

The Greek Alphabet for Maths, Science and Finance

How to say each letter, how to type it in LaTeX, and what it usually means in each field. **M** Maths **P** Physics **S** Stats **F** Finance

A α 1 **alpha**
AL-fuh
\alpha

- M** an angle; a root of an equation
- P** alpha particle; fine-structure constant
- S** significance level
- F** Jensen's alpha, excess return

B β 2 **beta**
BEE-tuh / BAY-tuh
\beta

- M** the Beta function
- P** speed as a fraction of c ; $1/kT$
- S** regression coefficient; Type II error
- F** market beta (CAPM)

Γ γ 3 **gamma**
GAM-uh
\gamma

- M** $\Gamma(x)$, the Gamma function; Euler's γ
- P** gamma rays; the Lorentz factor
- S** Gamma distribution; skewness γ_1
- F** option gamma; risk aversion

Δ δ 4 **delta**
DEL-tuh
\delta

- M** Δ a change; Kronecker and Dirac δ
- P** a finite change; uncertainty
- S** effect size; the delta method
- F** option delta; delta hedging

E ε 5 **epsilon**
EP-sih-lon
\varepsilon

- M** an arbitrarily small number
- P** permittivity ϵ_0 ; strain; emissivity
- S** the error term
- F** a shock or innovation; elasticity

Z ζ 6 **zeta**
ZEE-tuh / ZAY-tuh
\zeta

- M** $\zeta(s)$, the Riemann zeta function
- P** the damping ratio
- S** the zeta (Zipf) distribution
- F** a power law tail exponent

H η 7 **eta**
EE-tuh / AY-tuh
\eta

- M** the Dirichlet eta function
- P** efficiency; viscosity
- S** learning rate; η^2 effect size
- F** temporary price impact

Θ θ 8 **theta**
THEE-tuh / THAY-tuh
\theta

- M** an angle; Θ for growth rates
- P** launch angle; pendulum angle
- S** an unknown parameter θ , estimate $\hat{\theta}$
- F** option theta; the settlement level

I ι 9 **iota**
eye-OH-tuh
\iota

- M** the inclusion map
- P** rotational transform (fusion)
- S** a column of 1s
- F** the minimum variance portfolio

K κ 10 **kappa**
KAP-uh
\kappa

- M** curvature; condition number
- P** thermal conductivity
- S** Cohen's kappa (agreement)
- F** speed of mean reversion

Λ λ 11 **lambda**
LAM-duh
\lambda

- M** eigenvalue; Lagrange multiplier
- P** wavelength; decay constant
- S** Poisson rate; penalty strength
- F** default or jump intensity

M μ 12 **mu**
MYOO
\mu

- M** a measure; the Möbius function
- P** micro-; friction coefficient
- S** the population mean
- F** drift, expected return

The Greek Alphabet, continued

M Maths P Physics S Stats F Finance

$N\nu$

13 **nu**
NYOO
\nu

- M a second measure; p-adic valuation
- P frequency; Poisson's ratio
- S degrees of freedom
- F vega (not a real Greek letter)

$\Xi\xi$

14 **xi**
KSY, ZY or KSEE
\xi

- M some point in between
- P correlation length
- S tail index of extremes
- F tail index for crash risk

Oo

15 **omicron**
OH-mih-kron
o

- M rarely used; lookalike big-O bounds growth
- P o Ceti, a star label
- S *hardly used*
- F *hardly used*

$\Pi\pi$

16 **pi**
PIE
\pi

- M 3.14159...; Π a product; $\pi(x)$ primes
- P radians, π for half a turn
- S mixture weights; a proportion
- F inflation; Π for profit

$P\rho$

17 **rho**
ROH
\rho

- M a radius or distance
- P density; resistivity
- S correlation; autocorrelation
- F correlation; option rho

$\Sigma\sigma$

18 **sigma**
SIG-muh
\sigma

- M Σ a sum; sigma-algebras
- P Stefan-Boltzmann constant; stress
- S standard deviation; Σ covariance
- F volatility; the Sharpe ratio

$T\tau$

19 **tau**
TOW or TAW
\tau

- M $\tau = 2\pi$, a full turn
- P time constant; torque
- S Kendall's tau
- F time to expiry; default time

$Y\upsilon$

20 **upsilon**
UP-sih-lon
\upsilon

- M rarely used (looks like u, v and ν)
- P Y particle; mass-to-light ratio
- S *hardly used*
- F *hardly used*

$\Phi\varphi$

21 **phi**
FIE / FEE
\varphi

- M golden ratio; Euler's totient
- P phase; magnetic flux
- S normal density φ , its area Φ
- F $N(\cdot)$ in Black-Scholes; AR persistence

$X\chi$

22 **chi**
KIE (like sky)
\chi

- M Euler characteristic; indicator
- P magnetic susceptibility
- S the chi-squared test
- F CIR short rate (noncentral χ^2)

$\Psi\psi$

23 **psi**
(P)SIE
\psi

- M the digamma function
- P the wavefunction
- S ψ weights of a time series
- F Lévy characteristic exponent

$\Omega\omega$

24 **omega**
OH-mih-guh
\omega

- M cube roots of 1; first infinite ordinal
- P angular frequency; Ω the ohm
- S sample space Ω , an outcome ω
- F the Omega ratio