

Math-Greek alphabet

Hello. This shows how my pamphlets (Prof. King) typeset the Greek letters, and how I write them on the blackboard.

alpha	α	A	
beta	β	B	
gamma	γ	Γ	My blackboard lowercase-gamma has a loop at the bottom.
delta	δ	Δ	Different from ∇ , nabla. See Wikipedia Nabla.
epsilon	ε	E	Different from \in , “is an element of”, and \ni , “owns”.
zeta	ζ	Z	My blackboard lowercase-zeta, at the bottom, curves all the way back left.
eta	η	H	
theta	θ	Θ	My blackboard lowercase-theta is closer to ϑ .
iota	ι	I	
kappa	κ	K	
lambda	λ	Λ	
mu	μ	M	Pronounced as “me-you”, slurred together —like a cat with an accent.
nu	ν	N	Pronounced as “new”. Different from Roman ν , and from Greek υ υ .
xi	ξ	Ξ	I pronounce as in the 2nd syllable of “pixie”.
omicron	o	O	Different from 0, zero. Different from \emptyset , the empty set.
pi	π	Π	Diff. from the Product \prod operator, e.g. $\prod_{n=2}^9 \Pi(n)$, or $\prod_{n=2}^9 \Pi(n)$.
rho	ρ	P	
sigma	σ	Σ	Different from the Sum \sum operator, e.g. $\sum_{k=1}^5 \Sigma(k)$, or $\sum_{k=1}^5 \Sigma(k)$.
tau	τ	T	Pronounced as the first syllable in “towel”.
upsilon	υ	Υ	Pronounced “oops-salon” —as if you’re startled by a hairdresser.
phi	φ	Φ	I pronounce as “fee”. Different from \emptyset , the empty set.
chi	χ	X	I pronounce as the first syllable in “kayak”, the boat.
psi	ψ	Ψ	Remove the “ti” from “tipsy”; that’s how I pronounce “psi”.
omega	ω	Ω	Different from Roman w .

Alignment: $\alpha\mathrm{A}\beta\mathrm{B}\gamma\Gamma\delta\Delta\epsilon\mathrm{E}\zeta\mathrm{Z}\eta\mathrm{H}\theta\Theta\iota\mathrm{I}\kappa\mathrm{K}\lambda\Lambda\mu\mathrm{M}\nu\mathrm{N}\xi\Xi\mathrm{o}\mathrm{O}\pi\mathrm{Pi}\rho\mathrm{P}\sigma\mathrm{Sigma}\tau\mathrm{T}\upsilon\Upsilon\varphi\Phi\chi\mathrm{X}\psi\mathrm{Psi}\omega\Omega$

Standard sets. I use \mathbb{Z} \mathbb{Q} \mathbb{R} \mathbb{C} \mathbb{A} for the: Integers Rationalns Reals Complex-numbers Algebraic-numbers.

Special symbols. My typeset pamphlets use different fonts (usually boldface) for certain constant symbols.

No	Yes!	Meaning:
π	π	The ratio of circle’s circumference to its diameter.
e	e	The base of log, the (natural) logarithm fnc. So $\log(e) = 1$.
γ	γ	Euler’s constant: $\gamma = \lim_{n \rightarrow \infty} [\mathcal{H}_{n-1} - \log(n)]$, where $\mathcal{H}_n := \sum_{k=1}^n 1/k$.
λ	λ	The Golden Ratio, $\lambda = \frac{1+\sqrt{5}}{2}$.
p, q	p, q	Generic prime numbers.
τ	τ	The number-of-divisors fnc: $\tau(7) = 2$.
σ	σ	The sum-of-divisors fnc: $\sigma(7) = 8$.
φ	φ	The Euler phi fnc: $\varphi(7) = 6$.
μ	μ	The Möbius fnc: $\mu(30) = -1$.
1	1	Kronecker fnc: $1(\text{true}) = 1$, $1(\text{false}) = 0$. The indicator fnc of a set: $\mathbf{1}_S()$.
Γ	Γ	Gamma fnc: $\Gamma(\omega) := \int_0^\infty t^{\omega-1} e^{-t} dt$.
ζ	ζ	The Riemann zeta fnc: $\zeta(s) := \sum_{n=1}^\infty 1/n^s$.
θ, ϑ	ϑ	The Chebyshev theta fnc: $\vartheta(x) := \sum_{p: p \leq x} \log(p)$.
L, l, ℓ	\mathbb{L}, ℓ	Banach spaces \mathbb{L}_p and ℓ_p .