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 CONTENTS ARE NOT VERIFIED
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$\$ \backslash \text{rm} \backslash \text{TeX} \$$ Commands available in MathJax

[Jump to the alphabetical list of commands](#)

MathJax allows a syntax modeled on both $\$ \backslash \text{rm} \backslash \text{TeX} \$$ and $\$ \backslash \text{rm} \backslash \text{LaTeX} \$$.

Therefore, web authors can use familiar and concise commands when creating mathematics with MathJax.

The $\$ \backslash \text{rm} \backslash \text{TeX} \$$ commands available in MathJax are listed alphabetically on this page, each with a brief description.

Everything is on this single page, instead of (say) having each letter as its own page.

My decision is that the advantages of this approach outweigh the disadvantage:

ADVANTAGES

- You can easily scroll through and use 'find' features on everything at once, making it more likely to find what you're looking for, even if you don't know its name.
- You can use this page as a 'MathJax torture test'.
If it loads in an acceptable time, and displays things acceptably, then you're all set.
- It's easier to compare different viewing environments with everything on the same page.
- You can do stretching exercises while the page loads,
and improve your flexibility while you're learning about MathJax.

DISADVANTAGE

This is a *big* page.
 There is lots of MathJax to process.
 Load time may not be insignificant.

The following links may be useful:

- To get started using MathJax, please read [Getting Started](#).
- [TeX and LaTeX in HTML Documents](#) discusses a few issues to be aware of when mixing TeX syntax with HTML.
- Need to define your own macros?
MathJax supports both `\def` and `\newcommand`.
You must include your definitions within a math block, e.g. inside `\$ \backslash` or `\(\)`, so that MathJax will process them.
You can also [use JavaScript to define new commands that are preloaded with MathJax](#) (scroll down to 'Macros').
- [Syntax for TeX Commands available in MathJax](#) gives information about the syntax used in this documentation to describe commands.
It also includes a table of length units available in MathJax.
- The [MathJax Users Group](#) is a support forum and open discussion for the MathJax Project.
Please be sure to [read the MathJax documentation](#) and search the forum discussions before creating a new post,
to see if your question has already been answered.

For your convenience, you can test your MathJax code below:

MathJax output appears here:

Alphabetical List of $\$ \backslash \text{rm} \backslash \text{TeX} \$$ Commands available in MathJax

Some entries are logically grouped together, instead of appearing alphabetically.

Know the *shape* of a character that you want, but not its name? [Draw it here!](#)

[symbols](#)

symbols

#	<p>indicates arguments in definitions Example: $\begin{aligned} & \text{\\$}\\$ \\ & \text{\backslashdef\specialFrac#1#2}\{\frac{x + \#1}{y + \#2}\} \\ & \text{\specialFrac}\{7\}\{z+3\} \\ & \text{\\$}\\$ \end{aligned}$ </p> <p style="text-align: center;">yields</p> <p style="text-align: right;">$\text{\\$}\text{\backslashdef\specialFrac#1#2}\{\frac{x + \#1}{y + \#2}\}\text{\specialFrac}\{7\}\{z+3\}\text{\\$}\\$</p>
%	<p>used for a single-line comment in math mode Example: $\\$x \% \text{ a comment } \\$ yields $\\$x \% \text{ a comment } \\$</p> <p>Internet Explorer caution:</p>
&	<p>used as separators in alignment environments; used in HTML character codes within math mode; for a literal ampersand, use \&</p> <p>Examples: $\text{\\$}\&\text{lt};\text{\\$}$ yields $\\$<\\$ $\text{\\$}\&\text{gt};\text{\\$}$ yields $\\$>\\$</p>
^	<p>used to indicate exponents; used to indicate superscripts <optional #1> ^ #2 the base (#1) is optional; use braces, as needed, to clarify what is the base and what is the exponent</p> <p>Examples: $\text{\^}i$ yields $\text{\\$}\text{\^}i\text{\\$}$ $\text{\^}i_2$ yields $\text{\\$}\text{\^}i_2\text{\\$}$ $\{\text{\^}i\}_2$ yields $\text{\\$}\{\text{\^}i\}_2\text{\\$}$ $\text{\^}\{i_2\}$ yields $\text{\\$}\text{\^}\{i_2\}\text{\\$}$ $\text{\^}\{i^2\}$ yields $\text{\\$}\text{\^}\{i^2\}\text{\\$}$ $\{\text{\^}i\}^2$ yields $\text{\\$}\{\text{\^}i\}^2\text{\\$}$ Note: $\text{\^}i^2$ yields an error.</p>
_	<p>used to indicate subscripts <optional #1> _ #2 argument #1 is optional; use braces, as needed, to clarify what is subscript</p> <p>Examples: $_2$ yields $\text{\\$}_2\text{\\$}$ $\text{_}i^2$ yields $\text{\\$}\text{_}i^2\text{\\$}$ $\{\text{_}i\}^2$ yields $\text{\\$}\{\text{_}i\}^2\text{\\$}$ $\text{_}\{i^2\}$ yields $\text{\\$}\text{_}\{i^2\}\text{\\$}$ $\text{_}\{i_2\}$ yields $\text{\\$}\text{_}\{i_2\}\text{\\$}$ $\{\text{_}i\}_2$ yields $\text{\\$}\{\text{_}i\}_2\text{\\$}$ Note: $\text{_}i_2$ yields an error.</p>
	<p>braces, used for grouping; for literal braces, use $\text{\{}$ and $\text{\}}$</p> <p>There are two basic grouping constructs that use braces; I will refer to them as 'arguments' versus 'braced environment'. If you're not aware which construct is in force, then you can get unexpected results. The examples below should clarify.</p> <p>ARGUMENTS: In this documentation, arguments are indicated by #1, #2, etc. An argument is either a single 'token' (like 'a' or '\alpha'), or is a group enclosed in braces. The \boldsymbol command takes an argument, notated by: $\text{\boldsymbol}\#1$ Thus:</p>

	<table border="1"> <tr> <td><code>\boldsymbol aa</code></td> <td>yields</td> <td><code>\$\boldsymbol aa\$</code></td> <td>the first token, 'a' becomes bold</td> </tr> <tr> <td><code>\boldsymbol \alpha\alpha</code></td> <td>yields</td> <td><code>\$\boldsymbol \alpha\alpha\$</code></td> <td>the first token, '\alpha' becomes bold</td> </tr> <tr> <td><code>\boldsymbol{a\alpha}a\alpha</code></td> <td>yields</td> <td><code>\$\boldsymbol{a\alpha}a\alpha\$</code></td> <td>braces have been used to make the argument the group 'a\alpha', so both become bold</td> </tr> </table>	<code>\boldsymbol aa</code>	yields	<code>\$\boldsymbol aa\$</code>	the first token, 'a' becomes bold	<code>\boldsymbol \alpha\alpha</code>	yields	<code>\$\boldsymbol \alpha\alpha\$</code>	the first token, '\alpha' becomes bold	<code>\boldsymbol{a\alpha}a\alpha</code>	yields	<code>\$\boldsymbol{a\alpha}a\alpha\$</code>	braces have been used to make the argument the group 'a\alpha', so both become bold																				
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{ }	<p>BRACED ENVIRONMENT: A 'braced environment' creates an environment inside which some behavior is in force. For example, the <code>\bf</code> (boldface) command creates a braced environment, notated by: <code>{\bf ... }</code> A good way to think of a braced environment is that an action is getting 'turned on'. If a braced environment is not explicitly opened with the leading '{', then it either:</p> <ul style="list-style-type: none"> • stays on until the end of math mode; or • stays on until it is replaced by a competing environment (see examples below) <p>Thus:</p> <table border="1"> <tr> <td><code>\bf ab</code></td> <td>yields</td> <td><code>\$\bf ab\$</code></td> <td>turn on boldface; stays on to end of math mode</td> </tr> <tr> <td><code>{\bf ab}cd</code></td> <td>yields</td> <td><code>\${\bf ab}cd\$</code></td> <td>an explicit boldface environment is entered; the 'cd' falls outside this environment</td> </tr> <tr> <td><code>\bf{ab}cd</code></td> <td>yields</td> <td><code>\$\bf{ab}cd\$</code></td> <td>turn on boldface; stays on to end of math mode</td> </tr> <tr> <td><code>{\bf{ab}c}d</code></td> <td>yields</td> <td><code>\${\bf{ab}c}d\$</code></td> <td>an explicit boldface environment is entered; the 'd' falls outside this environment</td> </tr> <tr> <td><code>ab \bf cd \rm ef</code></td> <td>yields</td> <td><code>\$ab \bf cd \rm ef\$</code></td> <td>the competing <code>\rm</code> braced environment turns off boldface</td> </tr> <tr> <td><code>ab \bf cd {\rm ef} gh</code></td> <td>yields</td> <td><code>\$ab \bf cd {\rm ef} gh\$</code></td> <td>the 'gh' is still in the boldface environment</td> </tr> </table> <p>Make sure you see the difference in the behaviors below:</p> <table border="1"> <tr> <td><code>\boldsymbol{ab}cd</code></td> <td>yields</td> <td><code>\$\boldsymbol{ab}cd\$</code></td> <td><code>\boldsymbol</code> takes an argument</td> </tr> <tr> <td><code>\bf{ab}cd</code></td> <td>yields</td> <td><code>\$\bf{ab}cd\$</code></td> <td><code>\bf</code> is a braced environment</td> </tr> </table>	<code>\bf ab</code>	yields	<code>\$\bf ab\$</code>	turn on boldface; stays on to end of math mode	<code>{\bf ab}cd</code>	yields	<code>\${\bf ab}cd\$</code>	an explicit boldface environment is entered; the 'cd' falls outside this environment	<code>\bf{ab}cd</code>	yields	<code>\$\bf{ab}cd\$</code>	turn on boldface; stays on to end of math mode	<code>{\bf{ab}c}d</code>	yields	<code>\${\bf{ab}c}d\$</code>	an explicit boldface environment is entered; the 'd' falls outside this environment	<code>ab \bf cd \rm ef</code>	yields	<code>\$ab \bf cd \rm ef\$</code>	the competing <code>\rm</code> braced environment turns off boldface	<code>ab \bf cd {\rm ef} gh</code>	yields	<code>\$ab \bf cd {\rm ef} gh\$</code>	the 'gh' is still in the boldface environment	<code>\boldsymbol{ab}cd</code>	yields	<code>\$\boldsymbol{ab}cd\$</code>	<code>\boldsymbol</code> takes an argument	<code>\bf{ab}cd</code>	yields	<code>\$\bf{ab}cd\$</code>	<code>\bf</code> is a braced environment
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!	<p>negative thin space; i.e., it 'back ups' a thin space amount Example: compare normal spacing <code>'\$rm IRS'</code> with a negative thinspace between <code>'\$rm !R\$'</code></p>																																
\, \: \> \;	<p><code>\,</code> thin space (normally $\frac{16}{54}$ of a quad) <code>\:</code> alternate thin space?? <code>\></code> medium space (normally $\frac{29}{54}$ of a quad) ?? <code>\;</code> thick space (normally $\frac{518}{54}$ of a quad) ??</p> <p>Examples: normal spacing between letters: <code>\$abababab\$</code> using <code>\,</code> between letters: <code>\$a\,b\,a\,b\,a\,b\,a\,b\$</code> using <code>\:</code> between letters: <code>\$a\:b\:a\:b\:a\:b\:a\:b\$</code> using <code>\></code> between letters: <code>\$a\>b\>a\>b\>a\>b\>a\>b\$</code> using <code>\;</code> between letters: <code>\$a\;b\;a\;b\;a\;b\;a\;b\$</code></p> <p>see also: \thinspace</p>																																
\ (backslash space)	<p>control space; <code>\$\rm\TeX\$</code> often ignores spaces, or collapses multiple spaces to a single space. A control space is used to force <code>\$\rm\TeX\$</code> to typeset a space.</p> <p>Compare: <code>\rm This is a sentence.</code> yields <code>\$\rm This is a sentence.\$</code> <code>\rm This\ is\ a\ sentence.</code> yields <code>\$\rm This is\ a\ sentence.\$</code> <code>\rm This-is-a-sentence.</code> yields <code>\$\rm This~is~a~sentence.\$</code> <code>\text{This is a sentence.}</code> yields <code>\$\text{This is a sentence.}\$</code></p> <p>see also: \text</p>																																
	<p>tilde; non-breaking space;</p>																																

