MathPro Preferences

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Dialects		
variation	preferred form	notes
acknowledgement	acknowledgment	prefer American to British spelling
centre	center	prefer American to British spelling
cheque	check	prefer American to British spelling
circumcentre	circumcenter	prefer American to British spelling
colour	color	prefer American to British spelling
incentre	incenter	prefer American to British spelling
labelled	labeled	prefer American to British spelling
litre	liter	prefer American to British spelling
metre	meter	prefer American to British spelling
neighbour	neighbor	prefer American to British spelling
travelled	traveled	
travelling	traveling	prefer American to British spelling

Hyphenated Words		
variation	preferred form	notes
co-prime	coprime	relatively prime
co-set	coset	
n-th	nth	
non-equivalent	nonequivalent	
non-isosceles	nonisosceles	
non-negative	nonnegative	
non-obtuse	nonobtuse	
non-singular	nonsingular	
non-zero	nonzero	
preimage	pre-image	
semi-annual	semiannual	
semi-circumference	semicircle	
square free	square-free	
torsion free	torsion-free	
well known	well-known	when used as an adjective: the well-known theorem
well-known	well known	But: This theorem is well known.
X-axis	x-axis	
XY plane	xy-plane	Code as `$xy$-plane`
x-y plane	xy-plane	
This—and that—are fine.	This — and that — are fine.	Space around em-dash
3,4,5 triangle	3-4-5 triangle	Use hyphen, not minus sign (do not use math mode)
three-digit	3-digit	
a score of -1	a score of -1	Use `$-1$`

Words		
variation	preferred form	notes
Abelian	abelian	named after Abel, but common practice prevails
aeroplane	airplane	
angle of reflexion	angle of reflection	
angular points of a triangle	vertices of a triangle	
solid sphere	ball	balls are solid; spheres are hollow
anticlockwise	counterclockwise	
biquadrate	perfect fourth power	
cartesian	Cartesian	named after Descartes
Tchebychef	Chebyshev	
checkerboard	chessboard	board with black and white squares
circumscribable polygon	cyclic polygon	
concyclic	cyclic	can be inscribed in a circle
inscriptible	cyclic	
diophantine equation	Diophantine equation	named after Diophantus
disk	disc	A circle and its interior.
dominos	dominoes	
end point	endpoint	
`Erd\H os`	`Erd\H{o}s`	Do not have any spaces within a name.
`Erd{\H o}s`	`Erd\H{o}s`	Do not have any spaces within a name.
euclidean	Euclidean	named after Euclid
factorized	factored	
iff	if and only if	
median point of a triangle	centroid of a triangle	
mid point	midpoint	
middle point	midpoint	
point of bisection	midpoint	
counting numbers	natural numbers	
parallelopiped	parallelepiped	
per cent	percent	prefer "%" after number
6 percent interest	6% interest	prefer "%" after number
pythagorean	Pythagorean	named after Pythagoras
hollow ball	sphere	balls are solid; spheres are hollow
circular ring	torus	or annulus if in two dimensions
right-angled triangle	right triangle	
U. S.	U.S.	
which	that	If both sound correct, use "that"
zeroes	zeros	

Punctuation		
variation	preferred form	notes
A widget is called a “foobar.”	A widget is called a “foobar”.	Use logical rather than traditional quoting rules.
They are “foo,” “bar,” and “gluk.”	They are “foo”, “bar”, and “gluk”.	Unrelated punctuation goes outside the quotes.
Tom said, “Where are you?”.	Tom said, “Where are you?”	In dialogue, use traditional quoting rules.
Tom said, “I am here”.	Tom said, “I am here.”	In dialogue, use traditional quoting rules.
The length is 3 in..	The length is 3 in.	Consecutive punctuation characters merge.
Is the length 3 in?	Is the length 3 in.?	Different punctuation characters remain distinct.
ten’s digit	tens digit	
unit’s digit	units digit	
$7000	$7,000	Use commas with money.
in ratio 1, 3, 5	in ratio $1 : 3 : 5$	Use `$1:3:5$`
3: 1	$3 : 1$	Use `$3:1$`
$a : b :: c : d$	$a : b = c : d$	Use “=” with proportions
temperature was $65°F$	temperature was 65°F	

