Name: SOLUTIONS

GCSE (1 - 9) Inequalities on Graphs	Solutions:

These questions are compiled from *released* Pearson Edexcel GCSE maths exam papers
They contain exam questions from up until the ***November 2021*** exam series
More recent exam papers do exist but are withheld for mock exams
As new exam papers are released these worksheets will gradually be updated
The ***most current*** version of these worksheets will always be available at: kennethstafford.co.uk
These worksheets were made using examq.co.uk

Question	Where the question appeared
1	Edexcel, GCSE, Autumn 2021, Paper 1H, Q17
2	Edexcel, GCSE, Autumn 2020, Paper 3H, Q13
3	Edexcel, GCSE, Autumn 2017, Paper 2H, Q14
4	Edexcel, GCSE, Summer 2017, Paper 3H, Q13

1

On the grid show, by shading, the region that satisfies all of these inequalities.

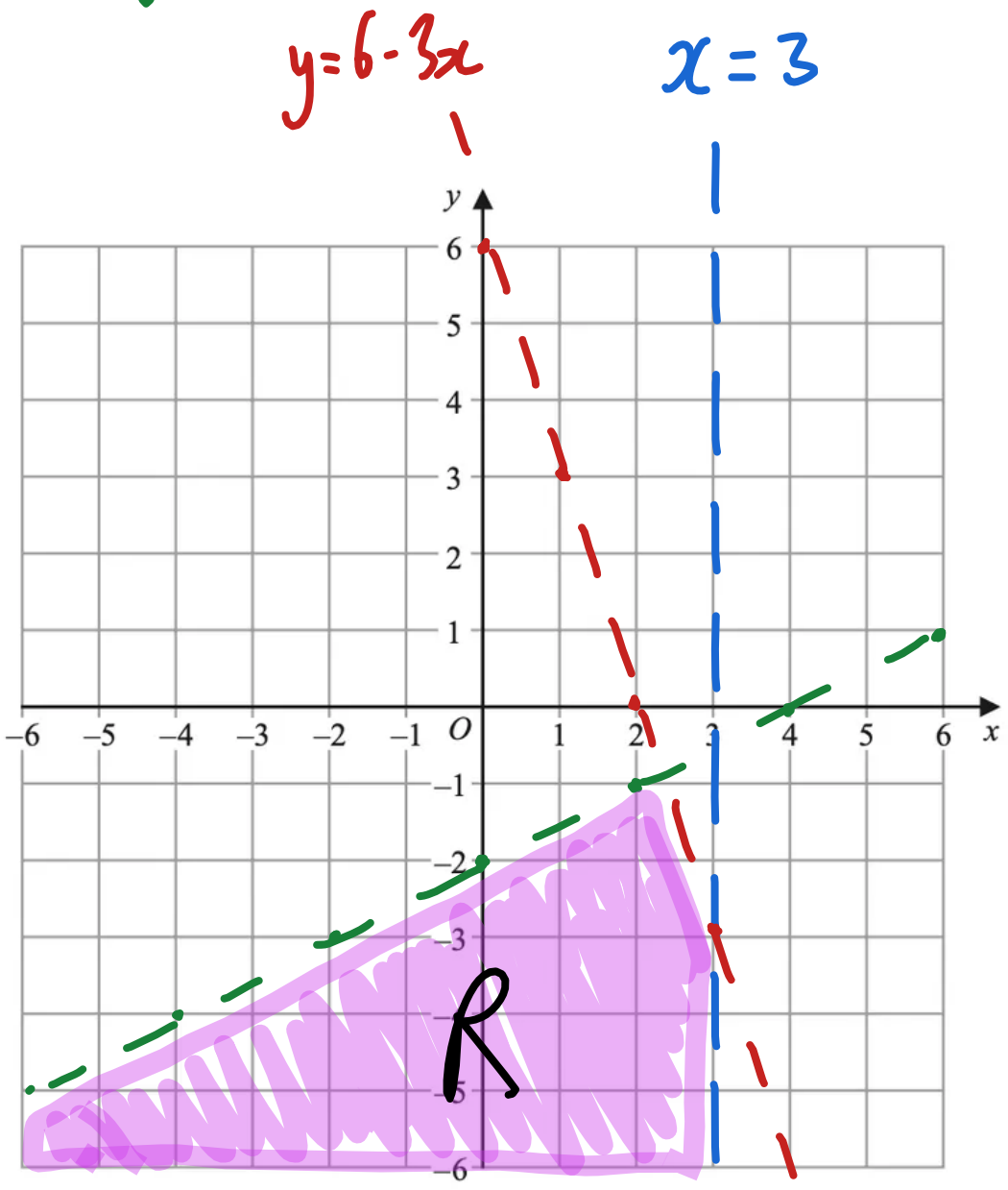
$2y + 4 < x$ $\quad x < 3$ $\quad y < 6 - 3x$