~ (tilde character)		produces a blank space where $\rm\TeX$ is not allowed to break between lines Compare: $\rm Dr. Carol J.V. Fisher$ yields $\rm Dr. Carol J.V. Fisher$ $\rm Dr.~Carol~J.V.~Fisher$ yields $\rm Dr.~Carol~J.V.~Fisher$ $\text{Dr. Carol J.V. Fisher}$ yields $\text{Dr. Carol J.V. Fisher}$
\#	$\#\$$	# literal number sign; literal pound sign; needed since # is used to indicate arguments in definitions
\\$	$\$\$$	$ literal dollar sign; needed since \$ may (optionally) be used to delimit math mode Dollar sign outside of math mode:
\%	$\%\$$	% literal percent sign; needed since % is used to begin a single-line comment
\&	$\&\$$	& literal ampersand; needed since ampersands are used as separators in alignment environments and for HTML character codes inside math mode
\[line separator in alignment modes and environments Example: $\begin{gather} a \\ a+b \\ a+b+c \end{gather}$ yields $\begin{gather} a \\ a+b \\ a+b+c \end{gather}$ For a literal backslash, see \backslash . see also: \cr
_	$_\$$	_ literal underscore; needed since underscores are used for subscripts Example: a_2 yields a_2 Example: a_{2} yields a_{2}
\{ \}	$\{\ \}\$$	literal braces; needed since braces are used for grouping in math mode Example: $\{1,2,3\}$ yields $\{1,2,3\}$ Example: $\{1,2,3\}$ yields $\{1,2,3\}$ see also: \lbrace , \rbrace
	$\ \$$	pipe character; vertical bar; absolute value Example: $ x $ yields $ x $
\	$\ \$$	∥ Example: $\ x\ $ yields $\ x\ $
()	$\(\)\$$	parentheses
.	$\.\$$	period; decimal point In some environments (but not all): With numbers on either side, there is no surrounding space: 3.14 yields 3.14 With non-numeric characters, there is a slight amount of space on right: $a.b$ yields $a.b$ To suppress this space, enclose the '.' in braces: $a{.}b$ yields $a{.}b$
/	$\/\$$	forward slash
[]	$\[\]\$$	(square) brackets see also: \lbrack , \rbrack

A		general command for making fractions; gives control over thickness of horizontal fraction bar { <subformula1> \above <dimen> <subformula2> } Creates a fraction: numerator subformula1 denominator subformula2 fraction bar has thickness dimen Examples:
\above		

		<p>a $\overset{1pt}{b}$ yields \$a \overset{1pt}{b}\$ a+1 $\overset{1pt}{b+2}$ yields \$a+1 \overset{1pt}{b+2}\$ {a+1 $\overset{1pt}{b+2}$}+c yields \${a+1 \overset{1pt}{b+2}}+c\$ Compare with: \atop, \over</p>
\abovewithdelims		<p>most general command for making fractions; gives control over thickness of horizontal fraction bar; specifies left and right enclosing delimiters { <subformula1> \abovewithdelims <delim1> <delim2> <dimen> <subformula2> } Creates a fraction: numerator subformula1 denominator subformula2 fraction bar has thickness dimen delim1 is put before the fraction delim2 is put after the fraction For an empty delimiter, use '' in place of the delimiter.</p> <p>Examples: a $\abovewithdelims [] 1pt b$ yields \$a \abovewithdelims [] 1pt b\$ a+1 $\abovewithdelims . 1.5pt b+2$ yields \$a+1 \abovewithdelims . 1.5pt b+2\$ {a+1 $\abovewithdelims \{ \} 1pt b+2$}+c yields \${a+1 \abovewithdelims \{ \} 1pt b+2}+c\$ Compare with: \atopwithdelims, \overwithdelims</p>
\acute{u}	$\$ \acute{} \$$	<p>&#x02CA; acute accent \acute #1 Usually, #1 is a single letter; otherwise, accent is centered over argument.</p> <p>Examples: \acute e yields \$ \acute e \$ \acute E yields \$ \acute E \$ \acute eu yields \$ \acute eu \$ \acute{eu} yields \$ \acute{eu} \$</p>
\aleph	$\$ \aleph \$$	ℵ
α	$\$ \alpha \$$	α lowercase Greek letter alpha
\amalg	$\$ \amalg \$$	⨿
\And	$\$ \And \$$	& ampersand
\angle	$\$ \angle \$$	∠
\approx	$\$ \approx \$$	≈
\approxeq AMSsymbols	$\$ \approxeq \$$	≊
\arccos	$\$ \arccos \$$	If alternate notation is desired, define: \def\arccosAlt{\cos^{-1}} so that \$ \arccosAlt(x) \$ yields \$ \def\arccosAlt{\cos^{-1}} \arccosAlt(x) \$
\arcsin	$\$ \arcsin \$$	If alternate notation is desired, define: \def\arcsinAlt{\sin^{-1}} so that \$ \arcsinAlt(x) \$ yields \$ \def\arcsinAlt{\sin^{-1}} \arcsinAlt(x) \$
\arctan	$\$ \arctan \$$	If alternate notation is desired, define: \def\arctanAlt{\tan^{-1}} so that \$ \arctanAlt(x) \$ yields \$ \def\arctanAlt{\tan^{-1}} \arctanAlt(x) \$
\arg	$\$ \arg \$$	
\array		<p>forms a structure where adjacent elements are 'centered' vertically #1 \array #2 where: #1 is the first (left) entry #2 is the second (right) entry</p> <p>Compare: $\{ \frac{a}{b} \} \array { \frac{1}{\frac{2}{3}} } \\$ yields $\{ \frac{a}{b} \} \array { \frac{1}{\frac{2}{3}} } \\$ $\frac{a}{b} \frac{1}{\frac{2}{3}} \\$ yields $\frac{a}{b} \frac{1}{\frac{2}{3}} \\$</p>
\Arrowvert	$\$ \Arrowvert \$$	‖
\arrowvert	$\$ \arrowvert \$$	⏐
\ast	$\$ \ast \$$	∗

		asterisk
<code>\asymp</code>	<code>\\$asymp\$</code>	<code>&#x224D;</code>
<code>\atop</code>		<p>general command for making a fraction-like structure, but without the horizontal fraction bar $\{ <subformula1> \atop <subformula2> \}$ Creates a fraction-like structure: 'numerator' <code>subformula1</code> 'denominator' <code>subformula2</code></p> <p>Examples: <code>a \atop b</code> yields $a \atop b$ <code>a+1 \atop b+2</code> yields $a+1 \atop b+2$ <code>{a+1 \atop b+2}+c</code> yields $\{a+1 \atop b+2\}+c$ Compare with: \above</p>
<code>\atopwithdelims</code>		<p>general command for making a fraction-like structure, but without the horizontal fraction bar; specifies left and right enclosing delimiters $\{ <subformula1> \atopwithdelims <delim1> <delim2> <subformula2> \}$ Creates a fraction-like structure: 'numerator' <code>subformula1</code> 'denominator' <code>subformula2</code> <code>delim1</code> is put before the structure <code>delim2</code> is put after the structure For an empty delimiter, use '.' in place of the delimiter.</p> <p>Examples: <code>a \atopwithdelims [] b</code> yields $a \atopwithdelims [] b$ <code>a+1 \atopwithdelims . b+2</code> yields $a+1 \atopwithdelims . b+2$ <code>{a+1 \atopwithdelims \{ \} b+2}+c</code> yields $\{a+1 \atopwithdelims \{ \} b+2\}+c$ Compare with: \abovewithdelims, \overwithdelims</p>

B

<code>\backepsilon</code>	AMSsymbols	<code>\\$backepsilon\$</code>	<code>&#x220D;</code>
<code>\backprime</code>	AMSsymbols	<code>\\$backprime\$</code>	<code>&#x2035;</code>
<code>\backsim</code>	AMSsymbols	<code>\\$backsim\$</code>	<code>&#x223D;</code>
<code>\backsimeq</code>	AMSsymbols	<code>\\$backsimeq\$</code>	<code>&#x22CD;</code>
<code>\backslash</code>		<code>\\$backslash\$</code>	<code>&#x2216;</code>
<code>\bar</code>		<code>\\$bar{ }\$</code>	<p><code>&#x02C9;</code> non-stretchable bar $\bar{\#1}$ Usually, #1 is a single letter; otherwise, bar is centered over argument.</p> <p>Examples: <code>\bar x</code> yields \bar{x} <code>\bar X</code> yields \bar{X} <code>\bar xy</code> yields \bar{xy} <code>\bar{xy}</code> yields \bar{xy}</p>
<code>\barwedge</code>	AMSsymbols	<code>\\$barwedge\$</code>	<code>&#x22BC;</code>
<code>\Bbb</code>			<p>blackboard bold; only uppercase letters and lowercase 'k' are affected $\Bbb{\#1}$ Examples: <code>\Bbb R</code> yields $\Bbb R$ <code>\Bbb ZR</code> yields $\Bbb ZR$ <code>\Bbb{AaBb}Cc</code> yields $\Bbb{AaBb}Cc$ <code>\Bbb{ABCDEFGHIJKLMNopqrstuvwxyz}</code> yields $\Bbb{ABCDEFGHIJKLMNopqrstuvwxyz}$</p>
<code>\Bbbk</code>	AMSsymbols	<code>\\$Bbbk\$</code>	<code>&#x006B;</code>
<code>\because</code>	AMSsymbols	<code>\\$because\$</code>	<code>&#x2235;</code>
<code>\begin</code>			used in \begin{xxx} ... \end{xxx} environments
<code>\beta</code>		<code>\\$beta\$</code>	<code>&#x03B2;</code> lowercase Greek letter beta

