



# BEYOND EXCELLENCE - 49

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*Where the extreme challenges excellence.*

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# If  $\tan \frac{\theta}{2} = \sqrt{\frac{1+k}{1-k}} \tan \frac{\phi}{2}$  Show that,

I.  $(1+k\cos\theta)(1-k\cos\phi) = 1-k^2$

II.  $\frac{d\theta}{d\phi} = \frac{\sqrt{1-k^2}}{1-k\cos\phi}$ , hence find  $\int_0^{\pi} \frac{d\theta}{(1+k\cos\theta)^3}$

#  $\tan \frac{\theta}{2} = \sqrt{\frac{1+k}{1-k}} \tan \frac{\phi}{2}$  නම්

I.  $(1+k\cos\theta)(1-k\cos\phi) = 1-k^2$  බවත්

II.  $\frac{d\theta}{d\phi} = \frac{\sqrt{1-k^2}}{1-k\cos\phi}$  බවත් පෙන්වන්න. එනැයිත්  $\int_0^{\pi} \frac{d\theta}{(1+k\cos\theta)^3}$  ලබා ගන්න.