

10. Given that θ is measured in radians, prove, from first principles, that the derivative of $\sin \theta$ is $\cos \theta$

You may assume the formula for $\sin(A \pm B)$ and that as $h \rightarrow 0$, $\frac{\sin h}{h} \rightarrow 1$ and $\frac{\cos h - 1}{h} \rightarrow 0$

(5)