<code>\beth</code>	AMSsymbols	<code>\$_beth\$</code>	<code>&#x2136;</code>																																					
<code>\between</code>	AMSsymbols	<code>\$_between\$</code>	<code>&#x226C;</code>																																					
<code>\bf</code>			turns on boldface; affects uppercase and lowercase letters, and digits {\bf ... } Examples: <code>\bf AaBb\alpha\beta123</code> yields $\mathbf{AaBb\alpha\beta123}$ <code>{\bf A B} A B</code> yields $\{\mathbf{A B}\} A B$ <code>\bf AB \rm CD</code> yields $\mathbf{AB \rm CD}$ <code>\bf {AB}CD</code> yields $\mathbf{\{AB\}CD}$																																					
<code>\Bigg</code> <code>\bigg</code> <code>\Big</code> <code>\big</code>			fixed-height large delimiters; can be followed by any of the following symbols: <table border="1" style="width:100%; text-align:center;"> <tr> <td>(</td><td>)</td><td>[</td><td>]</td><td> </td><td>\ </td><td>\{</td><td>\}</td><td>\backslash</td><td>\\</td><td>/</td><td>&lt;</td><td>&gt;</td> </tr> </table> <table style="width:100%; text-align:center;"> <tr> <td><code>\$_Bigg\$</code></td><td><code>\$_bigg\$</code></td><td><code>\$_Big\$</code></td><td><code>\$_big\$</code></td><td><code>\$_\$</code></td><td><code>\$_big<\$</code></td><td><code>\$_Big>\$</code></td><td><code>\$_Bigg\backslash\$</code></td> </tr> <tr> <td><code>\Bigg[</code></td><td><code>\bigg[</code></td><td><code>\Big[</code></td><td><code>\big[</code></td><td><code>[</code></td><td><code>\big&lt;</code></td><td><code>\Big&gt;</code></td><td><code>\Bigg\backslash</code></td> </tr> <tr> <td>2.470 em</td><td>2.047 em</td><td>1.623 em</td><td>1.2 em</td><td></td><td></td><td></td><td>(in this context, literal backslash)</td> </tr> </table>	()	[]		\	\{	\}	\backslash	\\	/	<	>	<code>\$_Bigg\$</code>	<code>\$_bigg\$</code>	<code>\$_Big\$</code>	<code>\$_big\$</code>	<code>\$_\$</code>	<code>\$_big<\$</code>	<code>\$_Big>\$</code>	<code>\$_Bigg\backslash\$</code>	<code>\Bigg[</code>	<code>\bigg[</code>	<code>\Big[</code>	<code>\big[</code>	<code>[</code>	<code>\big&lt;</code>	<code>\Big&gt;</code>	<code>\Bigg\backslash</code>	2.470 em	2.047 em	1.623 em	1.2 em				(in this context, literal backslash)
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<code>\Bigg[</code>	<code>\bigg[</code>	<code>\Big[</code>	<code>\big[</code>	<code>[</code>	<code>\big&lt;</code>	<code>\Big&gt;</code>	<code>\Bigg\backslash</code>																																	
2.470 em	2.047 em	1.623 em	1.2 em				(in this context, literal backslash)																																	
<code>\Biggl</code> <code>\Biggm</code> <code>\Biggr</code> <code>\biggl</code> <code>\biggm</code> <code>\biggr</code> <code>\Bigl</code> <code>\Bigm</code> <code>\Bigl</code> <code>\bigl</code> <code>\bigm</code> <code>\bigl</code>			fixed-height large delimiters; can be followed by any of the following symbols: <table border="1" style="width:100%; text-align:center;"> <tr> <td>(</td><td>)</td><td>[</td><td>]</td><td> </td><td>\ </td><td>\{</td><td>\}</td><td>\backslash</td><td>\\</td><td>/</td><td>&lt;</td><td>&gt;</td> </tr> </table> <p>These are identical to \Bigg, \bigg, \Big, \big; however, the 'l' (left), 'm' (middle), and 'r' (right) specifications may make reading the source code more meaningful, especially when you have delimiters inside delimiters.</p> <table style="width:100%; text-align:center;"> <tr> <td><code>\$_Biggl\$</code></td><td><code>\$_biggl\$</code></td><td><code>\$_Bigl\$</code></td><td><code>\$_bigl\$</code></td><td><code>\$_\$</code></td><td><code>\$_bigl<\$</code></td><td><code>\$_Bigr>\$</code></td> </tr> <tr> <td><code>\Biggl[</code></td><td><code>\biggl[</code></td><td><code>\Bigl[</code></td><td><code>\bigl[</code></td><td><code>[</code></td><td><code>\bigl&lt;</code></td><td><code>\Bigr&gt;</code></td> </tr> <tr> <td>2.470 em</td><td>2.047 em</td><td>1.623 em</td><td>1.2 em</td><td></td><td></td><td></td> </tr> </table>	()	[]		\	\{	\}	\backslash	\\	/	<	>	<code>\$_Biggl\$</code>	<code>\$_biggl\$</code>	<code>\$_Bigl\$</code>	<code>\$_bigl\$</code>	<code>\$_\$</code>	<code>\$_bigl<\$</code>	<code>\$_Bigr>\$</code>	<code>\Biggl[</code>	<code>\biggl[</code>	<code>\Bigl[</code>	<code>\bigl[</code>	<code>[</code>	<code>\bigl&lt;</code>	<code>\Bigr&gt;</code>	2.470 em	2.047 em	1.623 em	1.2 em						
()	[]		\	\{	\}	\backslash	\\	/	<	>																												
<code>\$_Biggl\$</code>	<code>\$_biggl\$</code>	<code>\$_Bigl\$</code>	<code>\$_bigl\$</code>	<code>\$_\$</code>	<code>\$_bigl<\$</code>	<code>\$_Bigr>\$</code>																																		
<code>\Biggl[</code>	<code>\biggl[</code>	<code>\Bigl[</code>	<code>\bigl[</code>	<code>[</code>	<code>\bigl&lt;</code>	<code>\Bigr&gt;</code>																																		
2.470 em	2.047 em	1.623 em	1.2 em																																					
<code>\bigcap</code>		<code>\$_bigcap\$</code>	<code>&#x22C2;</code>																																					
<code>\bigcirc</code>		<code>\$_bigcirc\$</code>	<code>&#x25EF;</code>																																					
<code>\bigcup</code>		<code>\$_bigcup\$</code>	<code>&#x22C3;</code>																																					
<code>\bigodot</code>		<code>\$_bigodot\$</code>	<code>&#x2A00;</code>																																					
<code>\bigoplus</code>		<code>\$_bigoplus\$</code>	<code>&#x2A01;</code>																																					
<code>\bigotimes</code>		<code>\$_bigotimes\$</code>	<code>&#x2A02;</code>																																					
<code>\bigsqcup</code>		<code>\$_bigsqcup\$</code>	<code>&#x2A06;</code>																																					
<code>\bigstar</code>	AMSsymbols	<code>\$_bigstar\$</code>	<code>&#x2605;</code>																																					
<code>\bigtriangledown</code>		<code>\$_bigtriangledown\$</code>	<code>&#x25BD;</code>																																					
<code>\bigtriangleup</code>		<code>\$_bigtriangleup\$</code>	<code>&#x25B3;</code>																																					
<code>\biguplus</code>		<code>\$_biguplus\$</code>	<code>&#x2A04;</code>																																					
<code>\bigvee</code>		<code>\$_bigvee\$</code>	<code>&#x22C1;</code>																																					
<code>\bigwedge</code>		<code>\$_bigwedge\$</code>	<code>&#x22C0;</code>																																					
<code>\binom</code>	AMSmath		notation commonly used for binomial coefficients <code>\binom #1 #2</code> Examples: <code>\binom n k</code> yields (inline mode) $\binom{n}{k}$ <code>\binom n k</code> yields (display mode) $\displaystyle\binom{n}{k}$ <code>\binom{n-1}{k-1}</code> yields $\binom{n-1}{k-1}$ <code>\binom{n-1}{k-1}</code> yields $\binom{n-1}{k-1}$ see also: \choose , \dbinom , \tbinom																																					
<code>\blacklozenge</code>	AMSsymbols	<code>\$_blacklozenge\$</code>	<code>&#x29EB;</code>																																					
<code>\blacksquare</code>	AMSsymbols	<code>\$_blacksquare\$</code>	<code>&#x25A0;</code>																																					
<code>\blacktriangle</code>	AMSsymbols	<code>\$_blacktriangle\$</code>	<code>&#x25B2;</code>																																					
<code>\blacktriangledown</code>	AMSsymbols	<code>\$_blacktriangledown\$</code>	<code>&#x25BC;</code>																																					

<code>\blacktriangleleft</code>	AMSSymbols	<code>\blacktriangleleft\$</code>	◀
<code>\blacktriangleright</code>	AMSSymbols	<code>\blacktriangleright\$</code>	▶
<code>\bmod</code>		<code>\bmod\$</code>	
<code>\boldsymbol</code>			<p><code>\boldsymbol #1</code> Examples: <code>\boldsymbol aa</code> yields $\boldsymbol aa$ <code>\boldsymbol \alpha\alpha</code> yields $\boldsymbol \alpha\alpha$ <code>\boldsymbol {a\alpha}a\alpha</code> yields $\boldsymbol {a\alpha}a\alpha$</p>
<code>\bot</code>		<code>\bot\$</code>	⊥
<code>\bowtie</code>		<code>\bowtie\$</code>	⋈
<code>\Box</code>	AMSSymbols	<code>\Box\$</code>	□
<code>\boxdot</code>	AMSSymbols	<code>\boxdot\$</code>	⊡
<code>\boxed</code>	AMSmath		<p>puts a box around argument; argument is in math mode <code>\boxed #1</code> Examples: <code>\boxed ab</code> yields $\boxed ab$ <code>\boxed{ab}</code> yields \boxed{ab} <code>\boxed{ab\strut}</code> yields $\boxed{ab\strut}$ <code>\boxed{\text{boxed text}}</code> yields $\boxed{\text{boxed text}}$ see also: \fbox</p>
<code>\boxminus</code>	AMSSymbols	<code>\boxminus\$</code>	⊟
<code>\boxplus</code>	AMSSymbols	<code>\boxplus\$</code>	⊞
<code>\boxtimes</code>	AMSSymbols	<code>\boxtimes\$</code>	⊠
<code>\brace</code>			<p>creates a braced structure <code>{ <subformula1> \brace <subformula2> }</code> Examples: <code>\brace</code> yields \brace <code>a\brace b</code> yields $a\brace b$ <code>a+b+c\brace d+e+f</code> yields $a+b+c\brace d+e+f$ <code>a+(b+c\brace d+e)+f</code> yields $a+(b+c\brace d+e)+f$</p>
<code>\bracevert</code>		<code>\bracevert\$</code>	⎪
<code>\brack</code>			<p>creates a bracketed structure <code>{ <subformula1> \brack <subformula2> }</code> Examples: <code>\brack</code> yields \brack <code>a\brack b</code> yields $a\brack b$ <code>a+b+c\brack d+e+f</code> yields $a+b+c\brack d+e+f$ <code>a+(b+c\brack d+e)+f</code> yields $a+(b+c\brack d+e)+f$</p>
<code>\breve</code>		<code>\breve{ }\$</code>	<p>&#x02D8; breve accent <code>\breve #1</code> Usually, #1 is a single letter; otherwise, accent is centered over argument. Examples: <code>\breve e</code> yields $\breve e$ <code>\breve E</code> yields $\breve E$ <code>\breve eu</code> yields $\breve eu$ <code>\breve{eu}</code> yields \breve{eu}</p>
<code>\buildrel ... \over ...</code>			<p><code>{ \buildrel <subformula1> \over #1 }</code> Examples: <code>\buildrel \alpha\beta \over \longrightarrow</code> yields $\buildrel \alpha\beta \over \longrightarrow$ <code>\buildrel \rm def \over {:=}</code> yields $\buildrel \rm def \over {:=}$</p>
<code>\bullet</code>		<code>\bullet\$</code>	∙
<code>\Bumpeq</code>	AMSSymbols	<code>\Bumpeq\$</code>	≎
<code>\bumpeq</code>	AMSSymbols	<code>\bumpeq\$</code>	≏

