Graphical Inequalities Difficulty: Hard

Question Paper 2

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

Time allowed: **32 minutes**

Score: **/25**

Percentage: **/100**

Grade Boundaries:

CIE IGCSE Maths (0580)

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

CIE IGCSE Maths (0980)

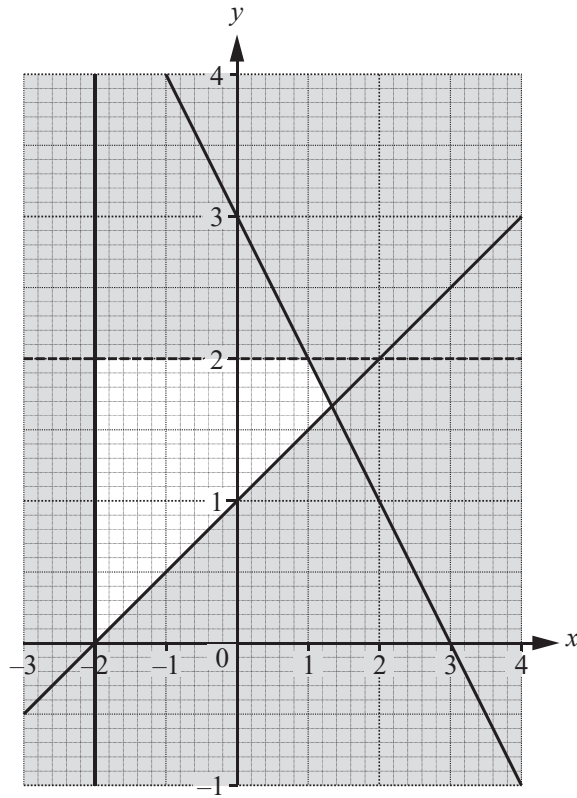| 9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1
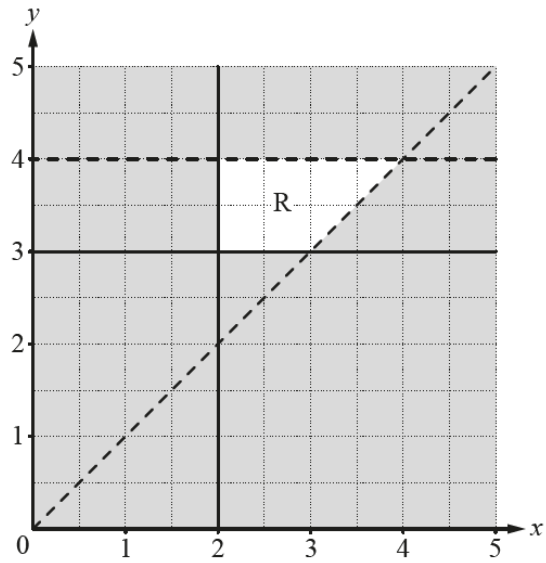
Find four inequalities that define the region, R, on the grid.
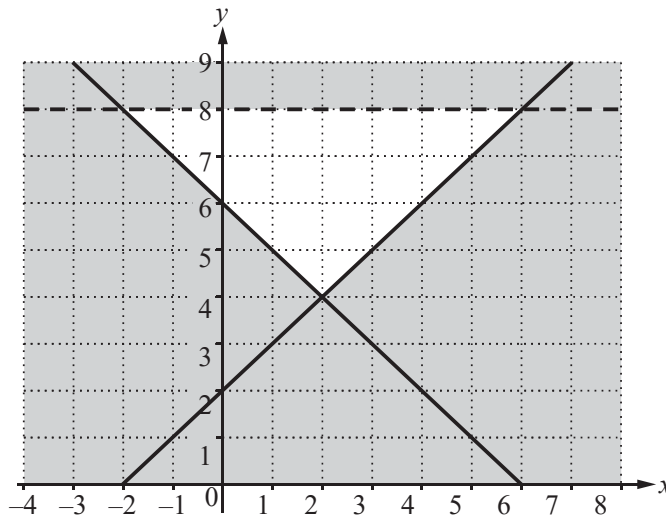
[4]