Phrases		
variation	preferred form	notes
Tom, Dick and Harry	Tom, Dick, and Harry	Use comma before “and” in list of 3 or more.
find the chance that	find the probability that	
Given n points.	Given are n points.	Use full sentences.
pick a point in the circumference	pick a point on the circumference	
a point in the surface of a circle	a point inside a circle	
a point in the base of a triangle	a point on the base of a triangle	
if a line be drawn	if a line is drawn	
in a plane triangle	in a triangle	
M.S. Klamkin	M. S. Klamkin	Leave space between first and middle names.
13-sided polygon	13-gon	
Let x, y be real numbers.	Let x and y be real numbers.	But: “for $x, y \in S$” is okay.
Jordan curve theorem	Jordan Curve Theorem	initial caps on names of theorems
by the Pythagorean theorem	by the Pythagorean Theorem	initial caps on names of theorems
Mr. A plays a game.	Mr. A plays a game.	Even better: Andy plays a game.
city A and city B	city A and city B	Use roman for names of things.

Numbers		
variation	preferred form	notes
$4\frac{1}{2}$	$4\,1/2$	Use `$4\frac 1/2$` for mixed fractions
$\frac{a}{b}$	a/b	for very small, simple fractions appearing in-line
$\mathrm{P}/4$	$P/4$	Don’t use `\frac` when variables are involved.
$12,345$	12,345	Use `$12{,}345$`
$x + y = 12{,}345$	$x + y = 12345$	Don’t use commas inside numbers in equations.
John has 1000 apples.	John has 1,000 apples.	Use commas in numbers in normal text.
Mary has 3 apples.	Mary has three apples	Numbers from 1 to 9 used as adjectives are spelled out
Mary has thirteen apples.	Mary has 13 apples	adjectives 10 or larger use numerals
If 20 is divided by three	If 20 is divided by 3	numbers used as nouns are always numerals
It took three hours.	It took 3 hours.	Units of measurement are always numerals.
$1/3 = .333\cdots$	$1/3 = .333\ldots$	Use `\ldots`

Integrals		
variation	preferred form	notes
$\int g(x)dx$	$\int g(x)\,dx$	Use `$\int g(x)\,dx$`. Add thin space before dx if not already present.
$\int_a^b \int_a^b g(x)\,dxdy$	$\int_a^b\!\int_a^b g(x)\,dxdy$	Use `$\int _a^b\kern -3pt\int _a^b g(x)\,dxdy$`.
$\int\int\int g(x)\,dxdydz$	$\iiint g(x)\,dxdydz$	Kern multiple integrals closer together.

Dots		
variation	preferred form	notes
$a < b < \ldots < x$	$a < b < \cdots < x$	Use `$a<b<\cdots <x$`
$a + b + \ldots + x$	$a + b + \cdots + x$	Use `$a+b+\cdots +x$`
$a \cdot b \ldots x$	$a \cdot b \cdots x$	Use `$a\cdot b\cdots x$`
Let $a, b, c, \ldots, z$ be	Let a, b, c, $\ldots$, z be	Use `$a$, $b$, $c,\ldots ,z$`
for $n = 1, 2, \ldots$.	for $n = 1, 2, \ldots$.	Use `$n=1,2,\ldots \ .$`