C

<code>\cal</code>		<p>turns on calligraphic mode; only affects uppercase letters, and digits <code>{\cal ... }</code> Examples: <code>\cal ABCDEFGHIJKLMNOPQRSTUVWXYZ</code> yields $\mathcal{ABCDEFGHIJKLMNOPQRSTUVWXYZ}$ <code>\cal 0123456789</code> yields $\mathcal{0123456789}$ <code>\cal abcdefghijklmnopqrstuvwxyz</code> yields $\mathcal{abcdefghijklmnopqrstuvwxyz}$ <code>abcdefghijklmnopqrstuvwxyz</code> yields $\mathcal{abcdefghijklmnopqrstuvwxyz}$ <code>{\cal AB}AB</code> yields $\mathcal{AB}AB$ <code>\cal AB \rm AB</code> yields $\mathcal{AB} \text{ AB}$ <code>\cal{AB}CD</code> yields $\mathcal{AB}CD$</p> <p>see also: \oldstyle</p>
<code>\cap</code>	<code>Cap\$</code>	<p><code>&#x2229;</code> see also: \cup</p>
<code>\Cap</code>	AMSSymbols <code>Cap\$</code>	<p><code>&#x22D2;</code> see also: \Cup, \doublecap, \doublecup</p>
<code>\cases</code>		<p>for piecewise-defined functions <code>\cases{ <math> & <math> \cr <repeat as needed> }</code> a double-backslash can be used in place of the <code>\cr</code>; the final <code>\\</code> or <code>\cr</code> is optional Example: $x = \begin{cases} x & \text{if } x \geq 0 \\ -x & \text{if } x < 0 \end{cases}$ yields $x = \begin{cases} x & \text{if } x \geq 0 \\ -x & \text{if } x < 0 \end{cases}$</p>
<code>\cdot</code>	<code>Cap\$</code>	<p><code>&#x22C5;</code> centered dot Example: <code>a\cdot b</code> yields $a \cdot b$</p>
<code>\cdotp</code>	<code>Cap\$</code>	<p><code>&#x22C5;</code> centered dot, punctuation symbol Compare: <code>\rm s \cdot h</code> yields $\text{rm s} \cdot \text{h}$ <code>\rm s \cdotp h</code> yields $\text{rm s} \cdotp \text{h}$ see also: \dotp</p>
<code>\cdots</code>	<code>Cap\$</code>	<p><code>&#x22EF;</code> centered dots; ellipsis; ellipses; dot dot dot Example: <code>x_1 + \cdots + x_n</code> yields $x_1 + \cdots + x_n$ see also: \dots, \ldots</p>
<code>\centerdot</code>	AMSSymbols <code>Cap\$</code>	<p><code>&#x22C5;</code> centered dot Example: <code>a\centerdot b</code> yields $a \centerdot b$</p>
<code>\cfrac</code>	AMSmath	<p>use for continued fractions <code>\cfrac #1 #2</code> Compare: <code>\frac{2}{1+\frac{2}{1+\frac{2}{1}}}</code> yields $\frac{2}{1+\frac{2}{1+\frac{2}{1}}}$ <code>\cfrac{2}{1+\cfrac{2}{1+\cfrac{2}{1}}}</code> yields $\cfrac{2}{1+\cfrac{2}{1+\cfrac{2}{1}}}$</p>
<code>\check</code>	<code>Cap\$</code>	<p><code>&#x02C7;</code> check accent <code>\check #1</code> Usually, #1 is a single letter; otherwise, accent is centered over argument. Examples:</p>

			$\backslash\checkmark$ o yields $\backslash\checkmark$ o\$ $\backslash\checkmark$ O yields $\backslash\checkmark$ O\$ $\backslash\checkmark$ oe yields $\backslash\checkmark$ oe\$ $\backslash\checkmark\{oe\}$ yields $\backslash\checkmark\{oe\}$ \$
$\backslash\checkmark$ mark	AMSsymbols	$\backslash\checkmark$ mark\$	#x2713;
$\backslash\chi$		$\backslash\chi$ \$	χ lowercase Greek letter chi
$\backslash\choose$			notation commonly used for binomial coefficients; different versions for inline and display modes { <subformula1> $\backslash\choose$ <subformula2> } Compare: $n+1 \backslash\choose k+1$ yields $n+1 \backslash\choose k+1$ $\backslash\binom{n+1}{k+1}$ yields $\backslash\binom{n+1}{k+1}$ $1+\{n \backslash\choose 1\}+k$ yields $1+\{n \backslash\choose 1\}+k$ see also: \binom , \dbinom
$\backslash\circ$		$\backslash\circ$ \$	∘ Example: $(f\backslash\circ g)(x) = f(g(x))$ yields $(f\backslash\circ g)(x) = f(g(x))$ \$
$\backslash\circeq$	AMSsymbols	$\backslash\circeq$ \$	≗
$\backslash\circlearrowleft$	AMSsymbols	$\backslash\circlearrowleft$ \$	↺ counterclockwise
$\backslash\circlearrowright$	AMSsymbols	$\backslash\circlearrowright$ \$	↻ clockwise
$\backslash\circledast$	AMSsymbols	$\backslash\circledast$ \$	⊛ circled asterisk
$\backslash\circledcirc$	AMSsymbols	$\backslash\circledcirc$ \$	⊚ circled circle
$\backslash\circleddash$	AMSsymbols	$\backslash\circleddash$ \$	⊝ circled dash
$\backslash\circledR$	AMSsymbols	$\backslash\circledR$ \$	® circled R
$\backslash\circledS$	AMSsymbols	$\backslash\circledS$ \$	Ⓢ circled S
$\backslash\class$????	[HTML] non-standard
$\backslash\clubsuit$		$\backslash\clubsuit$ \$	♣ see also: \diamondsuit , \heartsuit , \spadesuit
$\backslash\colon$		$\backslash\colon$ \$: a colon, treated as a punctuation mark (instead of a relation) Compare: $f:A\to B$ yields $f:A\to B$ $f\backslash\colon A\to B$ yields $f\backslash\colon A\to B$
$\backslash\color$			$\backslash\color$ #1 #2 Examples: $\backslash\color\{red\}\{\frac{1+\sqrt{5}}{2}\}$ yields $\backslash\color\{red\}\{\frac{1+\sqrt{5}}{2}\}$ \$ $\backslash\color\{#0000FF\}AB$ yields $\backslash\color\{#0000FF\}AB$ \$
$\backslash\complement$	AMSsymbols	$\backslash\complement$ \$	∁
$\backslash\cong$		$\backslash\cong$ \$	≅ congruent
$\backslash\coprod$		$\backslash\coprod$ \$	∐ coproduct
$\backslash\cos$		$\backslash\cos$ \$	cosine Examples: $\backslash\cos x$ yields $\backslash\cos x$ $\backslash\cos(2x-1)$ yields $\backslash\cos(2x-1)$ \$
$\backslash\cosh$		$\backslash\cosh$ \$	hyperbolic cosine Examples: $\backslash\cosh x$ yields $\backslash\cosh x$

		<code>\cosh(2x-1)</code> yields $\cosh(2x-1)$
<code>\cot</code>	<code>\$\$\cot\$</code>	cotangent Examples: <code>\cot x</code> yields $\cot x$ <code>\cot(2x-1)</code> yields $\cot(2x-1)$
<code>\coth</code>	<code>\$\$\coth\$</code>	hyperbolic cotangent Examples: <code>\coth x</code> yields $\coth x$ <code>\coth(2x-1)</code> yields $\coth(2x-1)$
<code>\cr</code>		carriage return; line separator in alignment modes and environments see also: \l
<code>\csc</code>	<code>\$\$\csc\$</code>	cosecant Examples: <code>\csc x</code> yields $\csc x$ <code>\csc(2x-1)</code> yields $\csc(2x-1)$
<code>\cssId</code>	???	[HTML] non-standard
<code>\cup</code>	<code>\$\$\cup\$</code>	<code>&#x222A;</code> see also: \cap
<code>\Cup</code> AMSsymbols	<code>\$\$\Cup\$</code>	<code>&#x22D3;</code> see also: \Cap , \doublecap , \doublecup
<code>\curlyeqprec</code> AMSsymbols	<code>\$\$\curlyeqprec\$</code>	<code>&#x22DE;</code>
<code>\curlyeqsucc</code> AMSsymbols	<code>\$\$\curlyeqsucc\$</code>	<code>&#x22DF;</code>
<code>\curlyvee</code> AMSsymbols	<code>\$\$\curlyvee\$</code>	<code>&#x22CE;</code>
<code>\curlywedge</code> AMSsymbols	<code>\$\$\curlywedge\$</code>	<code>&#x22CF;</code>
<code>\curvearrowleft</code> AMSsymbols	<code>\$\$\curvearrowleft\$</code>	<code>&#x21B6;</code> counterclockwise
<code>\curvearrowright</code> AMSsymbols	<code>\$\$\curvearrowright\$</code>	<code>&#x21B7;</code> clockwise

