Question Number	Scheme	Marks
6. (a)	$x = \cos^{-1} 0.4, \Rightarrow x = 1.159, x = -1.159$	M1A1 (2)
(b)	$2\theta + \frac{\pi}{4} = 0.98279..., 4.1244..., 7.26597...$	M1A1
	$\theta = 0.099, \theta = 1.669$	M1A1 (4) **(6)**

Notes

(a)

M1 for one correct value of x **in radians** within the given range

A1 for **both** correct values of x

Special Case; Answers in terms of π (0.369 π and −0.369 π) M1A0

66.422º and −66.422º M1A0

1.16 OR −1.16 M1A0

1.15 OR −1.15 M1A0

(b)

M1 for any correct value of $\left(2\theta+\frac{\pi}{4}\right)$ **in radians** within the given range

A1 for two correct values of $\left(2\theta+\frac{\pi}{4}\right)$.

M1 for at least one correct value of θ . If they have worked in degrees so far, allow this mark for either $\theta =$ 5.655º or 95.655º .

A1 for the 2 correct values as shown.

No working: For both correct answers with no working award M1A1M1A1

For one correct answer with no working seen award M1A0M1A0

Special Case: Working in degrees throughout; 5.655º and 96.655º award M1A0M1A0

<u>Additional notes regarding extra angles and rounding</u>

If they find extra angles **OUTSIDE** of the given range, ignore them.
If they find extra angles **WITHIN** the range deduct one A mark for each angle up to a maximum of 2 A marks for the question as a whole.

Penalised rounding **ONLY ONCE** for the first angle incorrectly rounded. However, an angle given with insufficient decimal places is deemed incorrect and is penalised every time.