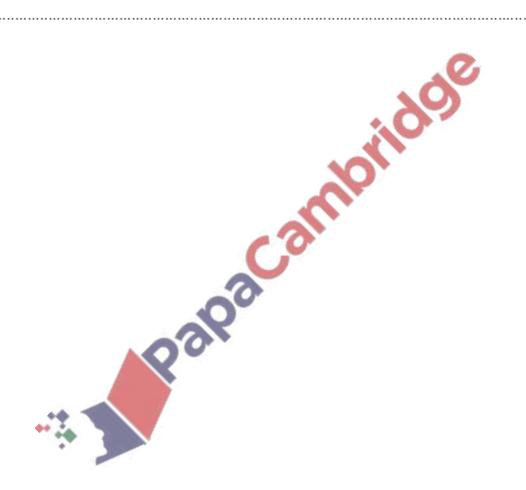
<u> Trigonometry – 2022 A2 June</u>

1.	Marc (a)	h/2022/Paper_9709/22/No.4 Show that $\sin 2\theta \cot \theta - \cos 2\theta \equiv 1$. [3]
	(b)	Hence find the exact value of $\sin \frac{1}{6}\pi \cot \frac{1}{12}\pi$. [2]

[2]

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2.	June	e/2022/Paper_9709/21/No.2	
	(a)	Express the equation $7 \tan \theta + 4 \cot \theta - 13 \sec \theta = 0$ in terms of $\sin \theta$ only.	[3]
		0.	
		<u> </u>	
	(b)	Hence solve the equation $7 \tan \theta + 4 \cot \theta - 13 \sec \theta = 0$ for $0^\circ < \theta < 360^\circ$.	[3]
	(6)	Thence solve the equation $7 \tan \theta + 4 \cot \theta = 15 \sec \theta = 0 \tan \theta < 0 < 500$.	[3]
		·····	

Pe/2022/Paper_9709/22/No.8 Express $3 \sin 2\theta \sec \theta + 10 \cos(\theta - 30^\circ)$ in the form $R \sin(\theta + \alpha)$ where $R > 0$ and $0^\circ < \alpha < 90^\circ$. Give the value of α correct to 2 decimal places. [6]
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(b)	Hence solve the equation	$3\sin 4\beta \sec 2\beta +$	$10\cos(2\beta - 30^\circ)$	$= 2$ for $0^{\circ} < \beta < 90^{\circ}$.
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