D

<code>\dagger</code>	<code>\$\$\dagger\$</code>	<code>&#x2020;</code> dagger
<code>\ddagger</code>	<code>\$\$\ddagger\$</code>	<code>&#x2021;</code> double dagger
<code>\daleth</code> AMSsymbols	<code>\$\$\daleth\$</code>	<code>&#x2138;</code>
<code>\dashleftarrow</code> AMSsymbols	<code>\$\$\dashleftarrow\$</code>	<code>&#x21E0;</code> non-stretchy dashed left arrow
<code>\dashrightarrow</code> AMSsymbols	<code>\$\$\dashrightarrow\$</code>	<code>&#x21E2;</code> non-stretchy dashed right arrow
<code>\dashv</code>	<code>\$\$\dashv\$</code>	<code>&#x22A3;</code>
<code>\dbinom</code> AMSmath		notation commonly used for binomial coefficients; display version (in both inline and display modes) <code>\dbinom #1 #2</code> Examples: <code>\dbinom n k</code> yields (inline mode) $\dbinom n k$ <code>\dbinom n k</code> yields (display mode) $\displaystyle\binom n k$ <code>\dbinom{n-1}{k-1}</code> yields $\binom{n-1}{k-1}$ <code>\dbinom{n-1}{k-1}</code> yields $\binom{n-1}{k-1}$ see also: \binom , \choose
	<code>\$\$\dot{}\$</code> <code>\$\$\ddot{}\$</code> <code>\$\$\ddd{}\$</code> <code>\$\$\dddd{}\$</code>	<code>&#x02D9;</code> dot accent <code>&#x00A8;</code> double dot accent triple dot accent quadruple dot accent

$\dot{}$		<code>\dot #1</code>	
$\ddot{}$		<code>\ddot #1</code>	
$\dotted{}$	AMSMath	<code>\dotted #1</code>	
$\dotted{}$	AMSMath	<code>\dotted #1</code>	Usually, #1 is a single letter; otherwise, accent is centered over argument.
		Examples:	
		<code>\dot x</code>	yields \dot{x}
		<code>\ddot x</code>	yields \ddot{x}
		<code>\dotted x</code>	yields \dotted{x}
		<code>\dotted x</code>	yields \dotted{x}
		<code>\dot x(t)</code>	yields $\dot{x}(t)$
		<code>\dotted{y(x)}</code>	yields $\dotted{y(x)}$
\dots		<code>\dots\$</code>	<code>&#x22F1;</code> three diagonal dots
<code>\DeclareMathOperator</code>	AMSMath	<code>???</code>	<code>???</code>
<code>\def</code>			for defining your own commands (control sequences, macros, definitions); <code>\def</code> may appear in the head or body of a web page, but must appear (within math delimiters) before it is used <code>\def\myCommandName{ <replacement text> }</code> Example: <code>\def\myHearts{\color{purple}{\heartsuit}\kern-2.5pt\color{green}{\heartsuit}}</code> <code>\myHearts\myHearts</code> yields: $\color{purple}{\heartsuit}\kern-2.5pt\color{green}{\heartsuit} \color{purple}{\heartsuit}\color{green}{\heartsuit}$ A definition may take one or more arguments: Example: <code>\def\myHearts#1#2{\color{#1}{\heartsuit}\kern-2.5pt\color{#2}{\heartsuit}}</code> <code>\myHearts{red}{blue}</code> yields: $\color{red}{\heartsuit}\kern-2.5pt\color{blue}{\heartsuit} \color{red}{\heartsuit}\color{blue}{\heartsuit}$ see also: \newcommand
\deg		<code>\deg\$</code>	degree
δ		<code>\delta\$</code>	<code>&#x03B4</code> lowercase Greek letter delta
Δ		<code>\Delta\$</code>	<code>&#x0394</code> uppercase Greek letter delta
\det		<code>\det\$</code>	determinant
$\dfrac{a}{b}$	AMSMath		fractions; display version (in both inline and display modes) <code>\dfrac #1 #2</code> Examples: <code>\dfrac a b</code> yields (inline mode) $\dfrac{a}{b}$ <code>\dfrac a b</code> yields (display mode) $\dfrac{a}{b}$ <code>\frac a b</code> yields (inline mode) $\frac{a}{b}$ <code>\dfrac{a-1}{b-1}</code> yields $\dfrac{a-1}{b-1}$ <code>\dfrac{a-1}{b-1}</code> yields $\dfrac{a-1}{b-1}$ see also: \frac
\diagdown	AMSSymbols	<code>\diagdown\$</code>	<code>&#x2572;</code> diagonal down (from left to right)
\diagup	AMSSymbols	<code>\diagup\$</code>	<code>&#x2571;</code> diagonal up (from left to right)
\diamond		<code>\diamond\$</code>	<code>&#x22C4;</code> small diamond
\Diamond	AMSSymbols	<code>\Diamond\$</code>	<code>&#x25CA;</code> large diamond
\diamondsuit		<code>\diamondsuit\$</code>	<code>&#x2662;</code> see also: \clubsuit , \heartsuit , \spadesuit
\digamma	AMSSymbols	<code>\digamma\$</code>	<code>&#x03DD;</code>
\dim		<code>\dim\$</code>	dimension
			to display any number of formulas, without any alignment; can be used in inline or display mode

<p><code>\displaylines</code></p>		<p><code>\displaylines{ <math> \cr <repeat as needed> }</code> a double-backslash can be used in place of the <code>\cr</code>; the final <code>\\</code> or <code>\cr</code> is optional</p> <p>Example:</p> <pre>\displaylines{ a = a\\ \text{if } a=b \text{ then } b=a\\ \text{if } a=b \text{ and } b=c \text{ then } a=c }</pre> <p>see also: gather</p>
<p><code>\displaystyle</code></p>		<p>used to over-ride automatic style rules and force display style; stays in force until the end of math mode or the braced environment, or until another style is selected</p> <p><code>{ \displaystyle ... }</code></p> <p>Example: In inline mode: <code>\frac ab+\displaystyle\frac ab+\textstyle\frac ab+\scriptstyle\frac ab+\scriptscriptstyle\frac ab</code> yields: $\frac ab + \frac ab + \frac ab + \frac ab + \frac ab$</p> <p>Example: In inline mode: <code>\frac ab + {\displaystyle \frac cd + \frac ef} + \frac gh</code> yields $\frac ab + (\frac cd + \frac ef) + \frac gh$</p> <p>Example: In inline mode: <code>\frac ab + \displaystyle{\frac cd + \frac ef} + \frac gh</code> yields $\frac ab + (\frac cd + \frac ef) + \frac gh$</p> <p>see also: \textstyle, \scriptstyle, \scriptscriptstyle</p>
<p><code>\div</code></p>	<p><code> \$\div\$ </code></p>	<p><code>&#x00F7;</code> division symbol</p>
<p><code>\divideontimes</code></p>	<p>AMSSymbols <code> \$\divideontimes\$ </code></p>	<p><code>&#x22C7;</code></p>
<p><code>\doteq</code></p>	<p><code> \$\doteq\$ </code></p>	<p><code>&#x2250;</code></p>
<p><code>\Doteq</code></p>	<p>AMSSymbols <code> \$\Doteq\$ </code></p>	<p><code>&#x2251;</code></p>
<p><code>\dotplus</code></p>	<p>AMSSymbols <code> \$\dotplus\$ </code></p>	<p><code>&#x2214;</code></p>
<p><code>\dots</code></p>	<p><code> \$\dots\$ </code></p>	<p><code>&#x2026;</code> lower dots; ellipsis; ellipses; dot dot dot</p> <p>Examples: <code>x_1,\dots,x_n</code> yields x_1,\dots,x_n <code>x_1,\ldots,x_n</code> yields x_1,\ldots,x_n <code>x_1+\cdots+x_n</code> yields $x_1+\cdots+x_n$</p> <p>see also: \cdots, \ldots</p>
<p><code>\dotsb</code> <code>\dotsc</code> <code>\dotsi</code> <code>\dotsm</code> <code>\dotso</code></p>		<p><code>&#x22EF;</code> <code>\dotsb</code> centered dots <code>\$\dotsb b\$</code> <code>&#x2026;</code> <code>\dotsc</code> lower dots <code>\$\dotsc b\$</code> <code>&#x22EF;</code> <code>\dotsi</code> centered dots <code>\$\dotsi b\$</code> <code>&#x22EF;</code> <code>\dotsm</code> centered dots <code>\$\dotsm b\$</code> <code>&#x2026;</code> <code>\dotso</code> lower dots <code>\$\dotso b\$</code></p> <p>see also: \cdots, \dots, \ldots</p>
<p><code>\doublebarwedge</code></p>	<p>AMSSymbols <code> \$\doublebarwedge\$ </code></p>	<p><code>&#x2A5E;</code></p>
<p><code>\doublecap</code> <code>\doublecup</code></p>	<p>AMSSymbols <code> \$\doublecap\$ </code> AMSSymbols <code> \$\doublecup\$ </code></p>	<p><code>&#x22D2;</code> <code>&#x22D3;</code></p>

		see also: \Cap , \Cup
<code>\downarrow</code>	<code>\\$downarrow\$</code>	<code>&#x2193;</code> non-stretchy down arrow
<code>\Downarrow</code>	<code>\\$Downarrow\$</code>	<code>&#x21D3;</code> non-stretchy double down arrow
<code>\downdownarrows</code> AMSSymbols	<code>\\$downdownarrows\$</code>	<code>&#x21CA;</code> non-stretchy down down arrows
<code>\downharpoonleft</code> AMSSymbols	<code>\\$downharpoonleft\$</code>	<code>&#x21C3;</code> non-stretchy down harpoon left
<code>\downharpoonright</code> AMSSymbols	<code>\\$downharpoonright\$</code>	<code>&#x21C2;</code> non-stretchy down harpoon right

E

<code>\ell</code>	<code>\\$ell\$</code>	<code>&#x2113;</code>
<code>\emptyset</code>	<code>\\$emptyset\$</code>	<code>&#x2205;</code> empty set
<code>\end</code>		used in \begin{xxx}... \end{xxx} environments
<code>\enspace</code>		<code>\enspace</code> is a 0.5em space Example: <code> \enspace \enspace </code> yields <code> \enspace \enspace </code>
<code>\epsilon</code>	<code>\\$epsilon\$</code>	<code>&#x03F5;</code> lowercase Greek letter epsilon
<code>\eqalign</code>		<p>equation alignment; for aligning multi-line displays at a single place <code>\eqalign{ <math> & <math> \cr <repeat as needed> }</code> the ampersand is placed where alignment is desired; a double-backslash can be used in place of the <code>\cr</code> ; the final <code>\\</code> or <code>\cr</code> is optional; output is the same in both inline and display modes (except for the amount of vertical space before and after); supports only a single <code>\tag</code>, which accepts <i>only</i> text input; the tag is vertically centered</p> <p>Example:</p> <pre>\eqalign{ \tag{3.1c} 3x - 4y &= 5\cr x + 7 &= -2y }</pre> <p>yields: <code>\$\$ \eqalign{ \tag{3.1c} 3x - 4y &= 5\cr x + 7 &= -2y } \$\$</code> Example: A <code><math></code> component may be empty:</p> <pre>\eqalign{ (a+b)^2 &= (a+b)(a+b) \\ &= a^2 + ab + ba + b^2 \\ &= a^2 + 2ab + b^2 }</pre> <p>yields: <code>\$\$ \eqalign{ (a+b)^2 &= (a+b)(a+b) \\ &= a^2 + ab + ba + b^2 \\ &= a^2 + 2ab + b^2 } \$\$</code> Example: The result of <code>\eqalign</code> is a vertically-centered block; you can use more than one in the same display:</p> <pre>\left\{ \eqalign{ a &= 1 \\ b &= 2 \\ c &= 3 }\right\} \quad \eqalign{ ax + by &= c \\ x + 2y &= 3 }</pre> <p>yields: <code>\$\$ \left\{ \eqalign{ a &= 1\ b &= 2\ c &= 3 }\right\} \quad \eqalign{ ax + by &= c \ x + 2y &= 3 } \$\$</code> see also: \eqalignno; the align environment</p>
<code>\eqalignno</code>		<p>equation alignment with optionally numbered (tagged) lines <code>\eqalignno{ <math> & <math> <equation tag> \cr <repeat as needed> }</code> the first ampersand is placed where alignment is desired; the second ampersand is used just before a tag; if there is no tag, then the final <code>& <equation tag></code> is omitted; a double-backslash can be used in place of the <code>\cr</code> ; the final <code>\\</code> or <code>\cr</code> is optional; output is the same in both inline and display modes (except for the amount of vertical space before and after);</p> <p>Example:</p>

