

Elliptic functions

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mmm... That looks like a Dimo's donut!!

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The length of the arc with angle ϕ on the circle of radius r is given by $\frac{\phi r}{2\pi}$. The length of the arc on the ellipse can only be described as an integral. Study of this integral leads to introduction of the elliptic functions. They represent generalization of trigonometric functions. Geometrically trigonometric functions are defined on a cylinder, while elliptic functions are defined on a torus. We will look at their examples and properties.