

Graphical Inequalities

Difficulty: Hard

Question Paper 1

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

Time allowed: 28 minutes

Score: /22

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%

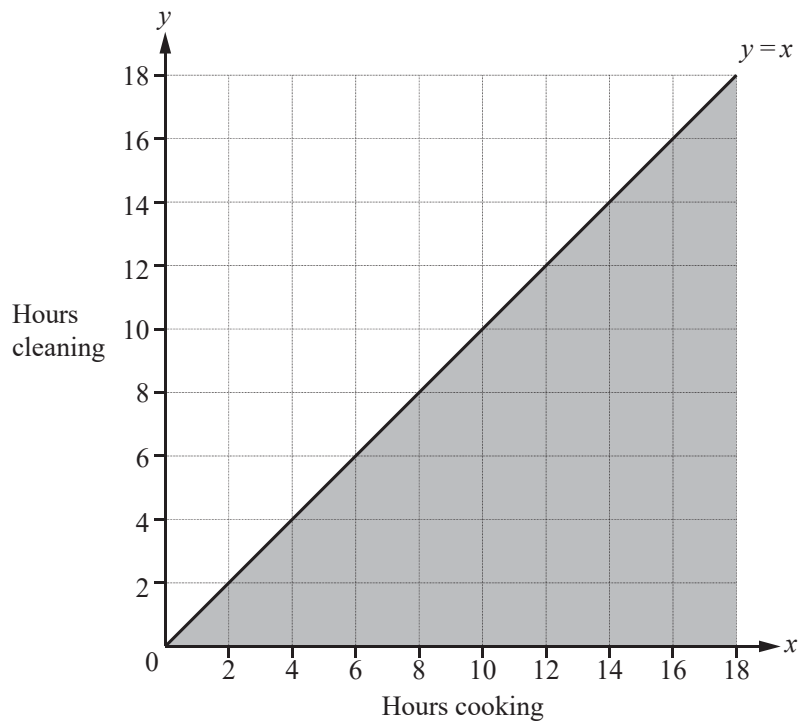
Question 1

In one week, Neha spends x hours cooking and y hours cleaning.
 The time she spends cleaning is at least equal to the time she spends cooking.
 This can be written as $y \geq x$.

She spends no more than 16 hours in total cooking and cleaning.
 She spends at least 4 hours cooking.

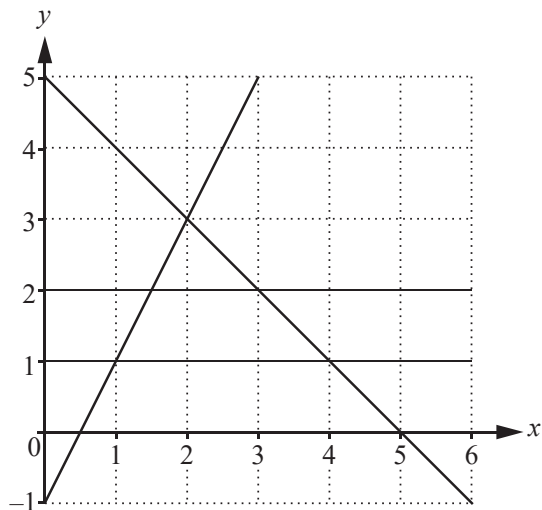
(a) Write down two more inequalities in x and/or y to show this information. [2]

(b) Complete the diagram to show the three inequalities.
 Shade the **unwanted** regions. [3]



(c) Neha receives \$10 for each hour she spends cooking and \$8 for each hour she spends cleaning.
 Work out the largest amount she could receive. [2]

