Question Number	Scheme	Marks
1(a)	$4(x-5)<2x-9 \Rightarrow 4x-20<2x-9 \Rightarrow x<...$	M1
	$\Rightarrow x<\frac{11}{2}$	A1
		(2)
(b)	$2x^2-5x-63=0 \Rightarrow (2x+9)(x-7)=0 \Rightarrow x=-\frac{9}{2},7$	M1
	$-\frac{9}{2}\leqslant x\leqslant 7$	**d**M1 A1
		(3)
(c)	$-\frac{9}{2}\leqslant x<\frac{11}{2}$	B1
		(1)
		(6 marks)

Notes

(a)

M1: Attempts to expand the brackets or e.g. divide by 4, collect terms and proceeds to $x\square...$ where $\square$ is any inequality or "=".

A1: $x<\frac{11}{2}$ oe e.g. $x<5.5, (-\infty, 5.5)$ Apply isw once a correct answer is seen.

(b)

M1: Multiplies out the brackets, rearranges and attempts to solve a 3TQ by any **non-calculator** means. Apply the general guidance for solving a 3TQ by factorisation, formula or completing the square. If roots are just written down, this scores M0

Note that e.g. $2x^2-5x-63=0 \Rightarrow x=\frac{-b\pm\sqrt{b^2-4ac}}{2a}=-\frac{9}{2},7$ scores M0

But $2x^2-5x-63=0 \Rightarrow x=\frac{5\pm\sqrt{5^2-4(-63)(2)}}{2\times 2}$ or $\frac{5\pm 23}{4}=-\frac{9}{2},7$ scores M1

dM1: Chooses the inside region for their critical values found via a non-calculator method.

Condone strict inequalities e.g. $-\frac{9}{2}<x<7$ or e.g. $x>-\frac{9}{2}$, $x<7$

Depends on the previous mark.

A1: $-\frac{9}{2}\leqslant x\leqslant 7$ Allow "$x\geqslant -\frac{9}{2}$ **and** $x\leqslant 7$" or $\left[-\frac{9}{2},\ 7\right]$ or $7\geqslant x\geqslant -\frac{9}{2}$

but **not** "$x\geqslant -\frac{9}{2}$ or $x\leqslant 7$" and not "$x\geqslant -\frac{9}{2},\ x\leqslant 7$"

Apply isw once a correct answer is seen but there must be no contradictory inequalities.

(c)

B1: $-\frac{9}{2}\leqslant x<\frac{11}{2}$ Allow "$x\geqslant -\frac{9}{2}$ **and** $x<\frac{11}{2}$" or $\left[-\frac{9}{2},\ \frac{11}{2}\right)$ or $\frac{11}{2}>x\geqslant -\frac{9}{2}$

but **not** "$x\geqslant -\frac{9}{2}$ or $x<\frac{11}{2}$" and not "$x\geqslant -\frac{9}{2}, x<\frac{11}{2}$"

Apply isw once a correct answer is seen but there must be no extra inequalities.