

Question			Answer	Marks	AO	Guidance
5	(a)		$y = \tan(ax^\circ)$ $y = \tan\left(\frac{3}{2}x^\circ\right)$	<b>B1</b> <b>B1</b>  [2]	<b>1.2</b> <b>1.1b</b>	For any $a \neq 1$ with no other transformation o.e. SC 1 for just $f\left(\frac{3}{2}x\right)$ o.e. seen
5	(b)		120°	<b>B1</b>  [1]	<b>1.1b</b>	cao
5	(c)		<b>DR</b> $\arctan 1 = 45^\circ \quad x = \frac{2}{3} \times 45^\circ = 30^\circ$ function is periodic with period 120°  so roots are 30°, 150°, 270°	<b>M1</b>  <b>M1</b>  <b>B1</b>  [3]	<b>1.1a</b>  <b>2.1</b>  <b>1.1b</b>	Complete method for solving their $y = 1$ leading to at least one root. Do not allow where their $y = \tan x$ Appropriate use of the periodicity of their $y$ or $\tan x$ leading to at least one more root Cao Allow for all the roots seen and no extras in the interval $[0^\circ, 360^\circ]$ Ignore values outside this range