Question 2



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

$$y \leq 2$$

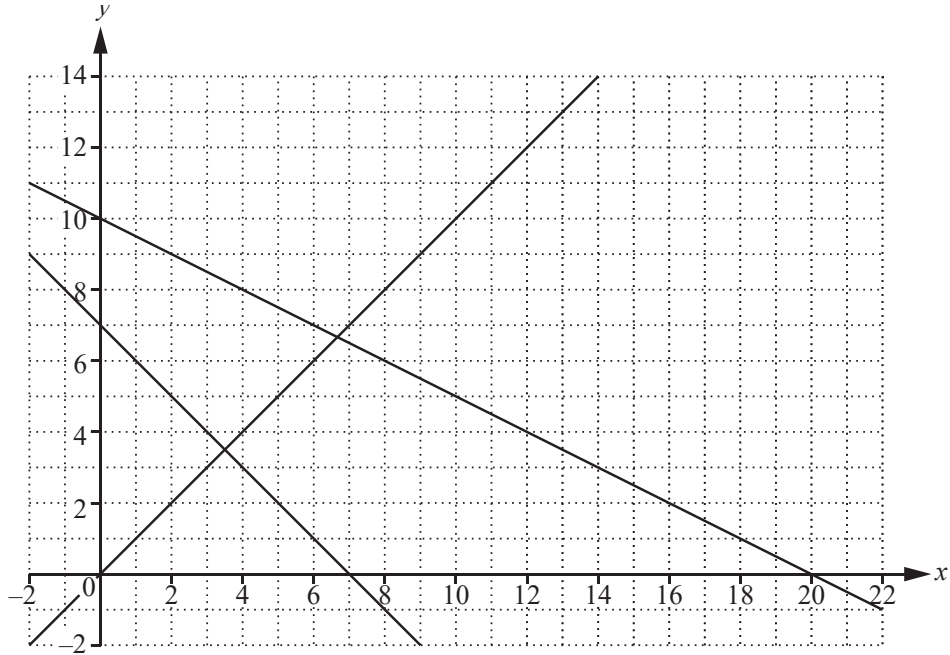
$$y \geq 1$$

$$y \leq 2x - 1$$

$$y \leq 5 - x$$

[3]

Question 3



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

$$x \geq 0$$

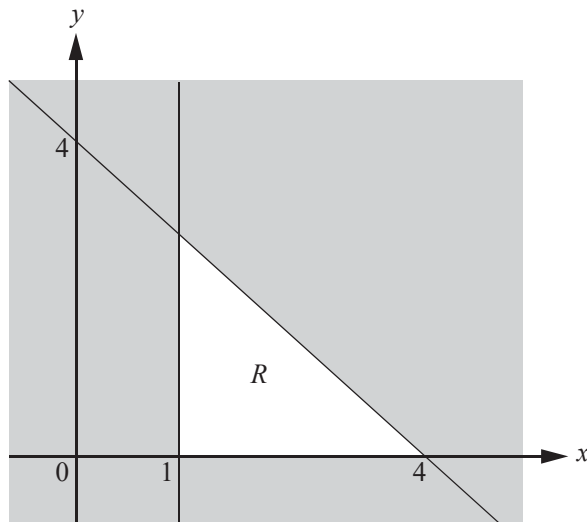
$$x + y \geq 7$$

$$y \geq x$$

$$x + 2y \leq 20$$

[3]

Question 4

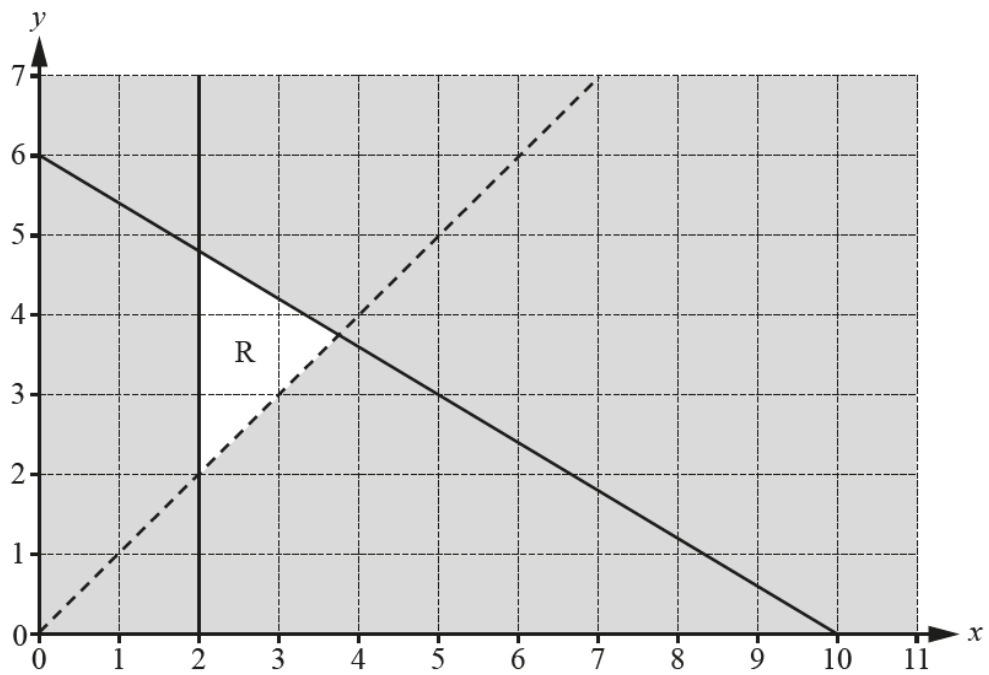


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Write down the three inequalities that define the unshaded region, R .

[4]

Question 5



Find the three inequalities that define the unshaded region, R.

[5]