

# Graphical Inequalities

## Difficulty: Easy

### Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Algebra and graphs
Sub-Topic	Graphical Inequalities
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 1

**Time allowed:** 36 minutes

**Score:** /28

**Percentage:** /100

#### Grade Boundaries:

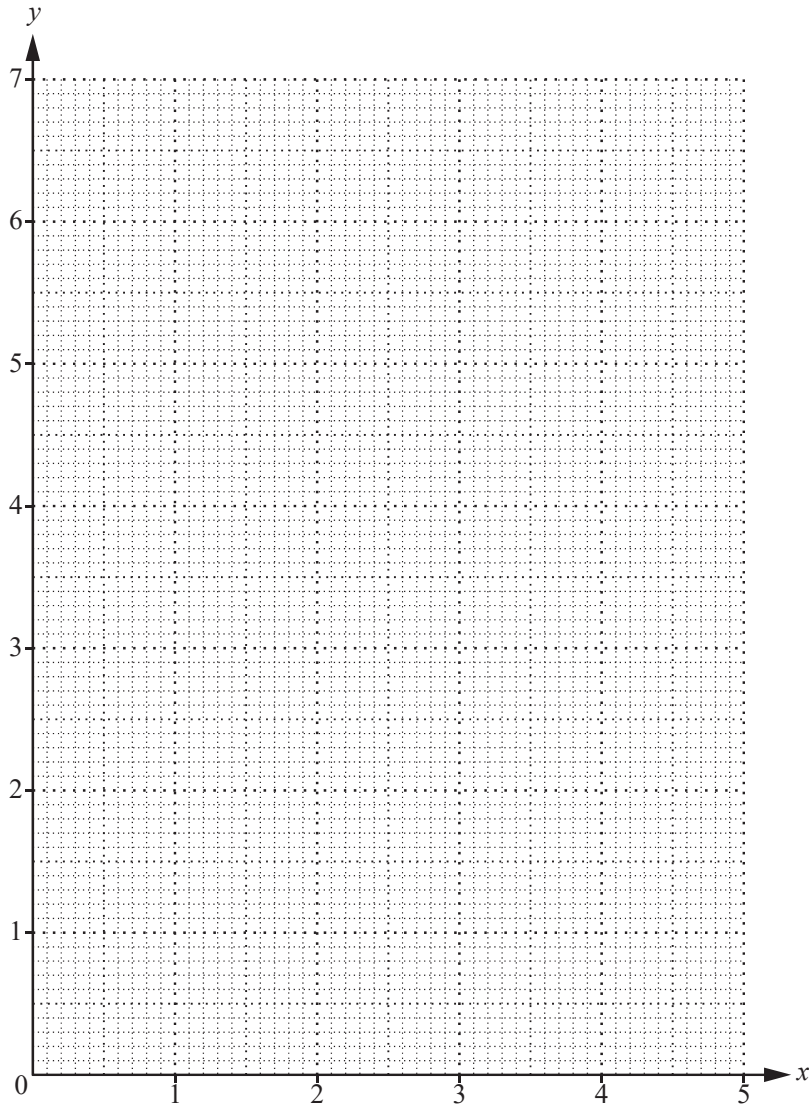
##### CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

##### CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

### Question 1



The region  $R$  satisfies these inequalities.