Label the region **R**.

$2y+4=x$ $\quad x=3$ $\quad y=6-3x$

$2y=x-4$

$y=\frac{1}{2}x-2$



(Total for Question 17 is 3 marks)

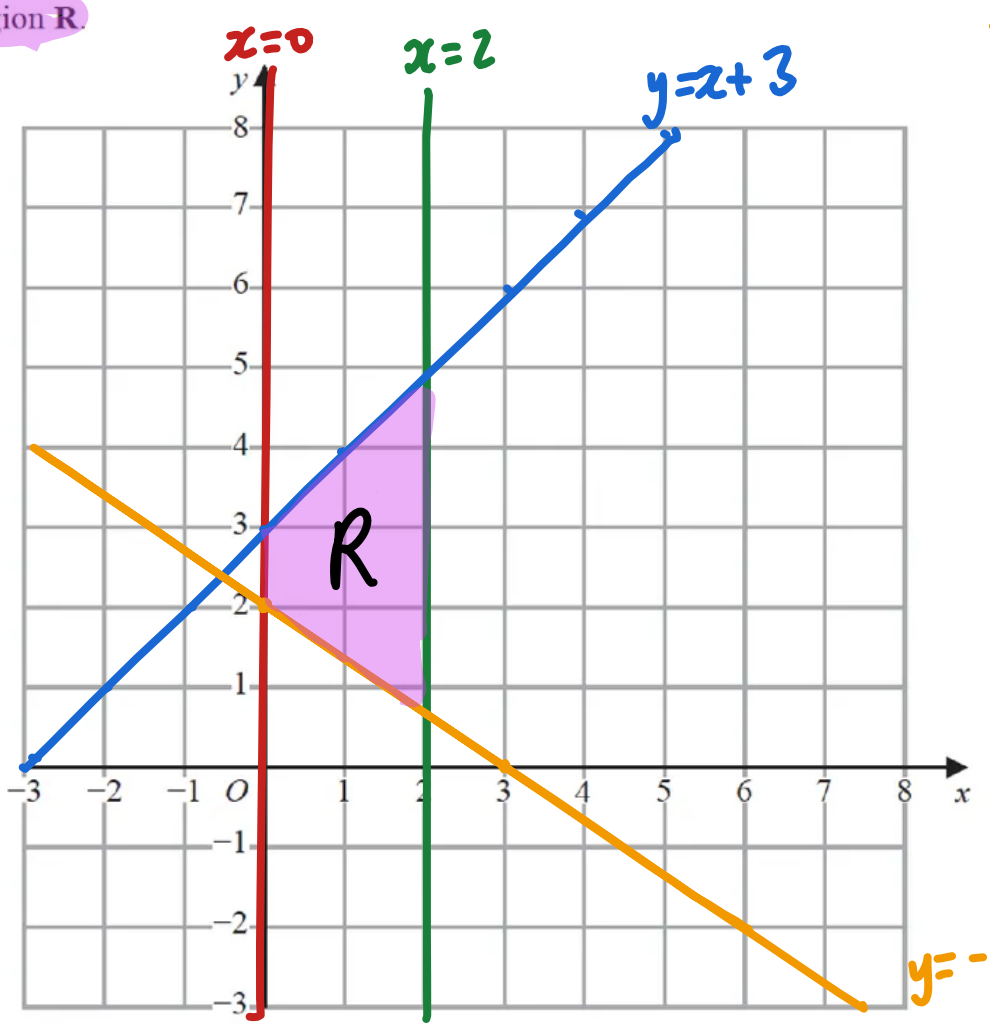
[Edexcel, GCSE, Autumn 2021, Paper 1H, Q17]

