

3(a)	Obtain $3\sin x + 4\cos x$
	State $R = 5$
	Use trig formula to find α e.g. $\alpha = \tan^{-1}\left(\frac{3}{4}\right)$
	Obtain $\alpha = 36.9^\circ$ (or awrt 36.9°)
3(b)	Evaluate $\cos^{-1}\left(\frac{-4}{R}\right)$
	Carry out a correct method to find a value of θ in the given interval
	Obtain answer, e.g. $60(.0)^\circ$
	Obtain a second answer, e.g. 84.6° and no other in the interval

7(a)	Expand $5\sin\left(x + \frac{\pi}{6}\right) - 4\cos x$ to obtain $\frac{5}{2}\sqrt{3}\sin x - \frac{3}{2}\cos x$
	State $R = \sqrt{21}$
	Use correct trig formulae to obtain $\tan \alpha$
7(b)	Obtain $\alpha = 0.333$
	$\sin^{-1}\left(\frac{\sqrt{7}}{\sqrt{21}}\right)$
	Use a correct method to obtain a value of θ in the interval
	Obtain one correct answer, e.g. 0.47
	Obtain second correct answer, e.g. 1.43, and no others in the interval

4	Use correct trigonometric formulae to form an equation in $\tan x$ only, or an equation in terms of $\sin x$ and $\cos x$ only
	e.g. $\frac{3}{\tan x} - 4 \left(\frac{1 - \tan^2 x}{2 \tan x} \right) = 3$
	$\frac{3}{\tan x} - \frac{4}{\frac{2 \tan x}{1 - \tan^2 x}} = 3$
	$3 \frac{\cos x}{\sin x} - 4 \frac{\cos^2 x - \sin^2 x}{2 \sin x \cos x} = 3$
	$3 \cot x - 4 \left(\frac{\cot^2 x - 1}{2 \cot x} \right) = 3$
	Obtain a correct horizontal equation, in $\tan x$ or in $\cos x$ and $\sin x$, in any form
	Reduce equation to a 3-term quadratic
	Allow if they square both sides and obtain a quartic in $\sin x$ or $\cos x$
	Solve a 3-term quadratic to obtain a value for x The quadratic could be arrived at from a correct cubic Not available if they have an incorrect cubic with an incorrect quadratic factor.
	Obtain one answer, e.g. $(x =) 45^\circ$
	Obtain a second answer, e.g. AWRT $(x =) 26.6^\circ$ and no other in the given interval, e.g. $x = 0$

7(a)	State $R = 25$
	Use correct trig formula to find α , e.g. $\alpha = \tan^{-1} \left(\frac{7}{24} \right)$
	Obtain $\alpha = 0.2838$
7(b)	$\cos^{-1} \left(\frac{24.5}{25} \right)$
	Carry out a complete correct method to find a value of x
	Sight of a correct equation using (a) is needed, e.g. $\cos \left(\frac{1}{3}x - 0.2838 \right) = 0.98$ OE
	Obtain answer $(x =) 1.45$
	Obtain $(x =) 0.250$ or $(x =) 0.251$, and no other in the interval