

## SIMUW Theory of Equations: Notation

You should familiarize yourself with the Greek alphabet. You don't need to know how to write every letter off the top of your head, but you should at least recognize that they are Greek letters, and you should know all the common ones (if you run across it more than once, you probably will again, so you might as well memorize it; you should definitely learn the ones with stars below). Many of the capital Greek letters are too close to Roman letters and thus aren't used in mathematics. The same goes for a couple of lowercase letters as well—you'd be crazy to use omicron as a variable, since it is not only identical to the letter 'o' but it also looks a lot like zero.

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

This list is intended for mathematical purposes, and is not a perfect reflection of actual written Greek. (For example, sigma is written  $\varsigma$  at the end of a word, but that symbol is not used in mathematics.)

Don't bother learning the order of these letters unless you want to try to impress your friends by singing the Greek alphabet song. If you don't need to look up Greek words in the dictionary, all you need to know about the order is that it starts with alpha and ends with omega.

We'll also use the following notation for special sets of numbers:

$\mathbb{Z}$	set of integers ("Zahlen")
$\mathbb{Q}$	set of rational numbers ("quotients")
$\mathbb{R}$	set of real numbers
$\mathbb{C}$	set of complex numbers