

9. Given that θ is measured in radians, prove, from first principles, that

$$\frac{d}{d\theta}(\cos \theta) = -\sin \theta$$

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

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