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FOR EDUCATORS

 $\int \sqrt{1+(\cos(x))^2} dx$ from 0 to 2

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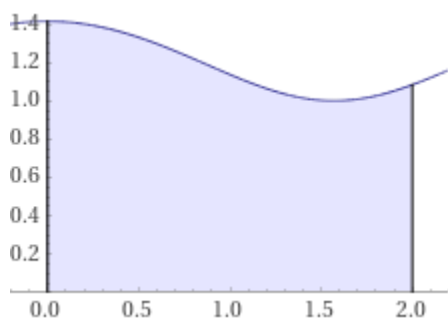
Definite integral:

[More digits](#)

$$\int_0^2 \sqrt{1 + \cos^2(x)} dx = \sqrt{2} E\left(2 \left| \frac{1}{2} \right.\right) \approx 2.35169$$

 $E(x | m)$ is the elliptic integral of the second kind with parameter $m = k^2$

Visual representation of the integral:



Indefinite integral:

$$\int \sqrt{1 + \cos^2(x)} dx = \sqrt{2} E\left(x \left| \frac{1}{2} \right.\right) + \text{constant}$$

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Related Queries:

= series of $\sqrt{1 + \cos^2(x)}$ at $x=0$ = use left hand end point method $\sqrt{1 + \cos^2(x)}$ = limit of $\sqrt{1 + \cos^2(x)}$ as $x \rightarrow +\infty$ = $d^2/dx^2 (\sqrt{1 + \cos^2(x)})$


= Inkay-like curve vs AncientMegatheriumon-like ...

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