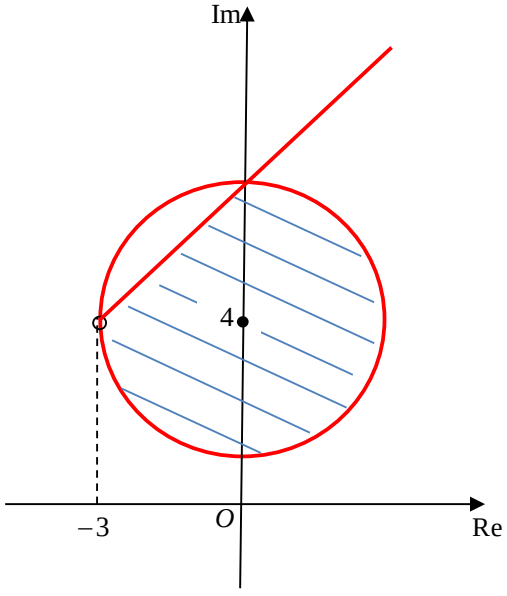
Question	Scheme	Marks	AOs
8(a)		M1	1.1b
		A1	1.1b
		M1	1.1b
		A1	2.2a
		M1	3.1a
		A1	1.1b
		(6)	
(b)	$(\arg w)_{\max} = \frac{\pi}{2} + \arcsin\left(\frac{3}{4}\right)$	M1	3.1a
	$= 2.42$ (2dp) **cao**	A1	1.1b
		(2)	
			(8 marks)

Notes:

(a)
M1: Circle
A1: Centre (0, 4) and above the real axis
M1: Half-line
A1: (– 3, 4) positioned correctly and the half-line intersects the top of the circle on the *y*-axis
M1: Depends on **both** previous M marks Shades in a region inside the circle and below the half-line
A1: cso

Note: Final A1 mark is dependent on all previous marks being scored in part (a)

(b)
M1: Uses trigonometry to give an expression for an angle in the range $\left(\frac{\pi}{2}, \pi\right)$ or (90º, 180º)
A1: 2.42 cao