Phi

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Phi (/faɪ/ or /fiː/; uppercase Φ, lowercase φ or ϕ; Greek: φῖ, φεῖ, or φαῖ) is the 21st letter of the Greek alphabet. In the system of Greek numerals, it has a value of 500. It was derived from the Phoenician letter Pe 𐤐. The letter is used to represent the voiceless bilabial plosive sound in Ancient Greek, and the voiceless labiodental fricative in Modern Greek. In the Greek alphabetic order, it comes between Pi and Chi.

Phi is used as a symbol in mathematics, physics, and engineering to denote various quantities, including the golden ratio, magnetic flux, the density matrix, the cumulative distribution function of the normal distribution, the wavefunction in quantum mechanics, the electric potential, the potential flow velocity, the scalar potential, the luminous flux, the heat flux, the work function, the porosity, the latitude, the golden angle, the relative density, the fine-structure constant, the Euler's totient function, the partition function, the magnetic quantum number, the osmotic coefficient, the volume fraction, the specific volume, the fugacity coefficient, the potential energy, the phase, the angle of repose, the angle of friction, the angle of dilation, the angle of incidence, the angle of reflection, the angle of refraction, the angle of deviation, the angle of attack, the angle of contact, the angle of declination, the angle of inclination, the angle of elevation, the angle of depression, the angle of view, the angle of rotation, the angle of twist, the angle of yaw, the angle of pitch, the angle of roll, the angle of precession, the angle of nutation, the angle of obliquity, the angle of libration, the angle of parallax, the angle of aberration, the angle of deflection, the angle of diffraction, the angle of scattering, the angle of polarization