AMSTEX Reference Card

(See the TEX Reference Card for further commands)

Formatting

`\pagewidth{`⟨dimen⟩`}`	set page width
`\pageheight{`⟨dimen⟩`}`	set page height
`\hcorrection{`⟨dimen⟩`}`	move page right
`\vcorrection{`⟨dimen⟩`}`	move page down
`\flushpar`	start a paragraph with no indentation
`\boxed#1`	boxed formula
`\NoBlackBoxes`	omit overfull hbox markers
`\comment ...\endcomment`	unprinted comments
`\pageno#1`	set page number
`\nopagenumbers`	turn off page numbering if not using `amsppt` style

Fonts

Text Fonts

`\rm`	roman
`\it`	italic
`\bf`	boldface
`\sl`	slant
`\smc`	small capitals

Math Mode Fonts

`\bold#1`	bold letter
`\loadbold`	load bold math symbols
`\boldkey#1`	bold keyboard symbol
`\boldsymbol#1`	bold math symbol (e.g. `\alpha`)
`\Cal#1`	caligraphic (script) upper case
`\frak#1`	German Fraktur
`\goth#1`	German Fraktur (same as `\frak`)
`\Bbb#1`	blackboard bold
`\rom#1`	Roman

Loading Fonts & Symbols (if not using `amsppt` style)

`\loadmsam`	load `msam` symbol font
`\loadmsbm`	load `msbm` symbol font
`\UseAMSsymbols`	define all symbols from `msam`, `msbm` fonts
`\newsymbol`	define a particular symbol

Changing Font Sizes

`\tenpoint`	use 10 point fonts
`\eightpoint`	use 8 point fonts
`\dsize`	use display size
`\tsize`	use text size
`\ssize`	use subscript size
`\sssize`	use subsubscript size

Macro Definitions

`\define\cs{...}`	define a control sequence
`\redefine\cs{...}`	redefine a control sequence
`\predefine\newcs{\oldcs}`	assign new name to a control seq
`\operatorname#1`	new operator name
`\operatornamewithlimits#1`	new operator name with limits
`\newsymbol`	new symbol from msam, msbm fonts

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Footnotes and Insertions

`\footnote#1`	footnote
`\footnote"*"#1`	footnote with specified marker
`\topinsert ...\endinsert`	insert at top of page
`\midinsert ...\endinsert`	insert in middle of page
`\topcaption#1 ...\endcaption`	caption at top of insert
`\botcaption#1 ...\endcaption`	caption at bottom of insert
`\vspace{`⟨dimen⟩`}`	leave vertical space in an insert

Hyphenation

`\showhyphens#1`	show allowable hyphens
`\-`	discretionary hyphen
`\hyphenation#1`	add words to hypenation list

Fractions and Such

`\frac#1#2`	fraction
`\dfrac#1#2`	display size fraction
`\tfrac#1#2`	text size fraction
`\fracwithdelims()#1#2`	fraction with paren. delimeters
`\binom#1#2`	binomial coefficient
`\dbinom#1#2`	display size binomial coefficient
`\tbinom#1#2`	text size binomial coefficient
`\underset#1\to#2`	typeset #1 under #2
`\overset#1\to#2`	typeset #1 over #2
`\overbrace#1^#2`	overbrace with label above
`\underbrace#1_#2`	underbrace with label below
`\sideset^#1\and^#2\to\bigop`	superscripts on side of operator
`\cfrac ...\endcfrac`	continued fraction
`\lcfrac ...\endcfrac`	continued fraction flush left
`\rcfrac ...\endcfrac`	continued fraction flush right

Arrows & Commutative Diagrams

`@>#1>#2>`	right arrow with labels
`@<#1<#2<`	left arrow with labels
`\CD ...\endCD`	commutative diagram (don't use &'s)
`@V#1V#2V`	down arrow with labels
`@A#1A#2A`	up arrow with labels
`@=`	long horizontal = sign
`@|`	long vertical equal sign
`@.`	leave out an arrow
`\pretend#1\haswidth#2`	make arrows longer

Accents

Type	Example	In Math	In Text
hat	$\hat{a}$	`\hat`	`\^`
expanding hat	$\widehat{abc}$	`\widehat`	none
check	$\check{a}$	`\check`	`\v`
tilde	$\tilde{a}$	`\tilde`	`\~`
expanding tilde	$\widetilde{abc}$	`\widetilde`	none
acute	$\acute{a}$	`\acute`	`\'`
grave	$\grave{a}$	`\grave`	`\‘`
dot	$\dot{a}$	`\dot`	`\D`
double dot	$\ddot{a}$	`\ddot`	`\"`
breve	$\breve{a}$	`\breve`	`\u`
bar	$\bar{a}$	`\bar`	`\B`
vector	$\vec{a}$	`\vec`	none
cedilla	ç	none	`\c`

Dimensions

Dimensions are specified as ⟨number⟩⟨unit of measure⟩.