		<pre>\equalignno{ 3x - 4y &= 5 &(\dagger) \cr x + 7 &= -2y &(\ddagger)\cr z &= 2 }</pre>
		yields: $\$ \equalignno{ 3x - 4y \&= 5 \&(\dagger)\cr x + 7 \&= -2y \&(\ddagger)\cr z \&= 2 } \$$ see also: \equalign ; the align environment
\eqcirc	AMSSymbols	\eqcirc ≖
\eqsim	AMSSymbols	\eqsim ≂
\eqslantgtr	AMSSymbols	\eqslantgtr &##x2A96;
\eqslantless	AMSSymbols	\eqslantless &##x2A95;
\equiv		\equiv ≡
\eta		\eta η lowercase Greek letter eta
\eth	AMSSymbols	\eth ð
\exists		\exists ∃ there exists
\exp		\exp exponential function

F

\fallingdotseq	AMSSymbols	\fallingdotseq ≒
\fbox		<p>puts a box around argument; argument is in text mode equivalent to: $\text{\boxed{\text{\#1}}}$ \fbox \#1 where #1 is rendered as text</p> <p>Examples: $\text{\boxed{Hi there!}}$ yields $\text{\boxed{Hi there!}}$ $\text{\fbox{Hi there!}}$ yields $\text{\fbox{Hi there!}}$ see also: \boxed</p>
\Finv	AMSSymbols	\Finv Ⅎ
\flat		\flat ♭ musical flat symbol see also: \sharp
\forall		\forall ∀ universal quantifier; for all; for every; for each
\frac	AMSmath	<p>fractions: displays differently in inline and display modes \frac \#1 \#2 Examples: \frac a b yields (inline mode) \frac a b \frac a b yields (display mode) $\text{\displaystyle\frac a b}$ $\text{\frac{a-1}{b-1}}$ yields $\text{\frac{a-1}{b-1}}$ $\text{\frac{a-1}{b-1}}$ yields $\text{\frac{a-1}{b-1}}$ see also: \dfrac, \lfrac</p>
\frak		<p>turns on fraktur; affects uppercase and lowercase letters, and digits {\frak ... } Examples: $\text{\frak ABCDEFGHIJKLMNOPQRSTUVWXYZ}$ yields $\text{\frak ABCDEFGHIJKLMNOPQRSTUVWXYZ}$ \frak 0123456789 yields \frak 0123456789 $\text{\frak abcdefghijklmnopqrstuvwxyz}$ yields $\text{\frak abcdefghijklmnopqrstuvwxyz}$ $\text{\frak AB}AB$ yields $\text{\frak AB}AB$ \frak AB \rm AB yields \frak AB \rm AB \frak AB \cal AB yields \frak AB \cal AB</p>
\frown		\frown ⌢ see also: \smile

G

<code>\Game</code>	AMSsymbols	<code>\$_Game\$</code>	⅁
<code>\gamma</code>		<code>\$_gamma\$</code>	γ lowercase Greek letter gamma
<code>\Gamma</code>		<code>\$_Gamma\$</code>	Γ uppercase Greek letter gamma
<code>\gcd</code>		<code>\$_gcd\$</code>	greatest common divisor
<code>\ge</code>		<code>\$_ge\$</code>	≥ <code>\ge</code>
<code>\geq</code>		<code>\$_geq\$</code>	≥ <code>\geq</code>
<code>\geqq</code>	AMSsymbols	<code>\$_geqq\$</code>	≧ <code>\geqq</code>
<code>\geqslant</code>	AMSsymbols	<code>\$_geqslant\$</code>	⩾ <code>\geqslant</code>
			greater than or equal to
<code>\genfrac</code>	AMSMath		<p>the most general command for defining fractions with optional delimiters and line thickness <code>\genfrac #1 #2 #3 #4 #5 #6</code> where:</p> <ul style="list-style-type: none"> • #1 is the left delimiter (empty, for no left delimiter) • #2 is the right delimiter (empty, for no right delimiter) • #3 is the fraction bar thickness (set to Opt to make it disappear) • #4 is either 0, 1, 2, or 3, where: <ul style="list-style-type: none"> ◦ 0 denotes <code>\displaystyle</code> ◦ 1 denotes <code>\textstyle</code> ◦ 2 denotes <code>\scriptstyle</code> ◦ 3 denotes <code>\scriptscriptstyle</code> • #5 is the numerator • #6 is the denominator <p>Example: <code>\genfrac{1}{0pt}{1}{a+b}{c+d}</code> yields: $\genfrac{1}{0pt}{1}{a+b}{c+d}$</p>
<code>\gets</code>		<code>\$_gets\$</code>	← non-stretchy left arrow
<code>\gg</code>		<code>\$_gg\$</code>	≫
<code>\ggg</code>	AMSsymbols	<code>\$_ggg\$</code>	⋙
<code>\gggtr</code>	AMSsymbols	<code>\$_gggtr\$</code>	⋙
<code>\gimel</code>	AMSsymbols	<code>\$_gimel\$</code>	ℷ
<code>\gtrapprox</code>	AMSsymbols	<code>\$_gtrapprox\$</code>	⪆
<code>\gnapprox</code>	AMSsymbols	<code>\$_gnapprox\$</code>	⪊
<code>\gneq</code>	AMSsymbols	<code>\$_gneq\$</code>	⪈
<code>\gneqq</code>	AMSsymbols	<code>\$_gneqq\$</code>	≩
<code>\gvertneqq</code>	AMSsymbols	<code>\$_gvertneqq\$</code>	≩
<code>\gtrsim</code>	AMSsymbols	<code>\$_gtrsim\$</code>	≳
<code>\gnsim</code>	AMSsymbols	<code>\$_gnsim\$</code>	⋧
<code>\grave</code>		<code>\$_grave{}\$</code>	<p>&#x02CB; grave accent <code>\grave #1</code> Usually, #1 is a single letter; otherwise, accent is centered over argument.</p> <p>Examples: <code>\grave e</code> yields $\grave e$ <code>\grave E</code> yields $\grave E$ <code>\grave eu</code> yields $\grave eu$ <code>\grave{eu}</code> yields \grave{eu}</p>
<code>\gt</code>		<code>\$_gt\$</code>	> greater than

<code>\gtrdot</code>	AMSsymbols	<code>\gtrdot\$</code>	<code>&#x22D7;</code>
<code>\gtreqless</code>	AMSsymbols	<code>\gtreqless\$</code>	<code>&#x22DB;</code>
<code>\gtreqqless</code>	AMSsymbols	<code>\gtreqqless\$</code>	<code>&#x2A8C;</code>
<code>\gtrless</code>	AMSsymbols	<code>\gtrless\$</code>	<code>&#x2277;</code>

H

<code>\hat</code>		<code>\$\hat{ }\$</code>	<p><code>&#x02CA;</code> non-stretchable hat accent <code>\hat #1</code> Usually, #1 is a single letter; otherwise, accent is centered over argument.</p> <p>Examples: <code>\hat\imath</code> yields $\hat{\imath}$ <code>\hat\jmath</code> yields $\hat{\jmath}$ <code>\hat ab</code> yields \hat{ab} <code>\hat{ab}</code> yields \hat{ab}</p> <p>see also: \widehat</p>
<code>\hbar</code>		<code>\$\hbar\$</code>	<code>&#x210F;</code>
<code>\hbox</code>			<p>horizontal box; contents are treated as text <code>\hbox #1</code> Examples: <code>\hbox{\alpha a}</code> yields $\hbox{\alpha a}$ <code>\hbox{This is a sentence.}</code> yields $\hbox{This is a sentence.}$</p> <p>see also: \text, \rm</p>
<code>\hdashline</code> <code>\hline</code>			<p>works in many of the environments to create a horizontal line, or a horizontal dashed line</p> <p>Putting <code>\hdashline</code> or <code>\hline</code> at the beginning of the first row encases the entire structure:</p> <pre>\begin{matrix} \hdashline x_{11} & x_{12} \\ x_{21} & x_{22} \\ x_{31} & x_{32} \end{matrix}</pre> <p>yields $\begin{matrix} \hdashline x_{11} & x_{12} \\ x_{21} & x_{22} \\ x_{31} & x_{32} \end{matrix}$</p> <p>Putting <code>\hdashline</code> or <code>\hline</code> at the beginning of any subsequent row puts a line over that row:</p> <pre>\begin{matrix} x_{11} & x_{12} \\ x_{21} & x_{22} \\ \hline x_{31} & x_{32} \end{matrix}</pre> <p>yields $\begin{matrix} x_{11} & x_{12} \\ x_{21} & x_{22} \\ \hline x_{31} & x_{32} \end{matrix}$</p> <p>You can combine effects, and put in struts (as desired) for additional vertical spacing:</p> <pre>\begin{matrix} \hline x_{11} & x_{12} \\ x_{21} & x_{22} \\ \hdashline x_{31} & x_{32} \end{matrix}</pre> <p>yields $\begin{matrix} \hline x_{11} & x_{12} \\ x_{21} & x_{22} \\ \hdashline x_{31} & x_{32} \end{matrix}$</p>
<code>\heartsuit</code>		<code>\$\heartsuit\$</code>	<code>&#x2661;</code> see also: \clubsuit , \diamondsuit , \spadesuit
<code>\hom</code>		<code>\$\hom\$</code>	homomorphism
<code>\hookleftarrow</code>		<code>\$\hookleftarrow\$</code>	<code>&#x21A9;</code>
<code>\hookrightarrow</code>		<code>\$\hookrightarrow\$</code>	<code>&#x21AA;</code>
			<p>horizontal phantom</p> <p>Sometimes you want to <i>pretend</i> that something is there, for spacing reasons, but you don't want it to appear—you want it to be invisible—you want it to be a phantom.</p>