2

(a) On the grid show, by shading, the region that satisfies all these inequalities.

$x \geqslant 0$ $x \leqslant 2$ $y \leqslant x + 3$ $2x + 3y \geqslant 6$

Label the region **R**.



$2x+3y=6$

$3y=-2x+6$

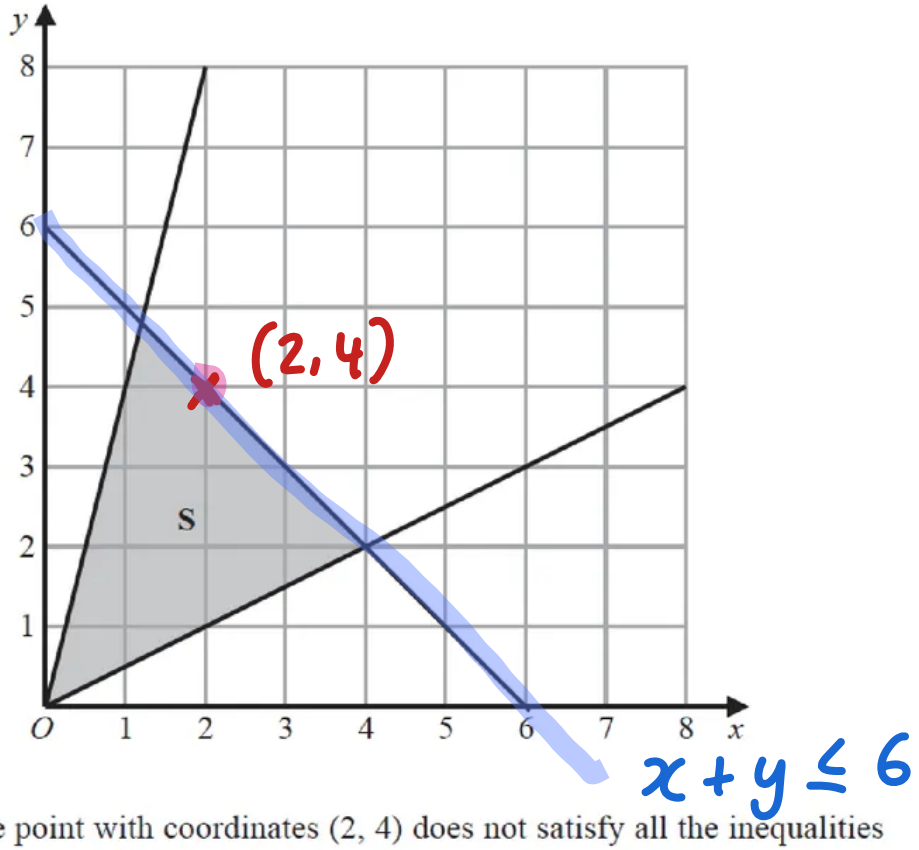
$y=-\frac{2}{3}x+2$

$y=-\frac{2}{3}x+2$

(4)

(b) The diagram below shows the region **S** that satisfies the inequalities

$$y \leqslant 4x \qquad y \geqslant \frac{1}{2}x \qquad x + y \leqslant 6$$



Geoffrey says that the point with coordinates (2, 4) does not satisfy all the inequalities because it does not lie in the shaded region.