Expressions		
variation	preferred form	notes
`$\varepsilon $`	`$\epsilon $`	We will control how this looks (probably ε).
triangle abc	triangle ABC	prefer capital letters for names of points
φ	ϕ	Use `\phi` rather than `\varphi`
$\lim_{x \uparrow a} f(x)$	$\lim_{x \to a-} f(x)$	
$\lim_{x \downarrow a} f(x)$	$\lim_{x \to a+} f(x)$	
a by b	$a \times b$	Use `$a\times b$`
$A(x) := f(x)$	$A(x) = f(x)$	
all integers $< n$	all integers less than n	math symbols are not abbreviations for English words
If A then B. Prove this.	Prove that if A then B.	
A is a point on side BC	Let A be a point on side BC	Don't start a sentence with mathematics.
A and B flip a coin	Players A and B flip a coin	Don't start a sentence with mathematics.
$f : A \to B$	$f\colon A \to B$	Use `$f\colon A\to B$`
$3 \vert 81$	$3 \mid 81$	Use `$3\mid 81$`
$\{x \vert x > a\}$	$\{x \mid x > a\}$	Use `$\{x\mid x>a\}$`
$\overline{\lim}$	$\limsup$	Use `$\limsup $`
$\{x : x > a\}$	$\{x \mid x > a\}$	Use `$\{x\mid x>a\}$`. Prefer "|" to ":"
$\{x \mid \vert x\vert > a\}$	$\{x : \vert x\vert > a\}$	Use `$\{x:\|x\|>a\}$`. Use ":" if "|" would be awkward.
$\underline{\lim}$	$\liminf$	Use `$\liminf $`
$\lfloor \frac{n}{2} \rfloor$	$\lfloor n/2 \rfloor$	Use `${\lfloor n/2\rfloor }$` in exponent.
$\sum_{k=1}$	$\sum_{k=1}$	
R_+	R^+	Use `$\R ^+$` for positive real numbers
$\mathrm{N} = \{0, 1, 2, \ldots\}$	$\mathrm{N} = \{1, 2, 3, \ldots\}$	Natural numbers begin with 1.
$\mathrm{N} \cup \{0\}$	N_0	Nonnegative integers
Z^+	N	Positive integers (natural numbers)
triangle $\triangle ABC$	triangle ABC	or $\triangle ABC$ (not both)
$3 \mid a + b$	$3 \mid (a + b)$	
$\cos ABC$	$\cos \angle ABC$	

Functions		
variation	preferred form	notes
${}_nC_k$	$\binom{n}{k}$	Binomial coefficient; use `{n\choose k}`
${}_nP_r$	${}_n\mathrm{P}_r$	number of permutations of n things taken r at a time
$[x]$	$\lfloor x \rfloor$	Use `$\lfloor x\rfloor $`
$(m,n)=d$	$\gcd(m,n)=d$	Use `$\gcd (m,n)=d$`
$[m,n]=d$	$\mathrm{lcm}[m,n]=d$	Use `$\lcm [m,n]=d$`
$\Re(z)$	$\mathrm{Re}(z)$	Use `$\Re (z)$`
$\Im(z)$	$\mathrm{Im}(z)$	Use `$\Im (z)$`
tg x	$\tan x$	Use `$\tan x$`
ctg x	$\cot x$	Use `$\cot x$`
sh x	$\sinh x$	Use `$\sinh x$`
ch x	$\cosh x$	Use `$\cosh x$`
Apea-tg	arctan	

Additional preferences for "Homothety" book		
variation	preferred form	notes
The midpoints of AB and CD are respectively P and Q.	The midpoints of AB and CD are P and Q, respectively.	
in view of (1)	in view of equation (1)	
chord AB in circle C	chord AB of circle C	
Let P be a point of circle C.	Let P be a point on circle C.	
point P of segment AB	point P on segment AB	
right triangle of hypotenuse AB	right triangle with hypotenuse AB	
line meets the circles consecutively at A, B, C, and D	line meets the circles at A, B, C, and D in succession	
the greater circle	the larger circle	
f maps A to B	f maps A into B	
lines AB, CD, and EF have a common point	lines AB, CD, and EF are concurrent	
homothety of coefficient k	homothety with coefficient k	
homothety of center M	homothety with center M	
circle of center P	circle with center P	
circle of radius r	circle with radius r	
center of incircle	incenter	
circle circumscribed about $\triangle ABC$	circumcircle of $\triangle ABC$	
isogonal conjugate to the point M	isogonal conjugate of the point M	
Put $x = ab$.	Set $x = ab$.	
coefficient of similarity	ratio of similitude	
midpoint of the arc AB	midpoint of arc AB	
inscribed in the triangle ABC	inscribed in triangle ABC	
touches the side AB	touches side AB	
incircle of the triangle ABC	incircle of triangle ABC	
Find the area of the triangle ABC.	Find the area of triangle ABC.	
In the same time, we find that	At the same time, we find that	
altitudes to the respective sides	altitudes to the corresponding sides	