<code>\hphantom</code>		<p>The box created by <code>\hphantom</code> has the width of its argument, but its height and depth are zero (so it doesn't contribute to any vertical spacing issues). In other words, <code>\hphantom</code> creates horizontal space equal to that produced by its argument, but doesn't create any vertical space.</p> <p><code>\hphantom #1</code> Example:</p> <pre>\begin{array}{l} \text{{Side Angle Side}}\backslash \text{{S}}\hphantom{\text{{ide }}}\text{{A}}\hphantom{\text{{ngle }}}\text{{S}} \end{array}</pre> <p>yields</p> $\begin{array}{l} \text{{Side Angle Side}}\backslash \text{{S}}\hphantom{\text{{ide }}}\text{{A}}\hphantom{\text{{ngle }}}\text{{S}} \end{array}$ <p>see also: \phantom, \vphantom</p>
<code>\href [HTML]</code>	???	???
<code>\hskip</code>		<p>horizontal glue; horizontal space; horizontal skipping <code>\hskip <dimen></code> Example:</p> <pre>w\hskip1em i\hskip2em d\hskip3em e\hskip4em r</pre> <p>yields</p> $w\hskip1em i\hskip2em d\hskip3em e\hskip4em r$ <p>see also: \hspace</p>
<code>\hslash AMSsymbols</code>	<code>\$\hslash\$</code>	<code>&#x210F;</code>
<code>\hspace</code>		<p>horizontal glue; horizontal space; horizontal skipping <code>\hspace <dimen></code> Example:</p> <pre>s\hspace7ex k\hspace6ex i\hspace5ex n\hspace4ex n\hspace3ex i\hspace2ex e\hspace1ex r</pre> <p>yields</p> $s\hspace7ex k\hspace6ex i\hspace5ex n\hspace4ex n\hspace3ex i\hspace2ex e\hspace1ex r$ <p>see also: \hskip</p>
<code>\huge</code> <code>\Huge</code>		<p>turns on huge mode and an even bigger Huge mode {\huge ... } {\Huge ... } Examples:</p> <pre>\huge AaBb\alpha\beta123\frac ab\sqrt x yields \$\huge AaBb\alpha\beta123\frac ab\sqrt x\$ {\huge A B} A B yields \${\huge A B} A B\$ A\alpha\huge A\alpha \Huge A\alpha yields \$A\alpha\huge A\alpha \Huge A\alpha\$</pre> <p>see also: \large, \Large, \LARGE</p>

<code>\dotsint</code>	AMSMath	<code>\dotsint\$</code>	
<code>\iff</code>		<code>\$\iff\$</code>	<p><code>&#x27FA;</code> with a thick space on both sides if and only if; is equivalent to</p> <p>Example: <code>A\iff B</code> yields $A\iff B$</p>
<code>\iiint</code>	AMSMath	<code>\$\iiint\$</code>	four occurrences of <code>&#x222B;</code>
<code>\iint</code>		<code>\$\iint\$</code>	<code>&#x222D;</code>
<code>\int</code>		<code>\$\int\$</code>	<code>&#x222C;</code>
<code>\int</code>		<code>\$\int\$</code>	<code>&#x222B;</code>
<code>\intop</code>		<code>\$\intop\$</code>	<p><code>&#x222B;</code> (with movable limits)</p> <p>Compare the different limit placements (both in display mode):</p> <pre>\int_a^b yields \$\$\int_a^b\$\$ \intop_a^b yields \$\$\intop_a^b\$\$</pre>

<code>\im</code>	<code>\$\im\$</code>	<code>&#x2111;</code>
<code>\imath</code>	<code>\$\imath\$</code>	<p><code>&#x0131;</code> a dotless 'i'; better to use when accented</p> <p>Examples: <code>\hat i</code> yields \hat{i} <code>\hat\imath</code> yields $\hat{\imath}$</p> <p>see also: \jmath</p>
<code>\impliedby</code> AMSsymbols	<code>\$\impliedby\$</code>	<p><code>&#x27F8;</code> with a thick space on both sides</p> <p>Example: <code>P\impliedby Q</code> yields $P\impliedby Q$</p>
<code>\implies</code> AMSsymbols	<code>\$\implies\$</code>	<p><code>&#x27F9;</code> with a thick space on both sides</p> <p>Example: <code>P\implies Q</code> yields $P\implies Q$</p>
<code>\in</code>	<code>\$\in\$</code>	<p><code>&#x2208;</code> is in; is an element of; indicates membership in a set</p>
<code>\inf</code>	<code>\$\inf\$</code>	infimum; least upper bound
<code>\infty</code>	<code>\$\infty\$</code>	<p><code>&#x221E;</code> infinity</p>
<code>\injlim</code> AMSmath	<code>\$\injlim\$</code>	injective limit
<code>\intercal</code> AMSsymbols	<code>\$\intercal\$</code>	<code>&#x22BA;</code>
<code>\iota</code>	<code>\$\iota\$</code>	<p><code>&#x03B9;</code> lowercase Greek letter iota</p>
<code>\it</code>		<p>turns on math italic mode; to return to math italic mode if it had been turned off {\it ... }</p> <p>Examples: <code>{\bf ab \it ab}</code> yields $\{\bf ab \it ab\}$ <code>ab</code> <code>\rm for\ all\ {\it x}\ in\ \Bbb R</code> yields $\rm for\ all\ {\it x}\ in\ \Bbb R$</p>

J

<code>\jmath</code>	<code>\$\jmath\$</code>	<p><code>&#x0237;</code> a dotless 'j'; better to use when accented</p> <p>Examples: <code>\hat j</code> yields \hat{j} <code>\hat\jmath</code> yields $\hat{\jmath}$</p> <p>see also: \imath</p>
<code>\Join</code> AMSsymbols	<code>\$\Join\$</code>	<code>&#x22C8;</code>

K

<code>\kappa</code>	<code>\$\kappa\$</code>	<p><code>&#x03BA;</code> lowercase Greek letter kappa</p>
<code>\ker</code>	<code>\$\ker\$</code>	kernel
<code>\kern</code>		<p>to get a specified amount of horizontal space in math mode; a negative argument forces 'backing up', so items can overlap <code>\kern <dimen></code></p> <p>Examples: <code> \kern 2ex \kern 2em \kern 2pt </code> yields $\kern 2ex \kern 2em \kern 2pt$ <code>\rm I\kern-2.5pt R</code> yields $\rm I\kern-2.5pt R$</p>

L

<code>\lambda</code>	<code>\$\lambda\$</code>	<code>&#x03BB;</code> lowercase Greek letter lambda
<code>\Lambda</code>	<code>\$\Lambda\$</code>	<code>&#x039B;</code> uppercase Greek letter lambda

\land	$\$ \land \$$	<p>&#x2227; logical AND operator</p> <p>see also: \lor</p>
\sphericalangle	$\$ \sphericalangle \$$	<p>&#x27E8; non-stretchy left angle bracket</p> <p>see also: \rangle</p>
\LARGE \Large \large		<p>turns on large tpestyles $\{\LARGE \dots\}$ $\{\Large \dots\}$ $\{\large \dots\}$ Examples: $\Large AaBb\alpha\beta123\frac{ab}{c}$ yields $\\$ \Large AaBb\alpha\beta123\frac{ab}{c} \\$ $\{\Large A B\} A B$ yields $\\$ \{\Large A B\} A B \\$ $AB \large AB \Large AB \LARGE AB$ yields $\\$ AB \large AB \Large AB \LARGE AB \\$ $\Large \{AB\}CD$ yields $\\$ \Large \{AB\}CD \\$</p> <p>see also: \huge, \Huge</p>
\LaTeX	$\$ \LaTeX \$$	<p>the LaTeX logo</p> <p>see also: \TeX</p>
\lbrace	$\$ \lbrace \$$	<p>left brace: non-stretchy when used alone; stretchy when used with <code>\left</code> or <code>\right</code> (see below)</p> <p>Examples:</p> <p>$\lbrace \frac{ab}{c}$ yields $\\$ \lbrace \frac{ab}{c} \rbrace \\$ $\left \lbrace \frac{ab}{c} \right \rbrace$ yields $\\$ \left \lbrace \frac{ab}{c} \right \rbrace \\$</p> <p>see also: \rbrace, \{ \}</p>
\lbrack	$\$ \lbrack \$$	<p>left bracket: non-stretchy when used alone; stretchy when used with <code>\left</code> or <code>\right</code> (see below)</p> <p>Examples:</p> <p>$\lbrack \frac{ab}{c}$ yields $\\$ \lbrack \frac{ab}{c} \rbrack \\$ $\left \lbrack \frac{ab}{c} \right \rbrack$ yields $\\$ \left \lbrack \frac{ab}{c} \right \rbrack \\$</p> <p>see also: \rbrack, []</p>
\lceil	$\$ \lceil \$$	<p>&#x2308</p> <p>see also: \rceil</p>
\ldotp	$\$ \ldotp \$$	<p>&#x002E; lower dot, punctuation symbol</p> <p>Compare:</p> <p>$\rm s \ldotp h$ yields $\\$ \rm s \ldotp h \\$ $\rm s.h$ yields $\\$ \rm s.h \\$</p> <p>see also: \cdotp</p>
\ldots	$\$ \ldots \$$	<p>&#x2026; lower dots; ellipsis; ellipses; dot dot dot</p> <p>Example: x_1, \ldots, x_n yields $\\$ x_1, \ldots, x_n \\$</p> <p>see also: \cdots, \dots</p>
\le \leq \leqq AMSsymbols \leqslant AMSsymbols	$\$ \le \$$ $\$ \leq \$$ $\$ \leqq \$$ $\$ \leqslant \$$	<p>&#x2264; <code>\le</code></p> <p>&#x2264; <code>\leq</code></p> <p>&#x2266; <code>\leqq</code></p> <p>&#x2A7D; <code>\leqslant</code></p> <p>less than or equal to</p>
\leadsto AMSsymbols	$\$ \leadsto \$$	⇝

