JRA Tutors
Private tuition and small online Study Pods

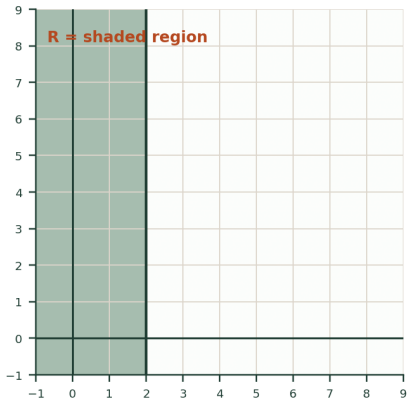
Inequalities on Graphs

Grade 6 topic · Higher tier · Edexcel and AQA

How to use this pack
20 questions that get harder as you go. Questions 1–15 (55 marks) build up to the harder Grade 8–9 style questions at the end; aim to complete all 20. Show your working on the lines and write your final answer on the answer line, then mark yourself with the answers at the back. Diagrams are not drawn accurately. Total: 74 marks.

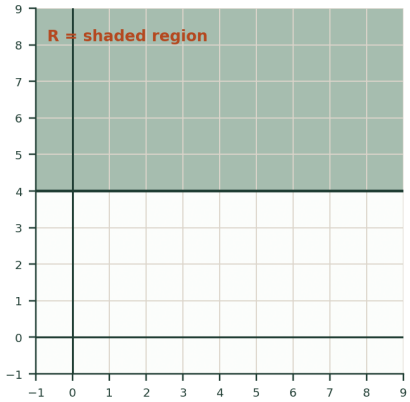
Warm-up

1 The shaded region R is bounded by the line $x = 2$. Write down the inequality that describes R. **[2 marks]**



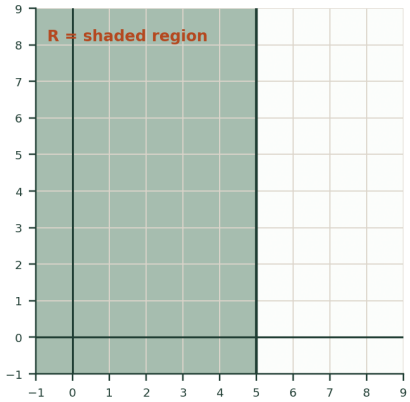
Answer _____

2 The shaded region R is bounded by the line y = 4. Write down the inequality that describes R. **[2 marks]**



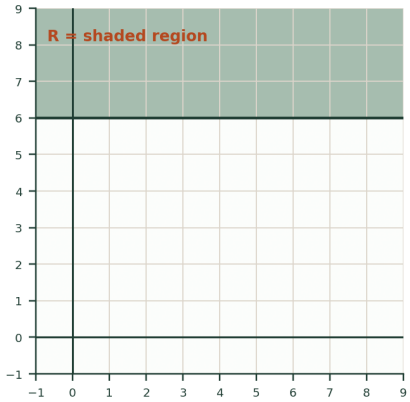
Answer _____

3 The shaded region R is bounded by the line x = 5. Write down the inequality that describes R. **[2 marks]**



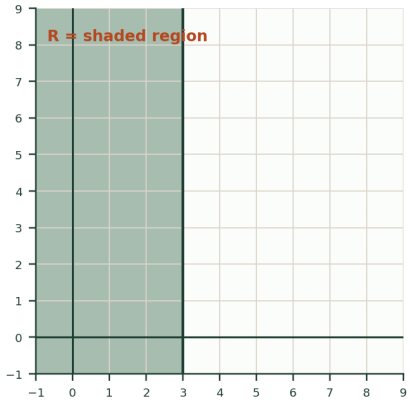
Answer _____

4 The shaded region R is bounded by the line y = 6. Write down the inequality that describes R. **[2 marks]**



Answer _____

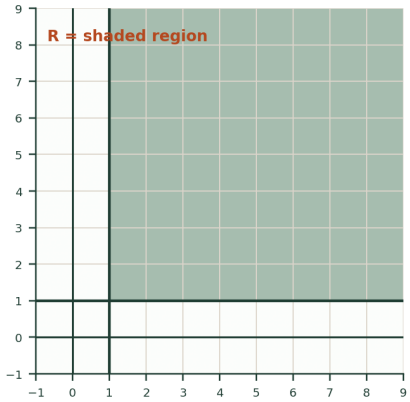
5 The shaded region R is bounded by the line x = 3. Write down the inequality that describes R. **[2 marks]**