$$y \leq 2x$$

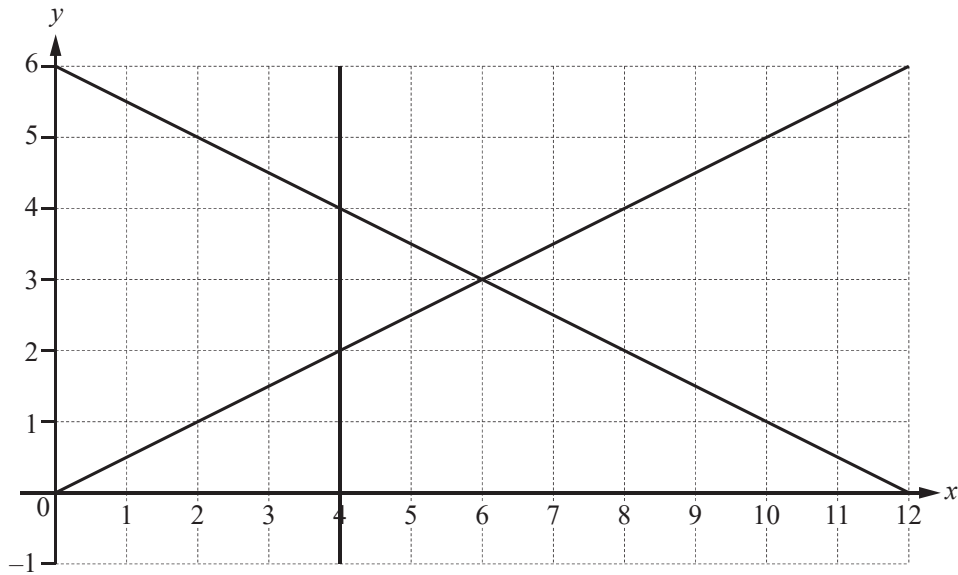
$$3x + 4y \geq 12$$

$$x \leq 3$$

On the grid, draw and label the region  $R$  that satisfies these inequalities.  
Shade the **unwanted** regions.

[5]

## Question 2



By shading the **unwanted** regions of the grid, find and label the region R which satisfies the following four inequalities.

$$y \geq 0$$

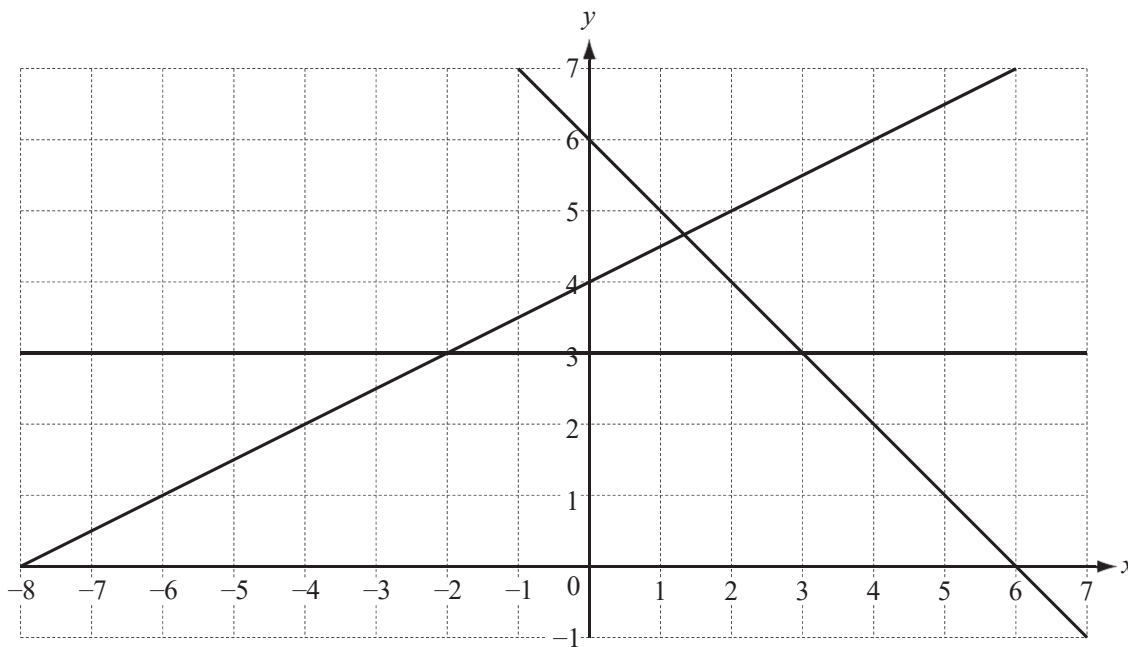
$$x \geq 4$$

$$2y \leq x$$

$$2y + x \leq 12$$

[3]