Question 2

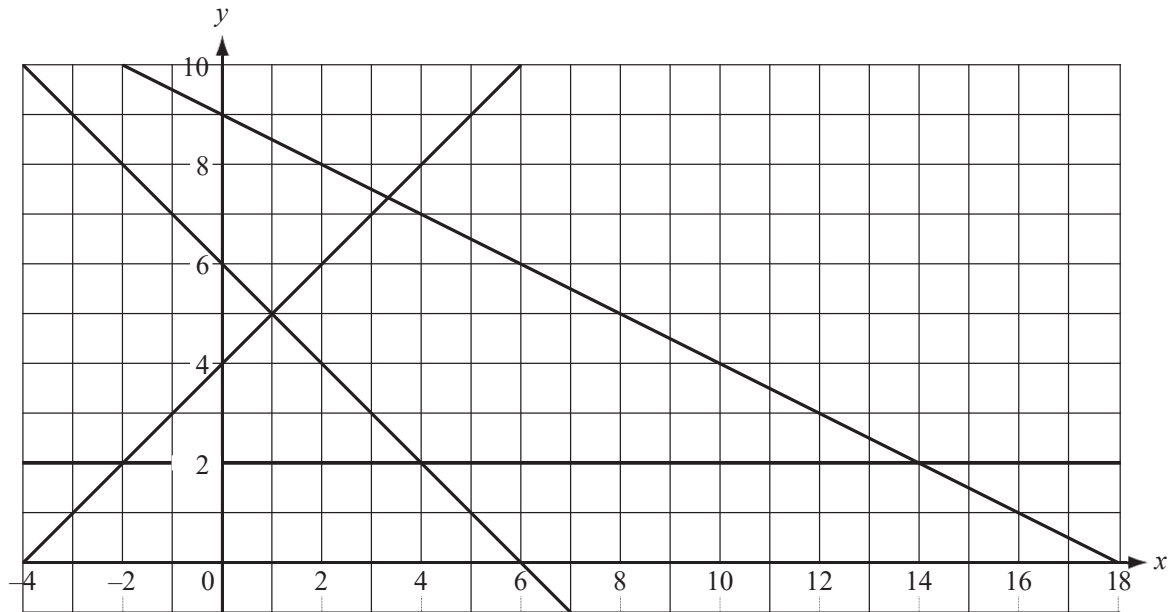Find the four inequalities that define the region that is **not** shaded. [5]

Question 3

Write down the 3 inequalities which define the unshaded region.

[4]

