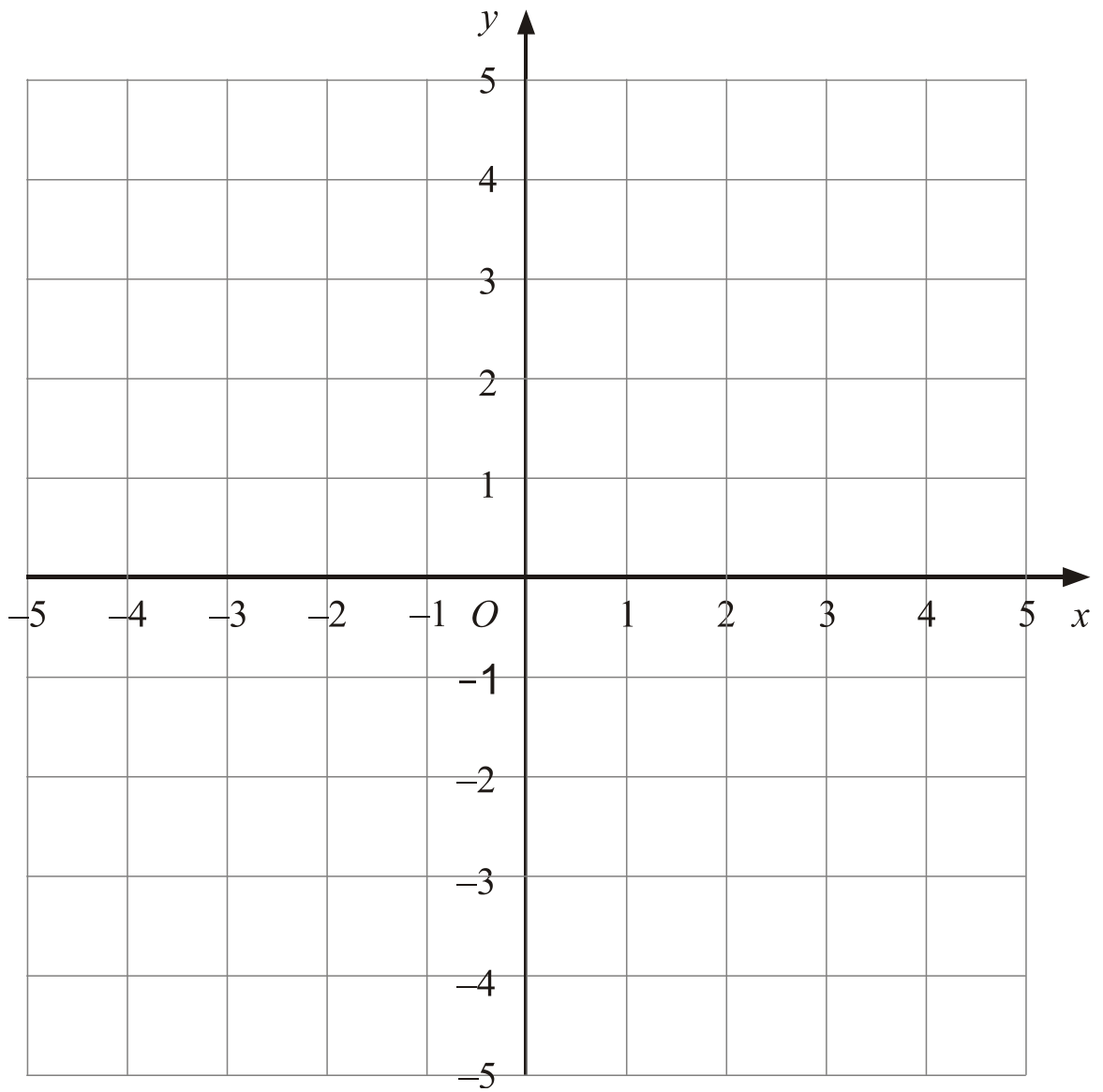
4. On the grid, show by shading, the region which satisfies all three of the inequalities.

$$x < 3$$

$$y > -2$$

$$y < x$$

Label the region **R**.

