

Year 11 to Year 12 Transition Paper
Trigonometric Identities and Equations
Mark Scheme

Part	Working or answer an examiner might expect to see	Mark	Notes
1	$\tan 30^\circ = \frac{1}{\sqrt{3}}, \sin 30^\circ = \frac{\sqrt{3}}{2}$	M1	This mark is given for find two exact values of $\tan 30^\circ$ and $\sin 30^\circ$
	$\frac{1}{\sqrt{3}} \times \frac{\sqrt{3}}{2} = \frac{1}{2}$	A1	This mark is given for a correct answer only

Part	Working or answer an examiner might expect to see	Mark	Notes
2	1	B1	This mark is given for the correct answer only

Part	Working or answer an examiner might expect to see	Mark	Notes
3	When $x = 90, a \cos x^\circ = 0$ so $b = 1$	1	This mark is given for finding the value of b
	When $x = 0, a \cos x^\circ = 2$ so $a = 2$	1	This mark is given for finding the value of a
	When $x = 45, 2 \cos x^\circ + 1 = 2 \times \frac{1}{\sqrt{2}} + 1$	1	This mark is given for finding an expression for $2 \cos x^\circ + 1$ when $x = 45$
	$1 + \sqrt{2}$	1	This mark is given for the correct answer only