Question	Scheme	Marks	AOs
2(a)	$A(-3,0)$ and $B(2.5,\ 22)$		
	$m=\dfrac{22-0}{2.5--3}=\dfrac{22}{5.5}\{=4\}$	M1	1.1b
	$y-22="4"(x-2.5)$ or $y-0="4"(x--3)$ or $0="4"\times-3+c\Rightarrow c=...$ or $22="4"\times2.5+c\Rightarrow c=...$	dM1	1.1b
	$y=4x+12$	A1	1.1b
		(3)	

(a) Notes

M1: Attempts Gradient $=\dfrac{22-0}{2.5--3}$.

Condone 1 sign/copying slip only if a correct formula is seen or implied e.g. $\dfrac{y_2-y_1}{x_2-x_1}$

Alternatively solves two simultaneous equations, e.g. $22=\dfrac{5}{2}m+c$ and $0=-3m+c$ to find a value for m **or** c.

dM1: Uses $y-y_1=m(x-x_1)$ with either $A(-3,0)$ or $B(2.5,\ 22)$ or e.g. $\left(-\dfrac{1}{4},\ 11\right)$ (midpoint) and their $m="4"$ with the values correctly placed.

If $y=mx+c$ is used they must proceed as far as $c=\ldots$

Alternatively solves two simultaneous equations, e.g. $22=\dfrac{5}{2}m+c$ and $0=-3m+c$ to find m **and** c.

A1: $y=4x+12$ or $y=12+4x$ only.

If they use e.g. $\dfrac{y}{22-0}=\dfrac{x+3}{2.5--3}$ both M's can be scored together.

Condone 1 sign/copying slip only if a correct formula is seen or implied.

Correct answer only scores full marks.

(b)	$y < 4x + 12$ $y \geqslant 2x^2 + 5x - 3$	B1ft	2.2a
	$2x^2 + 5x - 3 \leqslant y < 4x + 12$	B1ft	1.1b
		(2)	
			(5 marks)

(b) Notes

B1ft: Deduces one of $y <$ "$4x+12$" o.e. or $y \geqslant 2x^2 + 5x - 3$ o.e.

They must have an equation for l and it must be the equation of a straight line.

B1ft: $y <$ "$4x+12$" **and** $y \geqslant 2x^2 + 5x - 3$

o.e. e.g. $2x^2 + 5x - 3 \leqslant y <$ "$4x + 12$", or $y <$ "$4x + 12$", $y \geqslant 2x^2 + 5x - 3$

Note: For what is an otherwise correctly defined region, if there are any extra inequalities that are contradictory e.g. $-3 < x < 0$ then withhold the second B mark but note that $-3 \leqslant x \leqslant \frac{5}{2}$ or anything "wider" is fine. (Do not be concerned about strictness)

Condone the use of "or" or "$\cup$" for the first B mark but $y <$ "$4x+12$" **or** $y \geqslant 2x^2 + 5x - 3$ or $y <$ "$4x+12$" $\cup$ $y \geqslant 2x^2 + 5x - 3$ scores B1B0

They must have an equation for l and it must be the equation of a straight line.

Note: Apply isw if the correct inequalities are written separately but are then combined incorrectly.

Note: Inequalities cannot be in terms of R e.g. $2x^2 + 5x - 3 \leqslant R <$ "$4x + 12$"

Alternatively, some candidates may express their inequalities involving a boundary for a dashed line with $\leqslant$ or $\geqslant$ and a boundary for a solid line with $<$ or $>$.

It may not always be clear so mark positively.

e.g.

B1ft: Deduces one of $y \leqslant$ "$4x + 12$" o.e. or $y > 2x^2 + 5x - 3$ o.e.

They must have an equation for l and it must be the equation of a straight line.

B1ft: $y \leqslant$ "$4x+12$" **and** $y > 2x^2 + 5x - 3$ o.e. e.g. $2x^2 + 5x - 3 < y \leqslant$ "$4x+12$"

They must have an equation for l and it must be the equation of a straight line.

In general look at the direction for the first mark to see if one inequality has the correct direction. Then for the second B mark they need correct direction and consistent 'strict' or 'non-strictness' with the other inequality.

So e.g. $y <$ "$4x+12$", $y > 2x^2 + 5x - 3$ scores B1B0

Note that some candidates define R as $-3 < x < \dfrac{5}{2}$ and this scores no marks on its own.