### Question 3



The region  $R$  contains points which satisfy the inequalities

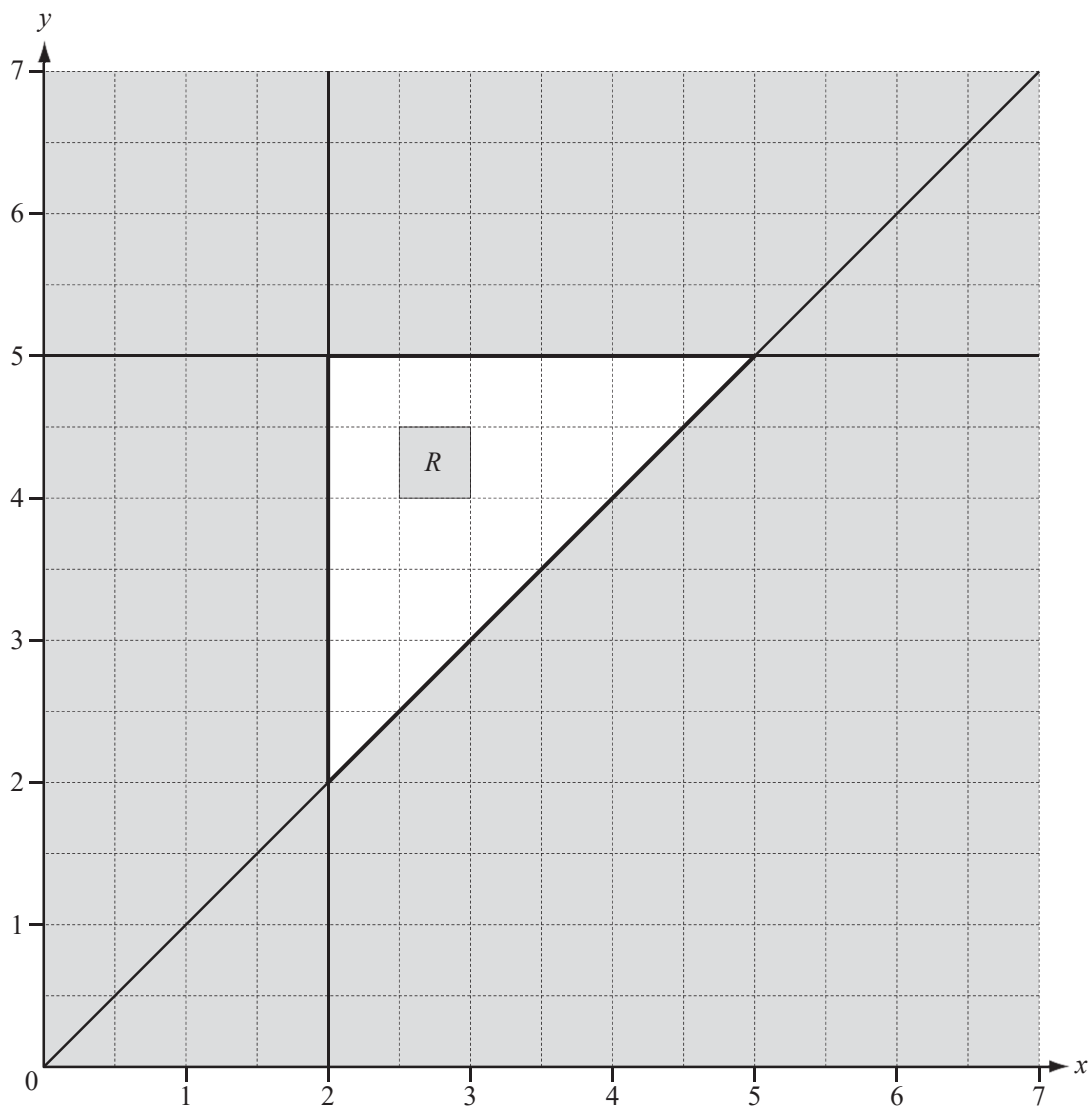
$$y \leq \frac{1}{2}x + 4, \quad y \geq 3 \quad \text{and} \quad x + y \geq 6.$$

On the grid, label with the letter  $R$  the region which satisfies these inequalities.

You must shade the **unwanted** regions.

[3]

### Question 4

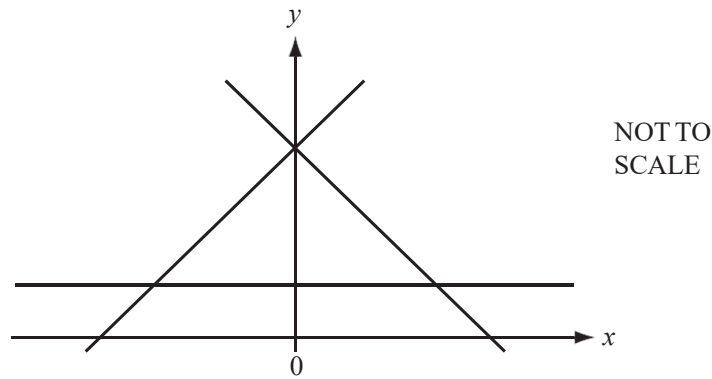


The region  $R$  is bounded by three lines.

