1 Alphabet and its uses

Terminologies: terms, coefficients, arguments, degree, factor, dependent variable, independent variable, free constants, fixed constants, variables, vector, function, counter, bounding element, locus, enumeration, frustum (frustum of right circular cone), heuristic (discovering), if...then...hence, permutations, combinations

Notations:

$\underbrace{a\ b\ c}_{\text{free constants}}$ $\underbrace{d\ e}_{\text{reserved constants}}$ $\underbrace{f\ g\ h}_{\text{functions}}$ $\underbrace{i\ j\ k}_{\text{imaginary vector}}$ $\underbrace{l\ m\ n}_{\text{reserved for counter}}$

$\underbrace{o\ p\ q\ r\ s\ t}_{\text{physical constant}}$ $\underbrace{u\ v\ w}_{\text{auxilliary functions}}$ $\underbrace{w\ y\ z}_{\text{axis of coordinates}}$

Space:	point	line	plane	space	...	segment	triangle	tetrahedron
	R^0	R^1	R^2	R^3	...	lines	polygon	polyhedron

Greek letters and numerals

Alphabet					#	**Greek**	**Latin**
αA	alpha	\alpha	A		1/2	hemi-	uni-
βB	beta	\beta	B		1	hen-	
$\gamma\Gamma$	gamma	\gamma	\Gamma		2	di-,dy-,duo-	du-
$\delta\Delta$	delta	\delta	\Delta		3	tri-	tri-
$\epsilon\varepsilon E$	epsilon	\epsilon	\varepsilon	E	4	tetra-	quadri-
ζZ	zeta	\zeta	Z		5	penta-	quinque-
ηH	eta	\eta	H		6	hexa-	sexa-
$\theta\vartheta\Theta$	theta	\theta	\vartheta	\Theta	7	hepta-	septem-, septi
ιI	iota	\iota	I		8	octa-,octo-	octo-
κK	kappa	\kappa	K		9	ennea-	novem-
$\lambda\Lambda$	lambda	\lambda	\Lambda		10	deca-	dec-
μM	mu	\mu	M		100	hecato-	centi-
νN	nu	\nu	N		1000	chilia-	milli-
$\xi\Xi$	xi	\xi	\Xi		Unspecified	poly-	multi-
oO	omikron	o	O				
$\pi\Pi$	pi	\pi	\Pi				
$\rho\varrho P$	rho	\rho	\varrho	P			
$\sigma\Sigma$	sigma	\sigma	\Sigma				
τT	tau	\tau	T				
$\upsilon\Upsilon$	upsilon	\upsilon	\Upsilon				
$\phi\varphi\Phi$	phi	\phi	\varphi	\Phi			
χX	chi	\chi	X				
$\psi\Psi$	psi	\psi	\Psi				
$\omega\Omega$	omega	\omega	\Omega				

Number sets

$\mathbb{P}$	prime numbers	\mathbb{P}
$\mathbb{N}$	natural numbers	\mathbb{N}
$\mathbb{Z}$	integers	\mathbb{Z}
$\mathbb{I}$	irrational numbers	\mathbb{I}
$\mathbb{Q}$	rational numbers	\mathbb{Q}
$\mathbb{R}$	real numbers	\mathbb{R}
$\mathbb{C}$	complex numbers	\mathbb{C}

n-space and n-dimension

There is an important distinction between the coordinate n-space R^n and a general finite-dimensional vector space V. While R^n has a standard basis $\{e_1, e_2, ..., e_n\}$, a vector space V typically does not come equipped with such a basis and many different bases exist (although they all consist of the same number of elements equal to the dimension of V). **?**

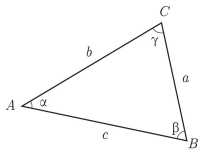
`(Wikipedia contributors. Linear algebra. Wikipedia, The Free Encyclopedia. May 6, 2016, 15:18 UTC. Available at: https://en.wikipedia.org/w/index.php?title=Linear_algebra&oldid=718937296. Accessed May 18, 2016.)`

Notation Remarks by Polya

Tips on how to name your constants, variables, data and unknowns:
· Consecutive letters should be used as symbols when symbols represent same category. For examples a,b,c for constants and x,y,z for variables.
· Use first letter of its name for the symbol. For examples r for radius, l for length, w for width. Notice that this method is more specific than the first method mentioned.
· Use same letter from different alphabets when these are related mathematically, intuitively, or even plausibly. For examples,

Roman capitals such as A, B, C, ..., for points.
small Roman letters such as a, b, c, ..., for lines.
Greek letters such as $\alpha, \beta, \gamma, \ldots$, for angles.

You want A, a, α to be connected some ways. For example A and α to represent the same vertex and a to be adjacent edge from A.



Note: These remarks are very much related to how to name classes and functions in programming language. Apply useful tips interchangeably.