Question	Scheme	Marks
1.	$\det \mathbf{M} = 3x \times (2-x) - (4x+1) \times 7 = ...$	**M1**
	$= -3x^2 - 22x - 7$ or $3x^2 + 22x + 7$	**A1**
	$-3x^2 - 22x - 7 = 0 \Rightarrow (-3x-1)(x+7) = 0 \Rightarrow x = ...$	**M1**
	$-3x^2 - 22x - 7 > 0 \Rightarrow "-7" < x < "-\frac{1}{3}"$	**M1**
	So range is $-7 < x < -\frac{1}{3}$ or $(x \in)\left(-7, -\frac{1}{3}\right)$	**A1**
		(5)
		(5 marks)

Notes:

M1: Attempts to expand the determinant of **M.** Allow with + between the 2 products.

A1: Correct simplified quadratic with = or an inequality sign or neither

M1: Attempts to solve their three term quadratic, any valid means (usual rules – see front pages). Correct answers seen implies correct method. Can be awarded even if the roots are complex.

M1: Chooses the inside region for their roots, accept with strict or loose inequalities.

A1: Correct answer. Accept $x > -7 \cap x < -\frac{1}{3}$