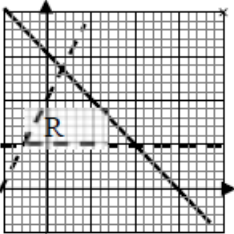
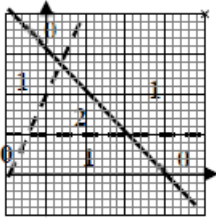
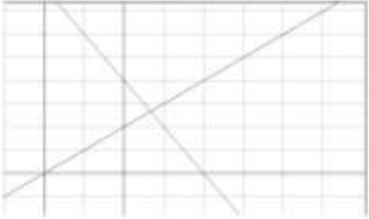
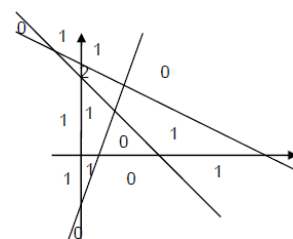
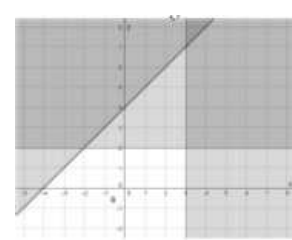
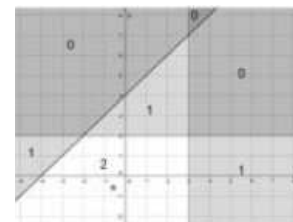
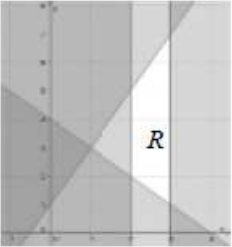
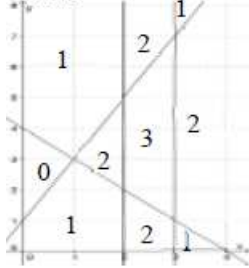
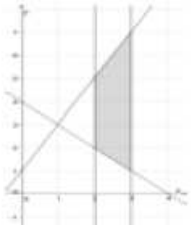


Question	Answer	Marks	AO Element	Notes	Guidance
1(a)	$10y + 8x \leq 80$ oe final answer $x > 4$ oe final answer $2y > x - 4$ oe final answer	3		B1 for each If 0 scored, SC1 for $10y + 8x < 80$ oe final answer and $x \geq 4$ oe final answer and $2y \geq x - 4$ oe final answer	
1(b)	23 final answer	2		M1 for 7 and 2 selected soi	

Question	Answer	Marks	AO Element	Notes	Guidance
2	3 correct ruled lines and R clearly indicated 	5		B1 for each line $y = 1$ dashed $y = 2x + 2$ dashed $x + y = 3$ solid B2 for correct region or B1 for region satisfying 2 inequalities  or SC1 for shading of the wanted region only	

Question	Answer	Marks	AO Element	Notes	Guidance
3	$x + y < 4$ $y \geq 1.5$ $y \leq 2x + 1$	4		B3 for any two correct OR B1 for $y \geq 1.5$ B2 for $x + y < 4$ or $y \leq 2x + 1$ or $x + y = 4$ and $y = 2x + 1$ or with incorrect inequality signs or B1 for $x + y = 4$ or $y = 2x + 1$ or SC3 for $>$ instead of $\geq$ etc.	
4(a)	Correct lines and correct region clear 	5		B2 for $2x + y = 8$ correctly ruled or B1 for ruled line with negative gradient B1 for $y = x$ correctly ruled B1 for $x = 2$ correctly ruled	
4(b)	6	1			

Question	Answer	Marks	AO Element	Notes	Guidance
5(a)	<i>R</i> identified correctly	2		B marks 	
5(b)	7	1			
6	Correct lines and region indicated 	5		B1 for $y = 2$ solid line B1 for $x = 3$ dashed line B1 for $y = x + 4$ solid line B2, B1 or B0 for region 	

Question	Answer	Marks	AO Element	Notes	Guidance
7	Correct region identified 	3		B marks  or SC1 for 	
8	$y > 2$ oe final answer $y \geq 3 - x$ oe final answer	3		B1 for $y > 2$ oe final answer B2 for $y \geq 3 - x$ oe final answer or B1 for $y = 3 - x$ oe soi or SC2 for $y \geq 2$ oe and $y > 3 - x$ oe final answer	

Question	Answer	Marks	AO Element	Notes	Guidance
9	$y \geq 1.5$ oe $y \geq \frac{3}{4}x$ oe $y < -\frac{1}{2}x + 3$ oe	4		SC3 for $y > 1.5$ oe and $y > \frac{3}{4}x$ oe and $y \leq -\frac{1}{2}x + 3$ oe or B3 for any two correct inequalities or B1 for $y \geq 1.5$ oe and B2 for $y \geq \frac{3}{4}x$ oe or $y < -\frac{1}{2}x + 3$ oe or $y = \frac{3}{4}x$ oe and $y = -\frac{1}{2}x + 3$ oe or with incorrect inequality signs or B1 for $y = \frac{3}{4}x$ oe OR $y = -\frac{1}{2}x + 3$ oe or with incorrect inequality signs	

Question	Answer	Marks	AO Element	Notes	Guidance
10(a)	$x \geq 2$ oe $y \leq 5$ oe $y \geq \frac{1}{2}x$ oe	4		SC3 for $x > 2$ and $y < 5$ and $y > \frac{1}{2}x$ OR B1 for $x \geq 2$ B1 for $y \leq 5$ B2 for $y \geq \frac{1}{2}x$ or M1 for $y \geq kx$ ($k > 0$) OR SC2 for all three boundary lines identified but with incorrect sign(s) If 0 scored SC1 for one or two correct boundary lines with incorrect sign(s)	
10(b)	(5, 4)	2		M1 for one trial of an integer point inside region or for $3x + 5y = 35$ drawn	

Question	Answer	Marks	AO Element	Notes	Guidance
11(a)	$y > x$ $x \geq 15$ $y < 50$ $x + y \leq 70$	4		B1 for each	
11(b)	Four correct ruled lines and correct region indicated	5		all lines ruled B1 for $y = x$ broken B1 for $x = 15$ B1 for $y = 50$ broken B1 for $x + y = 70$	
11(c)	189	2		M1 for (21, 49) seen or for $2x + 3y$ written for a point (x, y) in <i>their</i> region where x and y are integers	
12	1 mark for $y < 8$ 3 marks for $y \geq 6 - x$ oe and $y \geq x + 2$ oe	4		B2 for either $y \geq 6 - x$ oe or $y \geq x + 2$ oe or SC2 for $y = 6 - x$ oe and $y = x + 2$ oe or SC1 for $y > 6 - x$ or $y = 6 - x$ or $y > x + 2$ or $y = x + 2$	

Question	Answer	Marks	AO Element	Notes	Guidance
[Total: 59]					