Answer _____

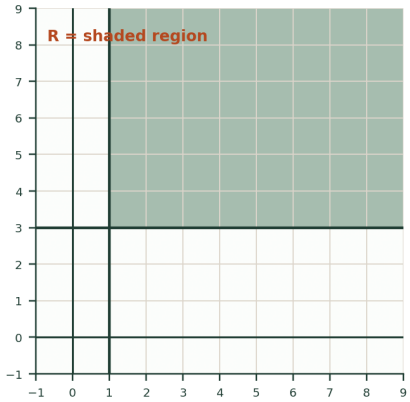
Core

6 The shaded region R is bounded by two lines. Write down the two inequalities that define R. **[4 marks]**



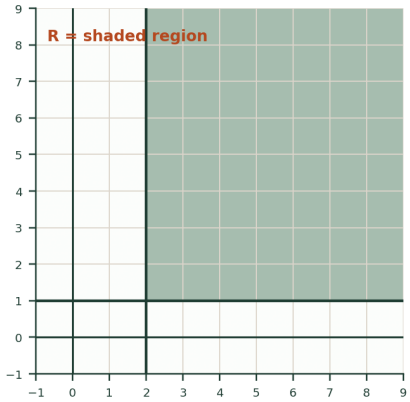
Answer _____

7 The shaded region R is bounded by two lines. Write down the two inequalities that define R. **[4 marks]**



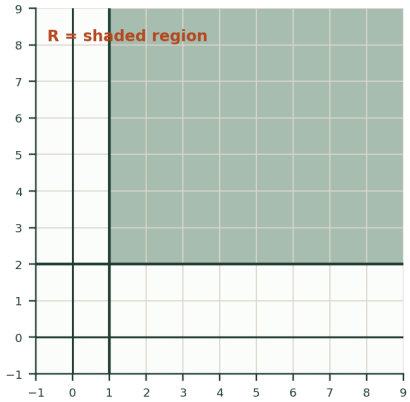
Answer _____

8 The shaded region R is bounded by two lines. Write down the two inequalities that define R. **[4 marks]**



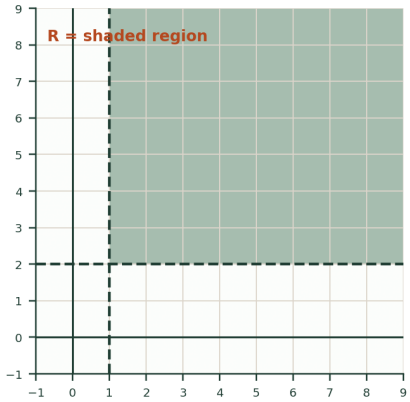
Answer _____

9 The shaded region R is bounded by two lines. Write down the two inequalities that define R. **[4 marks]**



Answer _____

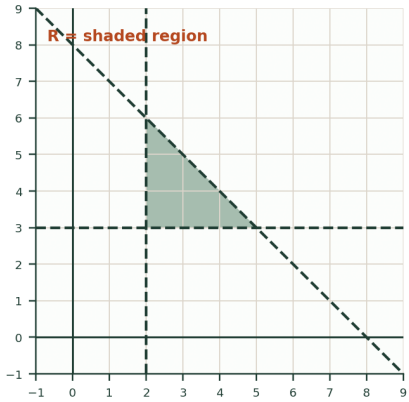
10 The shaded region R is bounded by two lines. Write down the two inequalities that define R. **[4 marks]**



