

Answer	Marks	Guidance	
$4(1 - \sin^2 x) + 7\sin x - 7 = 0$	M1	Use $\cos^2 x = 1 - \sin^2 x$	Must be used and not just stated Must be used correctly, so M0 for $1 - 4\sin^2 x$.
$4\sin^2 x - 7\sin x + 3 = 0$	A1	Obtain correct quadratic	aef, as long as three term quadratic with all the terms on one side of the equation. Condone $4\sin^2 x - 7\sin x + 3$ ie no $= 0$.
$(\sin x - 1)(4\sin x - 3) = 0$	M1	Attempt to solve quadratic in $\sin x$	Not dependent on previous M1, so could get M0M1 if $\cos^2 x = \sin^2 x - 1$ used. This M mark is just for solving a 3 term quadratic (see guidance sheet for acceptable methods). Condone any substitution used, inc $x = \sin x$.
$\sin x = 1, \quad \sin x = 3/4$	M1	Attempt to find x from roots of quadratic	Attempt \sin^{-1} of at least one of their roots. Allow for just stating \sin^{-1} (their root) inc if $ \sin x > 1$. Not dependent on previous marks so M0M0M1 poss. If going straight from $\sin x = k$ to $x = \dots$, then award M1 only if their angle is consistent with their k .
$x = 90^\circ \quad x = 48.6^\circ, 131^\circ$	A1	Obtain two correct solutions	Allow 3sf or better. Must come from a correct solution of the correct quadratic – if the second bracket was correct but the first was ($\sin x + 1$) then A0 even though 2 solutions will be as required. Allow radian equivs – $\pi/2$ or 1.57 / 0.848 / 2.29.
	A1	Obtain all 3 correct solutions, and no others	Must now all be in degrees. Allow 3sf or better. A0 if other incorrect solutions in range $0^\circ - 360^\circ$ (but ignore any outside this range).
	[6]		SR If no working shown then allow B1 for each correct solution (max of B2 if in radians, or if extra solns in range). © OCR