1(a)	$x + y \leqslant 5$ oe $y \leqslant 2x - 1$ oe $y \geqslant -2$ oe	**2**	**B1** for two correct
1(b)	1.5 oe	**1**	
2(a)	4.5 oe	**1**	
2(b)	$x < 4.5$ **and** $y < 6$ **and** $3y + 4x > 18$ oe	**2**	**FT** $x <$ *their* **(a)** if > 0 **B1** for one of $x <$ *their* 4.5 or $y < 6$ or $3y + 4x > 18$ oe
3 a	Irrational number in range $4.5 \leqslant n \leqslant 5.5$	**1**	
b	$n > -\frac{9}{4}$ oe final answer	**2**	**M1** for correct isolation of terms in n e.g. $2n + 6n$ […] $5 - 23$
4	$x \geqslant -4$ oe $y \geqslant 2$ oe $y \leqslant -\frac{1}{2}x + 5$ oe	**2**	**B1** for two of $x \geqslant -4$, $y \geqslant 2$, $y \leqslant -\frac{1}{2}x + 5$ oe
5(a)	$y > 2$ **and** $y < 2x$ oe	**2**	**B1** for $y > 2$ or $y < 2x$ oe If 0 scored, **SC1** for both boundary lines, soi
5(b)	4 **and** 5	**2**	**B1** for one correct with no extras or **M1** for substituting $y = 7$ into $2x + 3y = 32$ or $y = 2x$ leading to $x = 5.5$ oe or $x = 3.5$ oe
6	$x \leqslant 5$ $y \geqslant 3$ $y \leqslant x + 1$ oe	**3**	**B1** for each inequality If 0 scored, **SC1** for three correct equations soi
7	Correct region shaded bounded by $x = 2$, $x = 8$, $y = 5$, $y = 10$ and $x + y = 10$	**3**	**B1** for line $x + y = 10$ **B1** for at least three correct lines from $x = 2$, $x = 8$, $y = 5$, $y = 10$
8(a)	–1, 0, 1	**1**	
8(b)	Correct fraction	**1**	E.g. $\frac{2}{3}, \frac{3}{5}, \frac{5}{8}, \frac{7}{10}, \frac{6}{10}$ etc.
8(c)	Irrational number between 2 and 3	**1**	E.g. $\sqrt{5}$, $\frac{2\pi}{3}$ etc.

9(a)	$7x + 5y > 35$ oe **and** $x < 4$ oe **and** $y < 5$ oe	**2**	**C1** for two inequalities correct; or for x ... 4 and y ... 5 (with "..." $\neq$ " < ").
9(b)	3 nfww	**2**	**B1** for x-coord. of A is $\frac{10}{7}$ oe; or for eqn. of OA is $y = \frac{7}{2}x$ oe

10 (a)	$(0,\ 4\frac{1}{3})$	1	
(b)	$x \geqslant 1$ oe, $y \geqslant 2$ oe, $3y + 2x \geqslant 13$ oe – all three	2	**C1** for one or two correct, or for x ... 1 oe, y ... 2 oe, $3y + 2x$ ... 13 oe, with incorrect "..." .
(c)	(6, 2)	1	

11 (a)	$x + y \leqslant 8$ oe $2y \geqslant x + 4$ oe $x \geqslant 0$	2	**C1** for two correct
(b)			

12 (a)	$x > 3$; $y < 6$; $y > x + \frac{1}{2}$; oe all three	2	**C1** for 2 correct; or for $x \geqslant 3$; $y \leqslant 6$; $y \geqslant x + \frac{1}{2}$; oe all three
(b)	5	1	or for one correct strict inequality, **and** the other two correct, but with equality as well.

13	(1, 6) (1, 5) (1, 4)	2	**B1** for 2 correct no extras Or 3 correct no more than 5 extras After **B0** allow **SC1** for lines $x = 2$ and $y = 7$ drawn on the diagram

14(a)	$x > 2$ oe **and** $6x + 7y < 42$ oe	**2**	**B1** for one correct or for x ... 2 oe **and** $6x + 7y$ ... 42 oe, with incorrect (in)equalities for ... .
14(b)	Both 1 **and** 2, only, nfww	**2**	**B1** for C is (2, 4. ...) oe; or for gradient of $OC = 2$. ... oe

15 (a)	0.5	1	
(b)	$x \geqslant 1$ $y \geqslant 0.5x + 1$oe	2	FT *their* gradient in $y \geqslant mx + 1$ **B1** for one correct Or **B1** for both $x = 1$ **and** $y = 0.5x + 1$ soi

16 (a)	(8, 10)	**1**	
(b)	$x > 8$ oe $2y > 12 + x$ oe	**1** **1**	If 0 scored, then **C1** for $x \geqslant 8$ oe **and** $2y \geqslant 12 + x$ oe.
(c)	(9, 11)	**1**	

17	**(a)**	B C D	1	
	(b)			
	(c)	$y < \frac{1}{2}x$ oe	1	

18	**(a)**	F	1	
	(b)	E	1	

19	**(a)** **(i)** 4	**1**	
	(ii) 2	**1**	
	(b) Both $a = 1$ and $b = 2$.	**1**	
	$c = 6$	**1**	