Daily Question

Day 7 Pure Mathematics – Mark Scheme

Question 1

(a)	$R=\sqrt{65}$	B1
	$\tan\alpha=\frac{8}{1}\Rightarrow\alpha=$ awrt $82.87°$	M1A1
		(3)
(b)	$13+\frac{'R'}{10}=13.81(°\text{C})$	M1 A1
		(2)
(c)	$\cos(15t+82.87)°=-\frac{5}{\sqrt{65}}$	M1
	$15t+82.87=128.33\Rightarrow t=3.03$	A1
	$15t+82.87=(360-128.33)\Rightarrow t=...(9.92)$	dM1
	Both times correct 03:02 and 09:55	A1
		(4)
		(9 marks)

Question 2

(a)	$R=\sqrt{5}$	B1
	$\tan\alpha=2\Rightarrow\alpha=$ awrt 1.107	M1A1
		(3)
)(i)	$'40+9R^2'=85$	M1A1
(ii)	$\theta=\frac{\pi}{2}+1.107\Rightarrow\theta=$ awrt 2.68	B1ft
		(3)
)(i)	6	B1
(ii)	$2\theta-'1.107'=3\pi\Rightarrow\theta=$ awrt 5.27	M1A1
		(3)
		(9 marks)