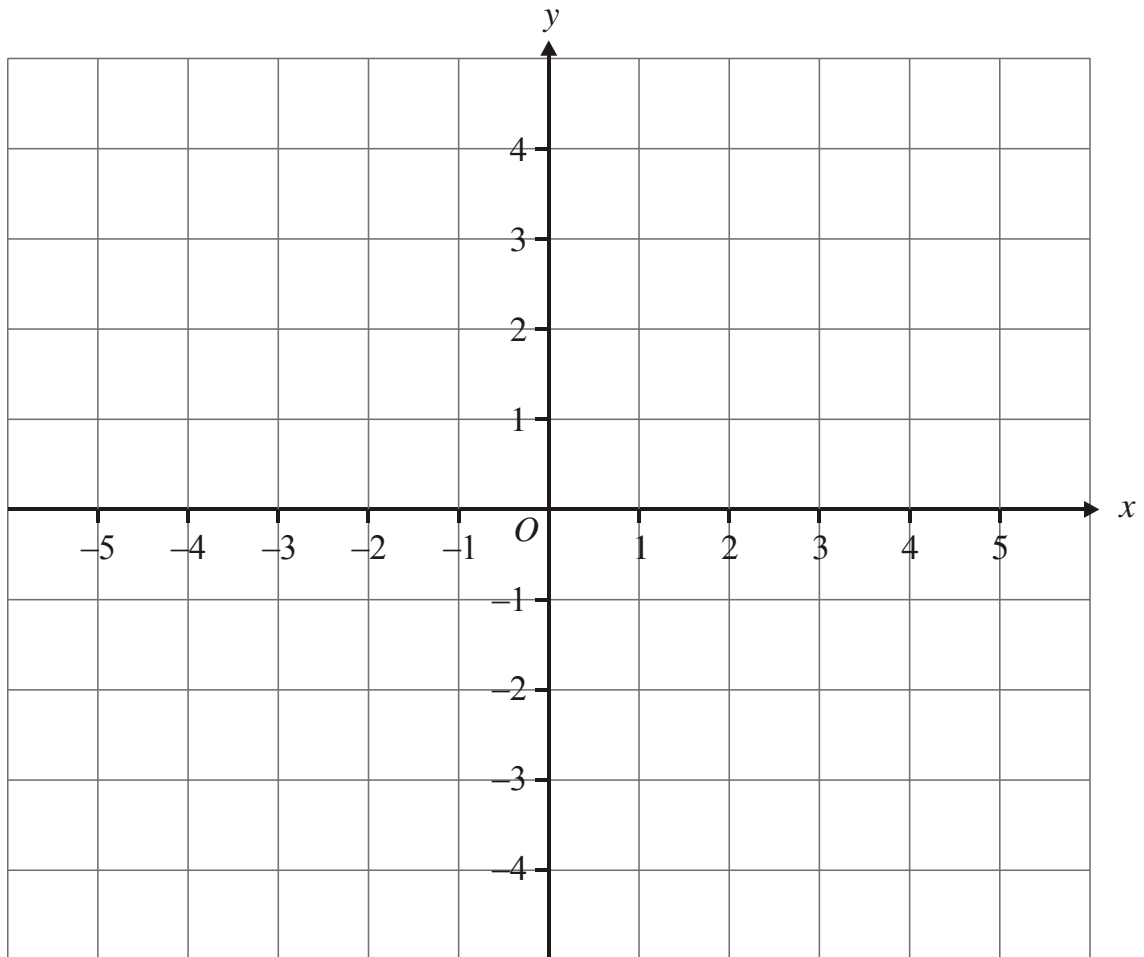


**(Total 4 marks)**

5.  $-2 < x \leq 1$      $y > -2$      $y < x + 1$

$x$  and  $y$  are integers.

On the grid, mark with a cross (**x**), each of the six points which satisfies **all** these 3 inequalities.



