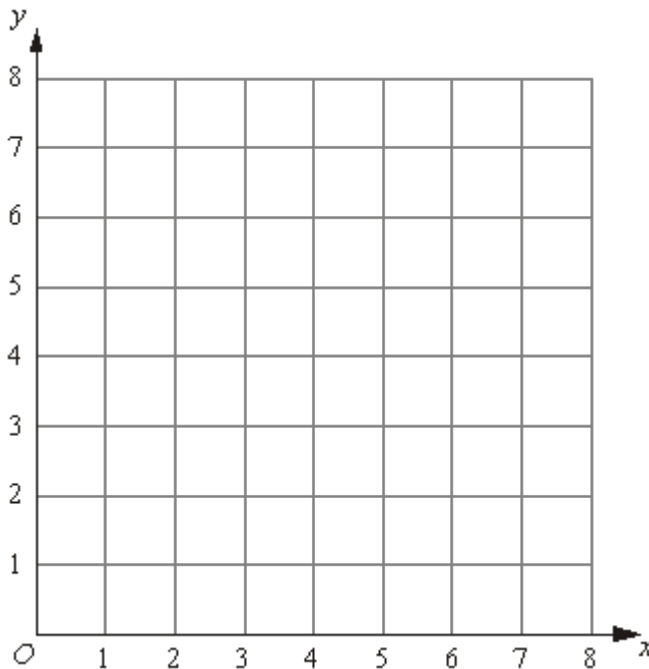**Q1.**　　　The region **R** satisfies the inequalities

$$x \geq 2, \ y \geq 1, \ x + y \leq 6$$

On the grid below, draw straight lines and use shading to show the region **R**.

(Total 3 marks)

Q2.　　　(a)　　Solve the inequality

$$3t + 1 < t + 12$$

....

(2)

　　　(b)　　*t* is a whole number.
　　　　　　Write down the largest value of *t* that satisfies

$$3t + 1 < t + 12$$

....

(1)
(Total 3 marks)

M1.

Answer	Mark	Additional Guidance
Region indicated	3	**M1** Both $x = 2$ drawn from at least (2, 1) to (2, 4) and $y = 1$ drawn from at least (2, 1) to (5, 1) **M1** for $x + y = 6$ drawn from at least (2, 4) to (5, 1) **A1** Correct region indicated by shading or clearly labelled. Boundaries of the region may be solid or dashed.
		Total for Question: 3 marks

M2.

	Working	Answer	Mark	Additional Guidance
(a)	$3t + 1 < t + 12$ $3t - t < 12 - 1$ $2t < 11$	$t < 5.5$	2	**M1** $3t - t < 12 - 1$ **A1** $t < 5.5$ oe (**B1** for $t = 5.5$ or $t > 5.5$ or 5.5 or $t \le 5.5$ or $t \ge 5.5$ on the answer line)
(b)		5	1	**B1** for 5 or ft (a)
				Total for Question: 3 marks

E1.   Many candidates knew that they had to draw lines but were unable to interpret the inequality signs as meaning just 1 line, so rectangles as the required region were common. There was some confusion between the line $x = 2$ and the line $y = 2$, but sadly the line $x + y = 6$ was often drawn as the two lines $x = 6$ and $y = 6$. Candidates who drew the correct lines often had no difficulty in identifying the correct region.

E2.   **Specification A**

In part (a) many candidates did not show a good understanding of working with inequalities, often replacing the < sign with an = sign at the first opportunity. Algebraic manipulation within the inequality was often poorly handled and it was not uncommon for candidates to add 1 to both sides or add t to both sides. Some who showed $t < 5.5$ or $t < 11/2$ in their working then wrote $t = 5.5$, or $t = 5$ or just 5.5 on the answer line and could not be awarded the accuracy mark. Candidates were more successful in part (b). Those who were correct in part (a) generally achieved the mark in part (b) as well. Some candidates solved part (b) independently from part (a) by substituting integer values into the inequality.

Specification B

Many candidates interpret these inequalities as equations and come out with $t = 5.5$. Generally they were able to go on and give the correct answer for part b. There was more trial and improvement seen but this often led to no marks, either because the 5.5 was not spotted or the answer was given as 5.5 rather than $t < 5.5$. Only the correct answer got the marks with trial and improvement. Anything else scored zero marks.