

This note, that [was found here](#), as a part of [a collection](#) is written (completely with human hands) by [Rupadarshi Ray](#), was created on April 19, 2026 2:45:53 AM, was last modified on April 19, 2026 2:50:19 AM, and was exported on September 7, 2026 2:50:32 PM.

Theta functions

Definition. Definition

$$\theta(z,\tau):=\sum_{n\in\mathbb{Z}^g}\exp 2\pi i\left(\frac{1}{2}n^{\top}\tau n+n^{\top}z\right)$$

[1]

Current note has 1 direct children and 1 total descendants.

- [squishy](#)
 - [pow](#)
 - [Theta functions](#)
 - [Jacobi theta function](#)

And it has 28 siblings.

- [squishy](#)
 - [pow](#)
 - [Angle function](#)
 - [Bessel functions](#)
 - $\cos\sqrt{z}$
 - [The complex logarithm](#)
 - $\sum_{n\geq 0}z^{n!}$
 - z^3-3z
 - $\frac{r_0}{1+\epsilon\cos b\theta}$
 - $\cos\left(\pi\frac{p}{q}\right)$
 - $\frac{\cos x^k}{x}$
 - [Elliptic integrals and Jacobi elliptic functions](#)
 - [The complex exponential](#) $\exp(z)$
 - $\exp\left(\frac{z+1}{z-1}\right)$
 - e^{-x^2}
 - [\[Only sum terms that are multiples of \$N\$ in \$\mathbb{C}\[\[z\]\]\(https://rupadarshiray.github.io/notes/YchnxQ9SF1RsuKjBntMv8a..\)\$ \]](#)
 - $\int\frac{1}{x^2+bx+c}$
 - $\frac{\exp(z)}{1-z}$
 - $\sin x$
 - $\sin(x\sin(x))$
 - $\frac{\sin x}{x}$
 - [stock.sin x by xk](#)
 - $\sin x^2$
 - $\sqrt{z}$
 - $\sqrt{z^2-1}$
 - [Theta functions](#)
 - [Weierstrass elliptic function](#) $\wp$
 - [Weierstrass' primary factors](#)
 - $x^2\sin\frac{1}{x}$
 - $x+x^2\sin\frac{1}{x}$

1. <https://mypage.concordia.ca/mathstat/bertola/ThetaCourse/ThetaCourse.pdf> ↩