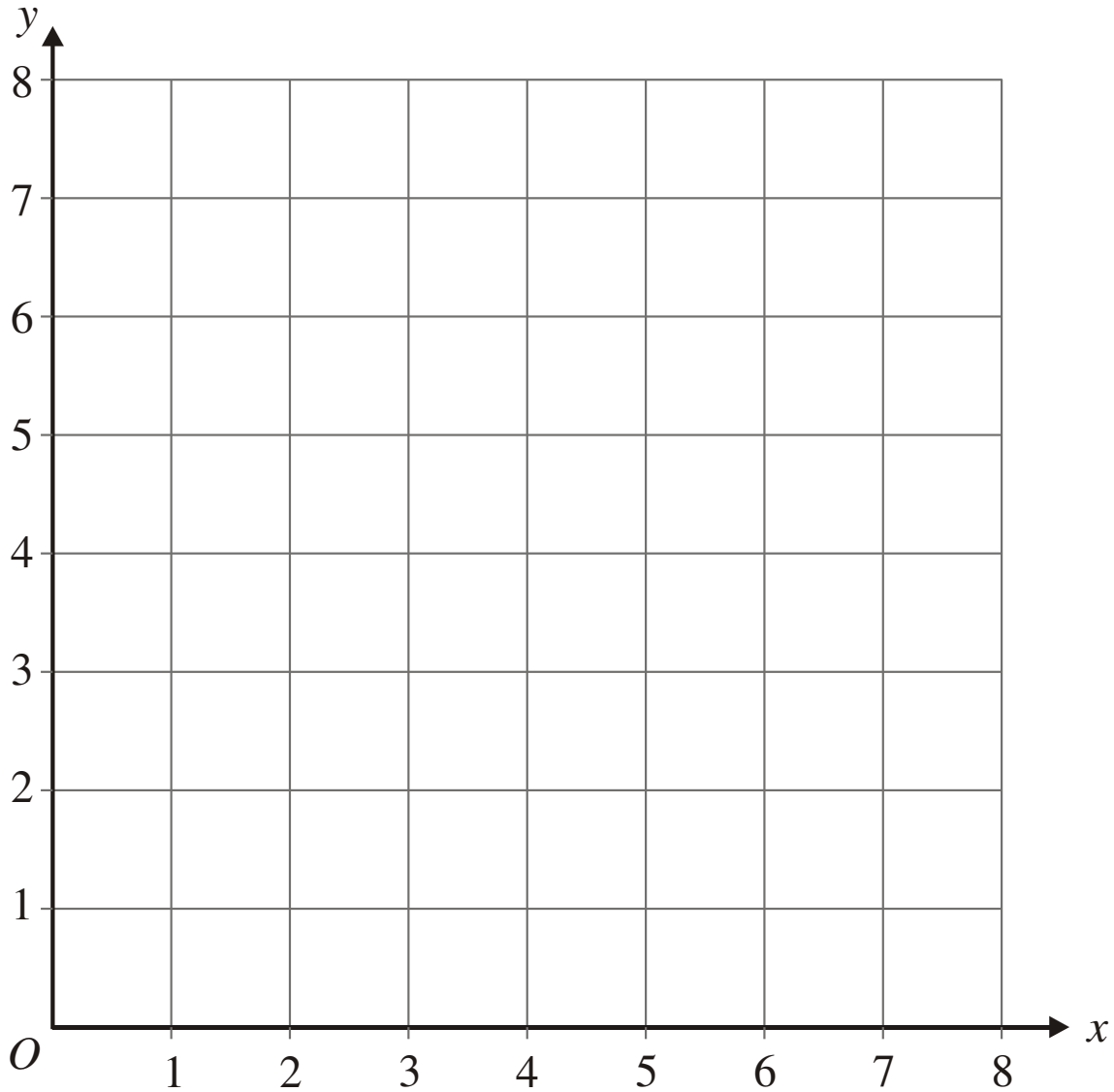
**(Total 3 marks)**

6. (a) On the grid below, draw straight lines and use shading to show the region **R** that satisfies the inequalities

$$x \geq 2$$

$$y \geq x$$

$$x + y \leq 6$$



(3)

The point *P* with coordinates (*x*, *y*) lies inside the region **R**.  
*x* and *y* are **integers**.

- (b) Write down the coordinates of **all** the points of **R** whose coordinates are both integers.