Is Geoffrey correct?
You must give a reason for your answer.

No he isn't correct.
(2, 4) lies on the boundary of $x + y \leq 6$
and satisfies the inequality because of the less than or equal to symbol.

(1)

(Total for Question 13 is 5 marks)

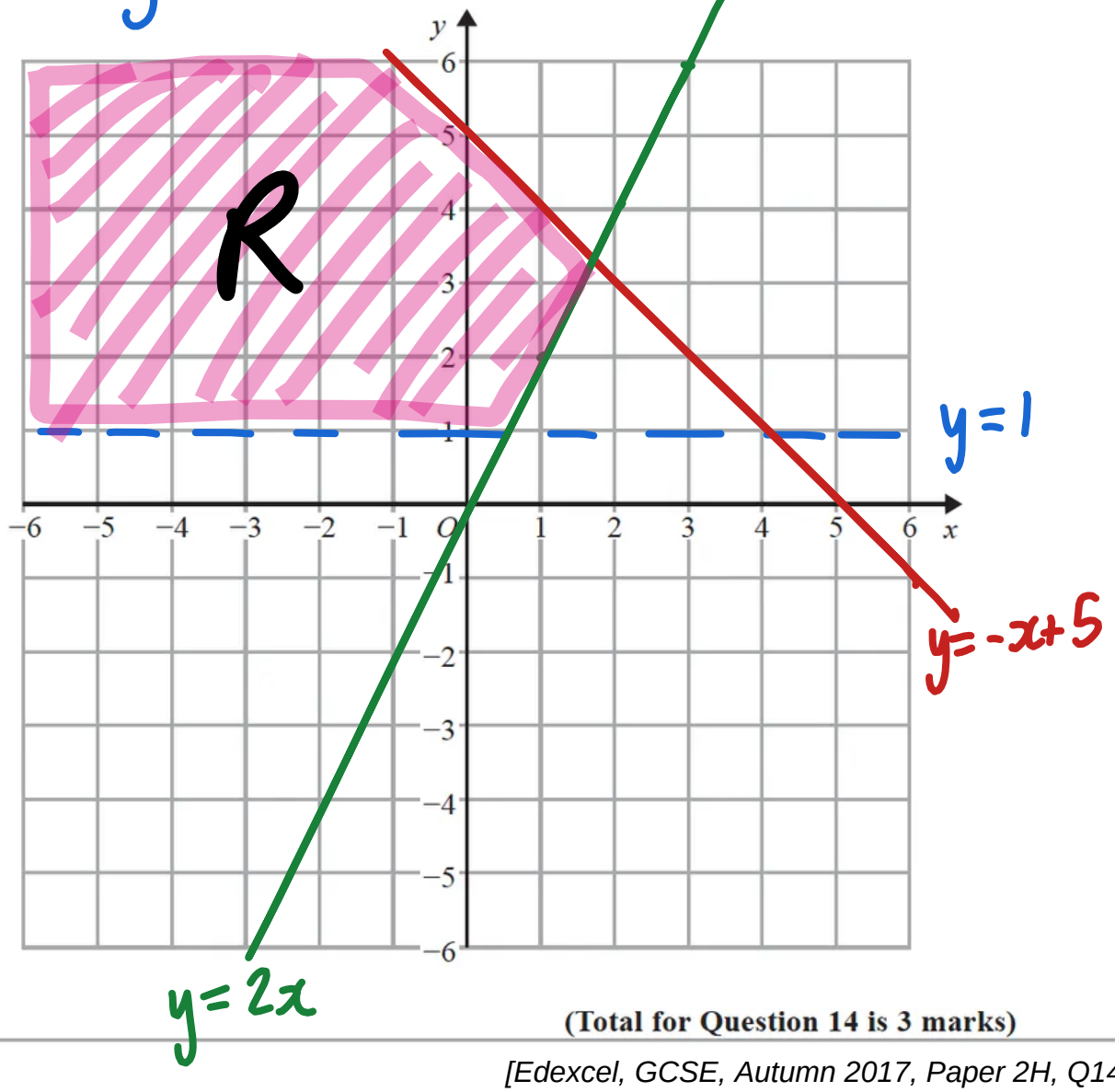
[Edexcel, GCSE, Autumn 2020, Paper 3H, Q13]