Write down the three inequalities which define the region  $R$ .

[4]

Question 5

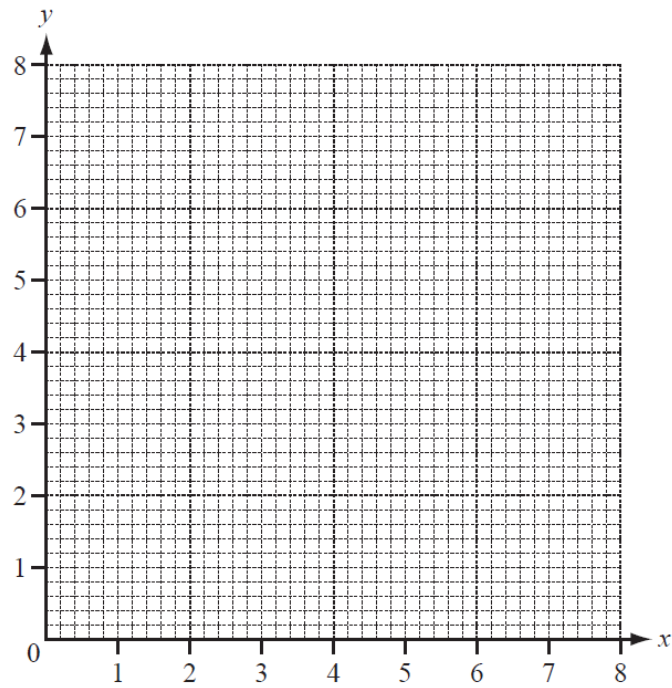


The diagram shows the lines  $y = 1$ ,  $y = x + 4$  and  $y = 4 - x$ .

On the diagram, **label the region R** where  $y \geq 1$ ,  $y \geq x + 4$  and  $y \leq 4 - x$ .

[3]

### Question 6



(a) Draw the lines  $y = 2$ ,  $x + y = 6$  and  $y = 2x$  on the grid above.

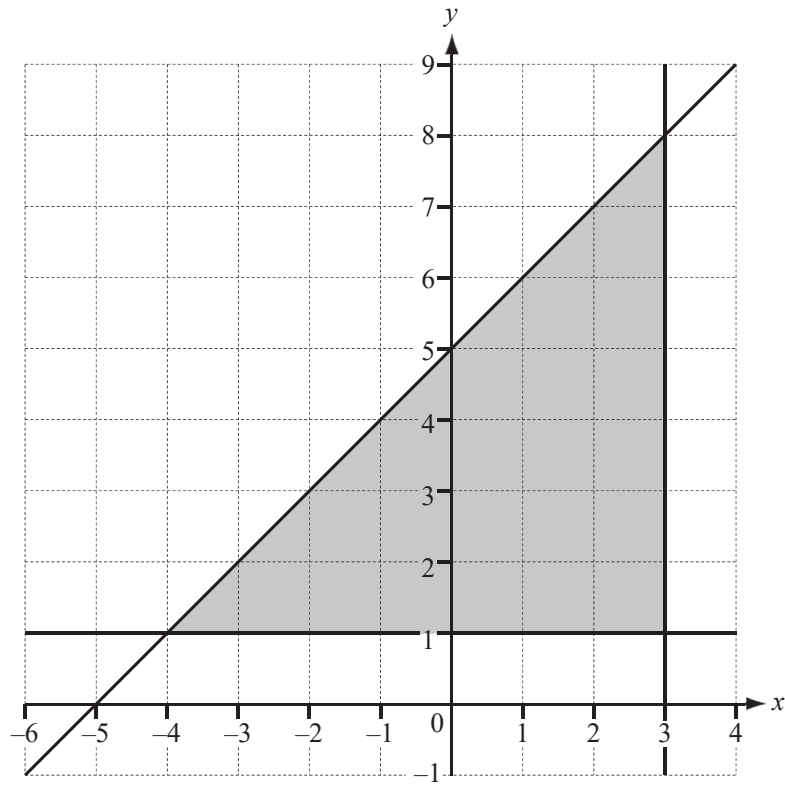
[4]

(b) Label the region  $R$  which satisfies the three inequalities

$$x + y \geq 6, \quad y \geq 2 \quad \text{and} \quad y \leq 2x.$$

[1]

Question 7



Find the three inequalities which define the shaded triangle in the diagram.

[5]