Question 4

By shading the **unwanted** regions of the grid above, find and label the region R which satisfies the following four inequalities.
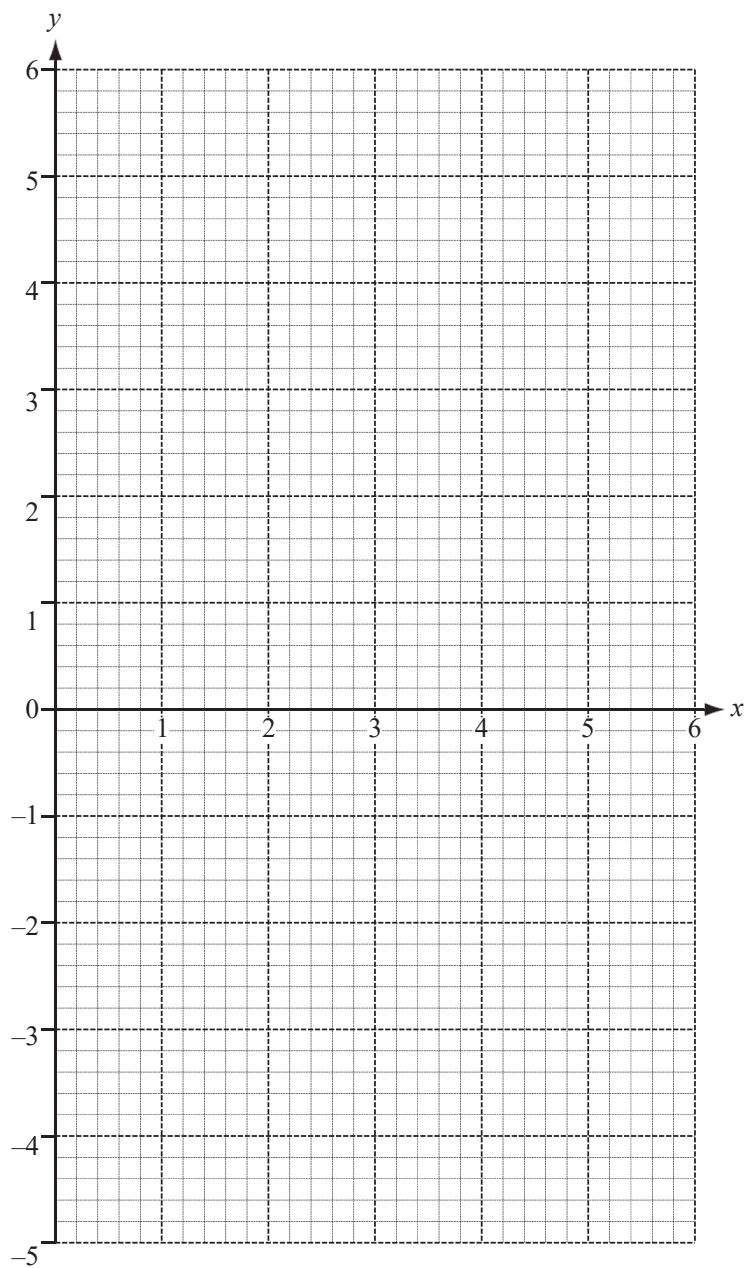
$$y \geqslant 2 \qquad x + y \geqslant 6 \qquad y \leqslant x + 4 \qquad x + 2y \leqslant 18 \qquad [4]$$

Question 5

(a) Draw the three lines $y = 4$, $2x - y = 4$ and $x + y = 6$ on the grid above.   [4]

(b) Write the letter R in the region defined by the three inequalities below.
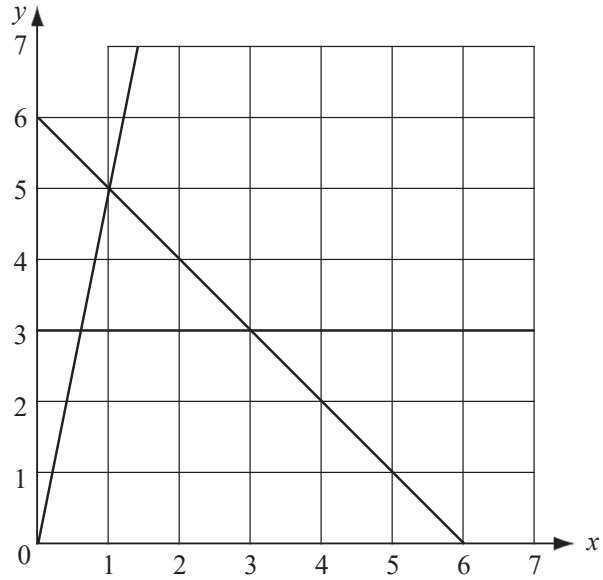
$y \leqslant 4$ $2x - y \geqslant 4$ $x + y \geqslant 6$ [1]

6

Question 6

By shading the **unwanted** parts of the grid above, find and label the region R which satisfies the following three inequalities

$$y \geqslant 3, \qquad y \geqslant 5x \qquad \text{and} \qquad x + y \leqslant 6.$$

[3]

7