Answer _____

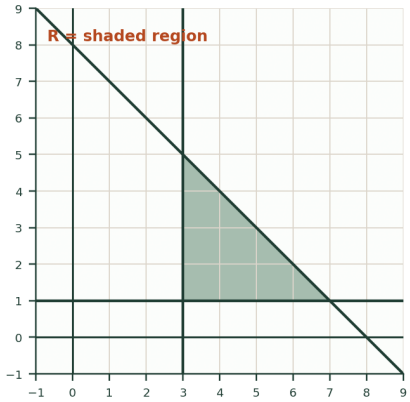
Stretch

11 The shaded region R is bounded by three lines. Write down the three inequalities that define R. **[5 marks]**



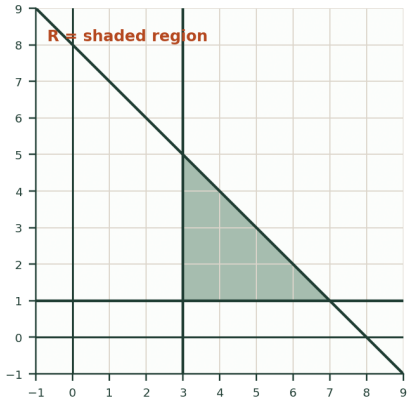
Answer _____

12 The shaded region R is bounded by three lines. Write down the three inequalities that define R. **[5 marks]**



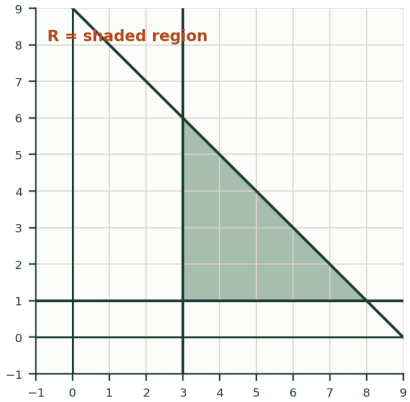
Answer _____

13 The shaded region R is bounded by three lines. Write down the three inequalities that define R. **[5 marks]**



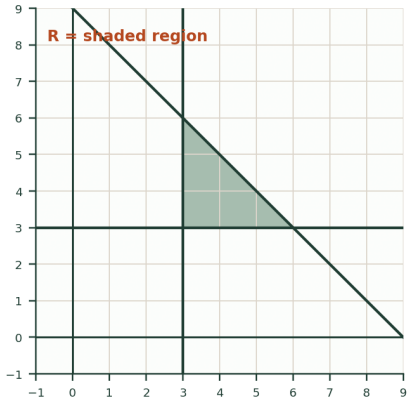
Answer _____

14 The shaded region R is bounded by three lines. Write down the three inequalities that define R. **[5 marks]**



Answer _____

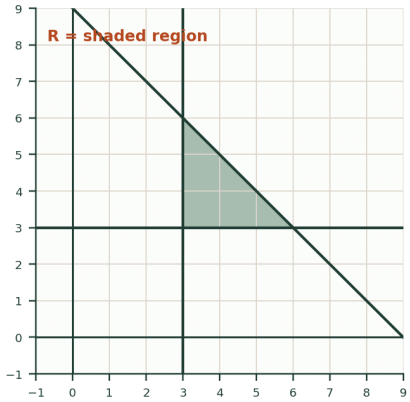
15 The shaded region R is bounded by three lines. Write down the three inequalities that define R. **[5 marks]**



Answer _____

Challenge

16 R is defined by $x \geq 3$, $y \geq 3$ and $x + y \leq 9$. How many points with integer coordinates lie in R (including its boundary where the inequality allows)? **[5 marks]**



Answer _____

17 R is defined by $x \geq 2$, $y \geq 2$ and $x + y \leq 6$. Find the greatest value of $x + y$ for points with integer coordinates in R. **[5 marks]**

Answer _____

18 Is the point (3, 4) in the region $x > 2$, $y > 3$, $x + y < 9$? Show your working. **[4 marks]**

Answer _____

19 On a graph, how do you show that a boundary line is not included in the region (for < or >)? **[2 marks]**

Answer _____

20 Write down the inequality for the region below the line $y = 2x + 1$. **[3 marks]**

Answer _____