point	`pt`	pica	`pc`	inch	`in`	centimeter	`cm`
m width	`em`	x height	`ex`	math unit	`mu`	millimeter	`mm`
1 pc = 12 pt		1 in = 72.72 pt		2.54 cm = 1 in		18 mu = 1 em	

Spacing and Dots

`\linebreak`	force a line break
`\newline`	force a new line, old line pushed left
`\mathbreak`	force line break
`\allowmathbreak`	allow line break
`\-`	discretionary hyphen
`\.`	abbreviation period
`\,` or `\thinspace`	thin space
`\medspace`	medium space
`\;` or `\thickspace`	thick space
`\!` or `\negthinspace`	negative thin space
`\negmedspace`	negative medium space
`\negthickspace`	negative thick space
`\quad`	quad space
`\qquad`	double quad space
%	comment line
`\`	one blank space
`\phantom#1`	blank space size of #1
`\hphantom#1`	blank space width of #1, no height
`\vphantom#1`	blank space height of #1, no width
`\smash#1`	ignore height and depth
`\topsmash#1`	ignore height
`\botsmash#1`	ignore depth
`\mathstrut`	strut to help vertical spacing
`\smallpagebreak`	small space between paragraphs
`\medpagebreak`	medium space between paragraphs
`\bigpagebreak`	big space between paragraphs
`\pagebreak`	force a page break
`\nopagebreak`	forbid a page break
`\newpage`	force a page break fill page with blank space
`\hdots`	horizontal dots
`\vdots`	vertical dots
`\ddots`	diagonal dots
`\dots`	dots in text or formulas
`\ldots`	low dots in text or formulas
`\cdots`	center dots in text or formulas

Miscellaneous Operations

`\bmod#1`	mod as binary operation
`\pmod#1`	mod with parentheses
`\mod#1`	same as pmod, but no parens
`\pod#1`	parentheses, but no "mod"
`\sqrt#1`	square root
`\root#1\of#2`	root
`\uproot{`⟨number⟩`}`	move root up/down
`\leftroot{`⟨number⟩`}`	move root left/right
`\iiint`	two integral signs
`\iiint`	three integral signs
`\idotsint`	integral signs with dots

AMS Preprint Style

```
\input amstex
\documentstyle{amsppt}
    ⟨Preamble Commands⟩
\topmatter
    ⟨Top Matter Commands⟩
\endtopmatter
\document
    ⟨Body of Document⟩
\enddocument
```

Preamble Commands

- `\TagsOnLeft` (default) or `\TagsOnRight`
- `\TagsAsText` (default) or `\TagsAsMath`
- `\NoPageNumbers`
- `\NoRunningHeads`
- `\Monograph`
- `\define`

Top Matter Commands

- `\title` ... `\endtitle`
- `\author` ... `\endauthor`
- `\affil` ... `\endaffil`
- `\address` ... `\endaddress`
- `\curraddr` ... `\endcurraddr`
- `\email` ... `\endemail`
- `\date` ... `\enddate`
- `\dedicatory` ... `\enddedicatory`
- `\thanks` ... `\endthanks`
- `\translator` ... `\endtranslator`
- `\keywords` ... `\endkeywords`
- `\subjclass` ... `\endsubjclass`
- `\abstract` ... `\endabstract`
- `\toc` ... `\endtoc` (Table of Contents)
- `\leftheadtext#1` (set left headline text)
- `\rightheadtext#1` (set right headline text)

Body of Paper Commands

- `\specialhead` ... `\endspecialhead`
- `\head` ... `\endhead`
- `\subhead` ... `\endsubhead`
- `\subsubhead` ... `\endsubsubhead`
- `\proclaim#1` ... `\endproclaim`
- `\rom#1` (Roman font in proclaim)
- `\demo#1` ... `\enddemo` (proof)
- `\qed` (end of proof marker)
- `\roster` ... `\endroster` (roster of listed items)
  - `\item` (start a new item in a roster)
  - `\item[`⟨number⟩`]` (specify roster item number)
  - `\item"*"` (item with specified marker)
  - `\therosteritem#1` (refer to specified roster item)
  - `\widestnumber\item#1` (set width for roster labels)
- `\nofrills` (turn off automatic font, spacing, punctuation)
- `\usualspace` (usual space following punctuation)
- `\definition#1` ... `\enddefinition`
- `\example#1` ... `\endexample`
- `\remark#1` ... `\endremark`
- `\block` ... `\endblock` (indented text)
- `\cite` (cite a reference)

AMS Preprint Style — References

`\Refs` ... `\endRefs`	list of references
`\refstyle#1`	specify style `A`, `B`, or `C` A = initials, B = name, C = number
`\ref` ... `\endref`	individual reference
`\no` or `\key`	number or key for reference
`\widestnumber\no#1`	or `\widestnumber\key#1`
`\by`	author
`\bysame`	same as previous author
`\paper`	name of paper
`\vol`	volume
`\yr`	year of publication
`\jour`	journal
`\page` or `\pages`	page(s)
`\toappear`	to appear
`\inbook`	article in a book
`\moreref`	additional reference information
`\paperinfo`	extra information after paper title
`\procinfo`	information about proceedings
`\issue`	issue number
`\lang`	language
`\transl`	information about translated version
`\book`	book
`\ed` or `\eds`	editor(s)
`\publ`	publisher
`\publaddr`	publisher address
`\bookinfo`	extra information after book title
`\finalinfo`	extra information for end
`\miscnote`	same as `\finalinfo`, in parens.

