

Question	Scheme	Marks	AOs
3(a)	Attempts $(x-2)^2 + (y+5)^2 = \dots$	M1	1.1b
	Centre $(2, -5)$	A1	1.1b
		(2)	
(b)	Sets $k + 2^2 + 5^2 > 0$	M1	2.2a
	$\Rightarrow k > -29$	A1ft	1.1b
		(2)	

(4 marks)

Notes:

(a)

M1: Attempts to complete the square so allow $(x-2)^2 + (y+5)^2 = \dots$

A1: States the centre is at $(2, -5)$. Also allow written separately $x = 2, y = -5$
 $(2, -5)$ implies both marks

(b)

M1: Deduces that the right hand side of their $(x \pm \dots)^2 + (y \pm \dots)^2 = \dots$ is > 0 or ≥ 0

A1ft: $k > -29$ Also allow $k \geq -29$ Follow through on their rhs of $(x \pm \dots)^2 + (y \pm \dots)^2 = \dots$