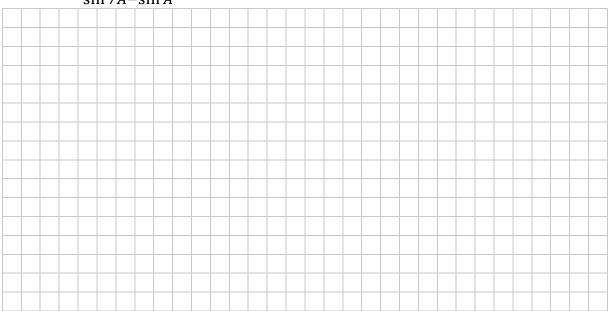**Question 3** (25 marks)

(a) Show that $\dfrac{\cos 7A + \cos A}{\sin 7A - \sin A} = \cot 3A$.

(b) Given that $\cos 2\theta = \dfrac{1}{9}$, find $\cos \theta$ in the form $\pm \dfrac{\sqrt{a}}{b}$, where $a, b \in \mathbb{N}$.