Overlines and Underlines

`\underline#1`	underline
`\overline#1`	overline
`\overarrow#1`	over right arrow
`\underarrow#1`	under right arrow
`\overleftarrow#1`	over left arrow
`\underleftarrow#1`	under left arrow
`\overleftrightarrow#1`	over left-right arrow

Delimeters

[	`\lbrack` or `\[`	{	`\lbrace` or `\{`	⟨	`\langle`
]	`\rbrack` or `\]`	}	`\rbrace` or `\}`	⟩	`\rangle`
|	`\vert` or `\\|`	⌊	`\lfloor`	⌈	`\lceil`
‖	`\Vert` or `\\|`	⌋	`\rfloor`	⌉	`\rceil`
↑	`\uparrow`	⇑	`\Uparrow`	↕	`\updownarrow`
↓	`\downarrow`	⇓	`\Downarrow`	⇕	`\Updownarrow`
⟦	`[\![`	⟪	`(\!(`	⟪	`\langle\!\langle`
⟧	`]\!]`	⟫	`)\!)`	⟫	`\rangle\!\rangle`

`\left#1 \right#1`	expanding delimeters
`\left. \right.`	empty delimeters
`\bigl#1 \bigr#1`	big delimeters
`\Bigl#1 \Bigr#1`	bigger delimeters
`\biggl#1 \biggr#1`	even bigger delimeters

Non-Italic Function Names

`\arccos`	`\cos`	`\csc`	`\exp`	`\ker`	`\limsup`	`\min`	`\sinh`
`\arcsin`	`\cosh`	`\deg`	`\gcd`	`\lg`	`\ln`	`\Pr`	`\sup`
`\arctan`	`\cot`	`\det`	`\hom`	`\lim`	`\log`	`\sec`	`\tan`
`\arg`	`\coth`	`\dim`	`\inf`	`\liminf`	`\max`	`\sin`	`\tanh`

Alignments and Displayed Equations

`\\`	separate lines
`&`	separate items in a line
`\align` ... `\endalign`	align equations, full width of page
`\alignat#1` ... `\endalignat`	align #1 pairs
`\xalignat#1` ... `\endxalignat`	equally spaced
`\xxalignat#1` ... `\endxxalignat`	equally spaced, flush
`\aligned` ... `\endaligned`	align equations, width as needed
`\alignedat#1` ... `\endalignedat`	align #1 pairs
`\topaligned` ... `\endtopaligned`	align along top
`\botaligned` ... `\endbotaligned`	align along bottom
`\gather` ... `\endgather`	centered equations, full width of page
`\gathered` ... `\endgathered`	centered equations, width as needed
`\multline` ... `\endmultline`	first line left, middle lines centered, last line right
`\shoveleft#1`	shove lines left
`\shoveright#1`	shove lines right
`\multlinegap{`⟨dimen⟩`}`	change margins
`\cases` ... `\endcases`	case construction
`\split` ... `\endsplit`	align split equations with variable tag placement
`\Sb` ... `\endSb`	multi-line subscript
`\Sp` ... `\endSp`	multi-line superscript
`\text#1`	text within formula
`\intertext#1`	text between lines
`\foldedtext#1`	lines of text in formula
`\topfoldedtext#1`	top-aligned folded text
`\botfoldedtext#1`	bottom-aligned folded text
`\foldedwidth{`⟨dimen⟩`}`	set width of folded text
`\allowdisplaybreak`	allow page break after line
`\allowdisplaybreaks`	allow page breaks after any line
`\displaybreak`	force page break after line
`\vspace{`⟨dimen⟩`}`	extra space between two lines
`\spreadlines{`⟨dimen⟩`}`	extra space between every line
`\spreadmatrixlines{`⟨dimen⟩`}`	same for a matrix
`\jot`	unit of vertical space
`\tag#1`	tag for a formula
`\thetag#1`	refer to tag in current style
`\tag"*"`	tag exactly as specified

Matrices

`\matrix` ... `\endmatrix`	matrix alignment
`\pmatrix` ... `\endpmatrix`	matrix with parentheses
`\bmatrix` ... `\endbmatrix`	matrix with brackets
`\vmatrix` ... `\endvmatrix`	matrix with vertical lines
`\Vmatrix` ... `\endVmatrix`	matrix with double vertical lines
`\smallmatrix` ... `\endsmallmatrix`	small matrix
`\format`	specify a format for a matrix
`\c \l \r`	format entry center, left, right

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