3

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

$y > 1$ $x + y < 5$ $y > 2x$

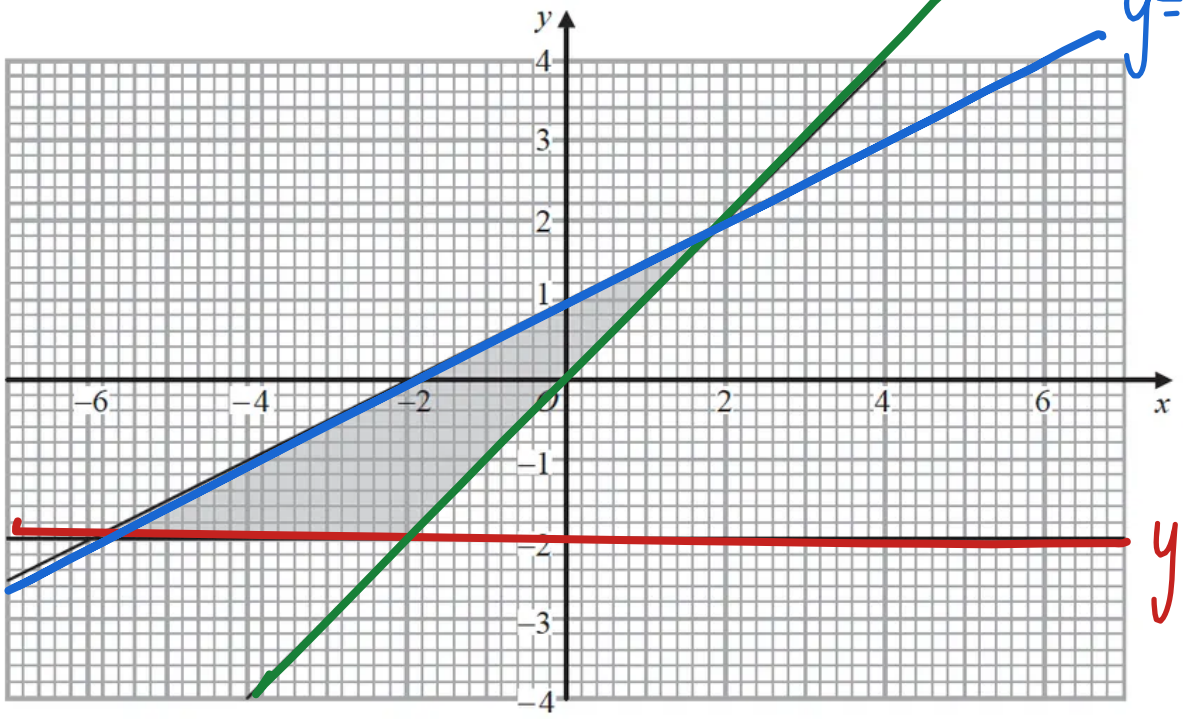
Label the region **R**.



(Total for Question 14 is 3 marks)

[Edexcel, GCSE, Autumn 2017, Paper 2H, Q14]

4



Write down the three inequalities that define the shaded region.

$y \geq x$

$y \geq -2$

$y \leq \frac{1}{2}x + 1$

.....

.....

.....

(Total for Question 13 is 4 marks)

[Edexcel, GCSE, Summer 2017, Paper 3H, Q13]