

Assessment Schedule – 2005**Mathematics: Solve straightforward trigonometric equations (90292)****Evidence Statement**

	Achievement Criteria	Q	Evidence	Code	Judgement	Sufficiency
Achievement	Solve straight-forward trigonometric equations.	1(a)	$\theta = 216.9^\circ, 323.1^\circ$	A	Both required.	Achievement: $2 \times$ code A. Replacement Evidence: Any A/M/E from Q 2, 3, 4 or 5* can replace evidence for any one of 1(a), (b) or (c). *1 only A/M/E from Q5.
		(b)	$\theta = 45.6^\circ, 314.4^\circ$	A	Both required.	
		(c)	$\theta = 1.04, 4.18$ ($59.5^\circ, 239.5^\circ$)	A	Both required. Degrees or radians acceptable throughout. Extra correct answers outside the specified domain could be ignored in holistic judgement.	

Achievement with Merit	Solve trigonometric equations.	2	$\theta = -86.7^\circ, 93.3^\circ$	A, M	Both required. Extra correct answers outside the specified domain could be ignored in holistic judgement.	Achievement with Merit: EITHER As for Achievement plus 2 × code M OR All 3 × code M. Replacement Evidence: 1 only M/E for Q 2, 3 or 4 from Q5.
		3	$t = 0.54 \text{ sec}$	A, M	Or equivalent.	
		4	$t = \frac{1}{100} \text{ sec (0.01)}$ or $t = \frac{1}{200} \text{ sec (0.005)}$	A, M	Or equivalent. (using $V = 0$ as min)	
Achievement with Excellence	Solve multi-step trigonometric problems.	5	$\cos \frac{\pi t}{24} = -0.125$ $\frac{\pi t}{24} = 1.696$ $t = 13 \text{ min}$	A, M	Alternative methods acceptable.	Achievement with Excellence: As for Merit plus code E.
			$\cos \frac{\pi t}{24} = 0.5$ $\frac{\pi t}{24} = 2\pi - 1.047$ $t = 40 \text{ min}$	A, M	Accept a minor error in working.	
			Hence $40 - 13 = 27 \text{ min}$	A, M, E	Using $t = 12.95$ gives 27.05 min. CAO for both t 's and correct interpretation for time is sufficient. (See Graphic Calculator guidenotes.)	

Judgement Statement

Achievement	Achievement with Merit	Achievement with Excellence
Solve straightforward trigonometric equations. 2 × A	Solve trigonometric equations. Achievement plus 2 × M or 3 × M	Solve multi-step trigonometric equations. Merit plus E