Additional preferences for "Vermont" book		
variation	preferred form	notes
Give the value of	Find the value of	
Write the value of	Find the value of	
Given a square $ABCD$.	Let $ABCD$ be a square.	Use full sentences with verbs.
Divide $x^2 - y^2$ by $x - y$.	Find the quotient when $x^2 - y^2$ is divided by $x - y$.	
The sides of a triangle are 3, 4, 5.	The lengths of the sides of a triangle are 3, 4, and 5.	The variation is also acceptable.
A 3" rod.	A 3" rod.	Even better: A three inch rod.
Arcsin x	$\arcsin x$	Code as `$\arcsin x$`.
$AB = 6$ units	$AB = 6$	
16 sq. in.	16 in^2	
1st	first	
6th	sixth	
angle ABC contains 15°	$\angle ABC = 15°$	
find the altitude	find the length of the altitude	But: "find the radius" is okay.
Solve the equation for x:	Solve for x:	
degree measurement of angle A	degree measure of angle A	

Additional preferences for the Monthly		
variation	preferred form	notes
Show that $a = b$ holds.	Show that $a = b$.	
Describe a circle so that	Construct a circle such that	
the angular points of a rhombus	the vertices of a rhombus	
a horse is tethered to	a goat is tethered to	Use goats with tether problems.
a section of a cube	a cross section of a cube	
a tower $AB = a$	a tower AB of length a	
at each point of a parabola	at each point on a parabola	
fracture a rod	cut a rod	
United States bond	US bond	
$x^2 + y^2 =$ square	$x^2 + y^2 = \square$	Use `\square`
true to six decimal places	correct to six decimal places	
consecutive integers 1 to n	consecutive integers from 1 to n	

Additional preferences for ARML book		
variation	preferred form	notes
$TNYWR$	`TNYWR`	The Number You Will Receive. (Use `\tt .`)
[Let $T =$ `TNYWR`]	Let $T =$ `TNYWR`.	Don't forget period at end of sentence.
$a \equiv b$(MAD c)	$a \equiv b$ (MAD c)	space before open parenthesis
Hint:	Hint:	roman
Note:	Note:	roman
Note:	Note:	roman
the "Greatest Integer Function"	the Greatest Integer Function	
$\lfloor x \rfloor$	$[x]$	special for ARML book only
$A\vec{B}$	$\overrightarrow{AB}$	ray from A to B; use `\overrightarrow`
The 3-digit number 1 A 4	The 3-digit number `1A4`	Use typewriter font for digits
The 3-digit number 1A4	The 3-digit number `1A4`	Use typewriter font for digits
[$T = 8$]	We have $T = 8$.	At start of relay problems.
[$T = 8$,$S = 7$]	We have $T = 8$ and $S = 7$.	At start of relay problems.
$a + 1 = b + 1 \rightarrow a = b$.	From $a + 1 = b + 1$, we get $a = b$.	or "The equation $a + 1 = b + 1$ implies $a = b$."
$a + 1 = b + 1 \Rightarrow a = b$.	From $a + 1 = b + 1$, we get $a = b$.	or "Since $a + 1 = b + 1$, we see that $a = b$."
$\overleftrightarrow{AB}$	$\overleftrightarrow{AB}$	Line through A and B
$a * b$	$a \star b$	Use `\star` for special operator