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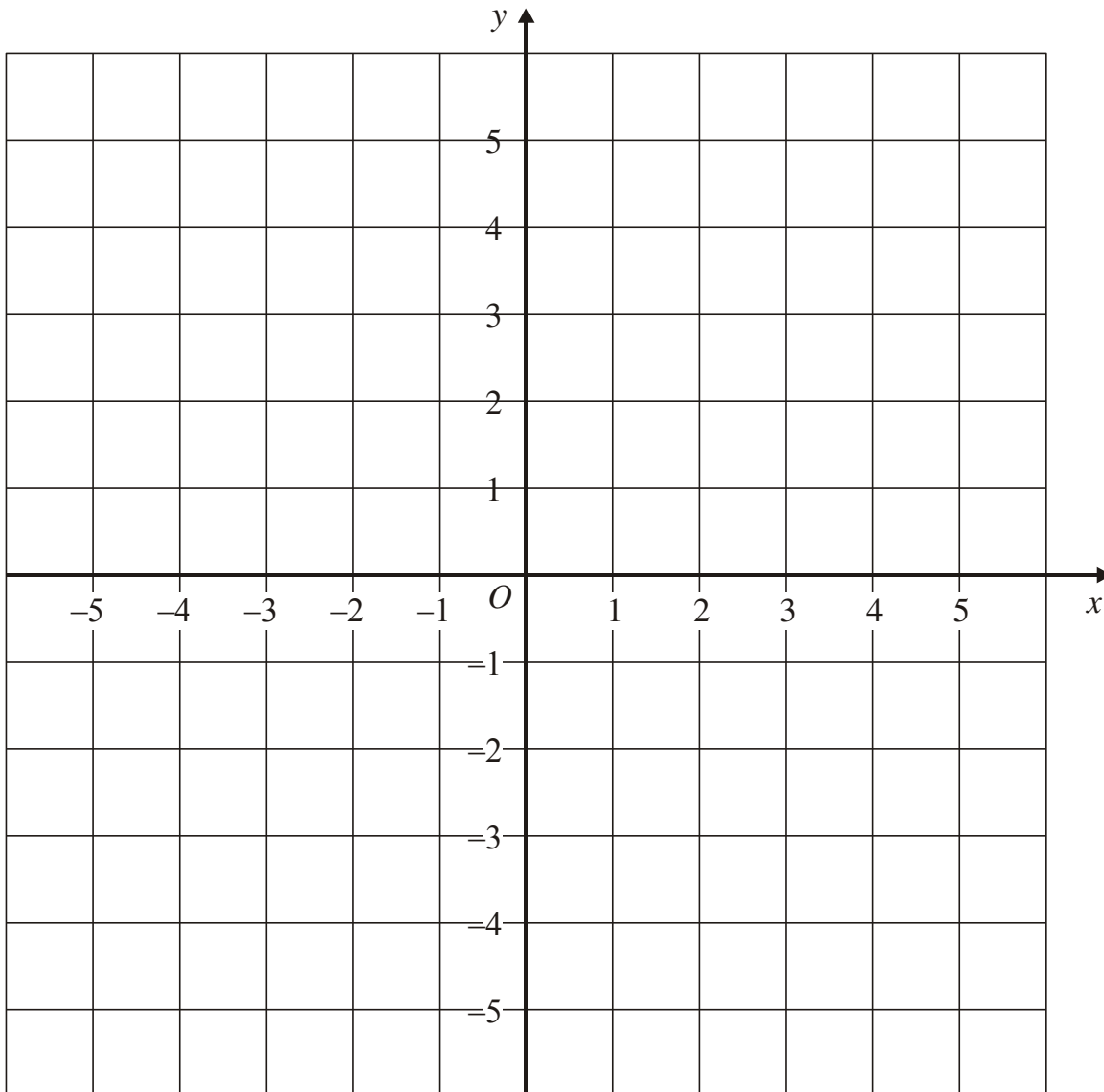
(2)

(Total 5 marks)

7.  $4x + 3y < 12$ ,  $y < 3x$ ,  $y > 0$ ,  $x > 0$

$x$  and  $y$  are both integers.

On the grid, mark with a cross ( $\times$ ), each of the **three** points which satisfy **all** these four inequalities.



(3)  
(Total 5 marks)