		used for stretchy delimiters
		Can be followed by: sample code:
\left		() \left(\frac{1}{2} \right)
		[] \left[\frac{1}{2} \right]
		\lbrack \left\lbrack \frac{1}{2} \right\rbrack
		\rbrack \right\rbrack
		\{ \} \left\{ \frac{1}{2} \right\}
		\lbrace \left\lbrace \frac{1}{2} \right\rbrace
		\rbrace \right\rbrace
		\lfloor \left\lfloor \frac{1}{2} \right\rfloor
		\rfloor \right\rfloor
		\lceil \left\lceil \frac{1}{2} \right\rceil
		\rceil \right\rceil
		\langle \left\langle \frac{1}{2} \right\rangle
		\rangle \right\rangle
		/ \backslash \left/ \phantom{\frac{1}{2}} \right.\backslash
		\vert \left\vert \phantom{\frac{1}{2}} \right\vert
	\Vert \right\Vert	
	\uparrow \left\uparrow \phantom{\frac{1}{2}} \right\downarrow	
	\downarrow \left\downarrow \phantom{\frac{1}{2}} \right\uparrow	
	\Uparrow \left\Uparrow \phantom{\frac{1}{2}} \right\Downarrow	
	\Downarrow \left\Downarrow \phantom{\frac{1}{2}} \right\Updownarrow	
	\updownarrow \left\updownarrow \phantom{\frac{1}{2}} \right\Updownarrow	
	\Updownarrow \left\Updownarrow \phantom{\frac{1}{2}} \right\updownarrow	
	see also: \right	
\leftarrow	\leftarrow	←
\Leftarrow	\Leftarrow	⇐
		non-stretchy left arrows
\leftarrowtail	\leftarrowtail	↢
		non-stretchy left arrow tail
\leftharpoondown	\leftharpoondown	↽
\leftharpoonup	\leftharpoonup	↼
		non-stretchy left harpoon arrows
\leftleftarrows	\leftleftarrows	⇇
		non-stretchy left left arrows
\leftrightarrows	\leftrightarrows	↔
\Leftrightarrow	\Leftrightarrow	⇔
		non-stretchy left right arrows
\leftrightarrows	\leftrightarrows	⇆
		non-stretchy left-right arrows
\leftrightharpoons, AMSsymbols	\leftrightharpoons	�
\leftrightsquigarrow, AMSsymbols	\leftrightsquigarrow	�
\leftroot	\leftroot	�
\leftthreetimes, AMSsymbols	\leftthreetimes	�
\leqalignno	\leqalignno	�
\lessapprox, AMSsymbols	\lessapprox	�
\lessdot, AMSsymbols	\lessdot	�
\lesseqgtr, AMSsymbols	\lesseqgtr	�
\lesseqgtr, AMSsymbols	\lesseqgtr	�
\lessgtr, AMSsymbols	\lessgtr	�
\lesssim, AMSsymbols	\lesssim	�
\lfloor	\lfloor	�
\lg	\lg	�

<code>\group</code>		<code>\group\$</code>	<code>&#x0000;</code>
<code>\hd</code> , AMSsymbols		<code>\hd\$</code>	<code>&#x0000;</code>
<code>\lim</code>		<code>\lim\$</code>	<code>&#x0000;</code>
<code>\liminf</code>		<code>\liminf\$</code>	<code>&#x0000;</code>
<code>\limits</code>		<code>\limits\$</code>	<code>&#x0000;</code>
<code>\limsup</code>		<code>\limsup\$</code>	<code>&#x0000;</code>
<code>\ll</code>		<code>\ll\$</code>	<code>&#x0000;</code>
<code>\llap</code>		<code>\llap\$</code>	<code>&#x0000;</code>
<code>\lcorner</code>	AMSsymbols	<code>\lcorner\$</code>	<code>&#x2514;</code> lower left corner
<code>\rcorner</code>	AMSsymbols	<code>\rcorner\$</code>	<code>&#x2518;</code> lower right corner see also: \ulcorner , \urcorner
<code>\Lleftarrow</code> , AMSsymbols		<code>\Lleftarrow\$</code>	<code>&#x0000;</code>
<code>\lll</code> , AMSsymbols		<code>\lll\$</code>	<code>&#x0000;</code>
<code>\lless</code> , AMSsymbols		<code>\lless\$</code>	<code>&#x0000;</code>
<code>\lmoustache</code>		<code>\lmoustache\$</code>	<code>&#x0000;</code>
<code>\ln</code>		<code>\ln\$</code>	<code>&#x0000;</code>
<code>\lnapprox</code> , AMSsymbols		<code>\lnapprox\$</code>	<code>&#x0000;</code>
<code>\lneq</code> , <code>\lneqq</code> , both AMSsymbols		<code>\lneq\$</code> <code>\lneqq\$</code>	<code>&#x0000;</code>
<code>\lnot</code>		<code>\lnot\$</code>	<code>&#x0000;</code>
<code>\lnsim</code> , AMSsymbols		<code>\lnsim\$</code>	<code>&#x0000;</code>
<code>\log</code>		<code>\log\$</code>	<code>&#x0000;</code>
<code>\longleftarrow</code>		<code>\longleftarrow\$</code>	
<code>\Llongleftarrow</code>		<code>\Llongleftarrow\$</code>	<code>&#x0000;</code> lowercase Greek letter lambda
<code>\longrightarrow</code>		<code>\longrightarrow\$</code>	<code>&#x0000;</code> uppercase Greek letter lambda
<code>\Longrightarrow</code>		<code>\Longrightarrow\$</code>	
<code>\longleftrightarrow</code>		<code>\longleftrightarrow\$</code>	<code>&#x0000;</code> lowercase Greek letter lambda
<code>\Llongleftrightarrow</code>		<code>\Llongleftrightarrow\$</code>	<code>&#x0000;</code> uppercase Greek letter lambda
<code>\longmapsto</code>		<code>\longmapsto\$</code>	<code>&#x0000;</code>
<code>\looparrowleft</code>	AMSsymbols	<code>\looparrowleft\$</code>	<code>&#x0000;</code> lowercase Greek letter lambda
<code>\looparrowright</code>	AMSsymbols	<code>\looparrowright\$</code>	<code>&#x0000;</code> uppercase Greek letter lambda
<code>\lor</code>		<code>\lor\$</code>	<code>&#x2228;</code> logical OR operator see also: \land
<code>\lower</code>		<code>\lower\$</code>	<code>&#x0000;</code>
<code>\lozenge</code> , AMSsymbols		<code>\lozenge\$</code>	<code>&#x0000;</code>
<code>\Lsh</code> , AMSsymbols		<code>\Lsh\$</code>	<code>&#x0000;</code>
<code>\lt</code>		<code>\lt\$</code>	<code>&#x0000;</code>
<code>\ltimes</code> , AMSsymbols		<code>\ltimes\$</code>	<code>&#x0000;</code>
<code>\lvert</code> , <code>\lVert</code> , AMSmath		<code>\lvert\$</code> <code>\lVert\$</code>	<code>&#x0000;</code>
<code>\lvertneqq</code> , AMSsymbols		<code>\lvertneqq\$</code>	<code>&#x0000;</code>

M

<code>\maltese</code> , AMSsymbols	<code>&#x0000;</code>
<code>\mapsto</code>	<code>&#x0000;</code>
<code>\mathbb</code>	<code>&#x0000;</code>

<code>\mathbf</code>	<code>&#x0000;</code>
<code>\mathbin</code>	<code>&#x0000;</code>
<code>\mathcal</code>	<code>&#x0000;</code>
<code>\mathchoice</code> [<code>mathchoice</code>]	<code>&#x0000;</code>
<code>\mathclose</code>	<code>&#x0000;</code>
<code>\mathfrak</code>	<code>&#x0000;</code>
<code>\mathinner</code>	<code>&#x0000;</code>
<code>\mathit</code>	<code>&#x0000;</code>
<code>\mathop</code>	<code>&#x0000;</code>
<code>\mathopen</code>	<code>&#x0000;</code>
<code>\mathord</code>	<code>&#x0000;</code>
<code>\mathpunct</code>	<code>&#x0000;</code>
<code>\mathrel</code>	<code>&#x0000;</code>
<code>\mathring</code> , <code>AMSMath</code>	<code>&#x0000;</code>
<code>\mathrm</code>	<code>&#x0000;</code>
<code>\mathscr</code>	<code>&#x0000;</code>
<code>\mathsf</code>	<code>&#x0000;</code>
<code>\mathstrut</code>	<code>&#x0000;</code>
<code>\mathtt</code>	<code>&#x0000;</code>
<code>\matrix</code>	<code>&#x0000;</code>
<code>\max</code>	<code>&#x0000;</code>
<code>\mbox</code>	<code>&#x0000;</code>
<code>\measuredangle</code> , <code>AMSsymbols</code>	<code>&#x0000;</code>
<code>\mho</code> , <code>AMSsymbols</code>	<code>&#x0000;</code>
<code>\mid</code>	<code>&#x0000;</code>
<code>\min</code>	<code>&#x0000;</code>
<code>\mit</code>	<code>&#x0000;</code>
<code>\mkern</code>	<code>&#x0000;</code>
<code>\mod</code>	<code>&#x0000;</code>
<code>\models</code>	<code>&#x0000;</code>

<code>\moveleft, moveright</code>	<code>&#x0000;</code>
<code>\mp</code>	<code>&#x0000;</code>
<code>\mskip</code>	<code>&#x0000;</code>
<code>\mspace</code>	<code>&#x0000;</code>
<code>\mu</code>	<code>&#x0000;</code>
<code>\multimap, AMSsymbols</code>	<code>&#x0000;</code>

N

<code>\nabla</code>	<code>&#x0000;</code>
<code>\natural</code>	<code>&#x0000;</code>
<code>\ncong, AMSsymbols</code>	<code>&#x0000;</code>
<code>\ne</code>	<code>&#x0000;</code>
<code>\nearrow</code>	<code>&#x0000;</code>
<code>\neg</code>	<code>&#x0000;</code>
<code>\negmedspace, \negthickspace, \negthinspace, all AMSmath</code>	<code>&#x0000;</code>
<code>\neq</code>	<code>&#x0000;</code>
<code>\newcommand</code>	see also: \def
<code>\newenvironment [newcommand]</code>	<code>&#x0000;</code>
<code>\newline</code>	<code>&#x0000;</code>
<code>\nexists, AMSsymbols</code>	<code>&#x0000;</code>
<code>\ngeq, \ngeqq both AMSsymbols</code>	<code>&#x0000;</code>
<code>\ngeqslant, AMSsymbols</code>	<code>&#x0000;</code>
<code>\ngtr, AMSsymbols</code>	<code>&#x0000;</code>
<code>\ni</code>	<code>&#x0000;</code>
<code>\leftarrow, \nLeftarrow, both AMSsymbols</code>	<code>&#x0000;</code>
<code>\leftrightarrow, \nLeftrightarrow, both AMSsymbols</code>	<code>&#x0000;</code>
<code>\leq, \leqq, both AMSsymbols</code>	<code>&#x0000;</code>
<code>\leqslant, AMSsymbols</code>	<code>&#x0000;</code>
<code>\less, AMSsymbols</code>	<code>&#x0000;</code>
<code>\mid, AMSsymbols</code>	<code>&#x0000;</code>
<code>\nobreakspace, AMSmath</code>	<code>&#x0000;</code>

<code>\nolimits</code>	<code>&#x0000;</code>
<code>\normalsize</code>	<code>&#x0000;</code>
<code>\not</code>	<code>&#x0000;</code>
<code>\notag</code> , [AMSMath]	<code>&#x0000;</code>
<code>\notin</code>	<code>&#x0000;</code>
<code>\nparallel</code> , AMSsymbols	<code>&#x0000;</code>
<code>\nprec</code> , AMSsymbols	<code>&#x0000;</code>
<code>\npreceq</code> , AMSsymbols	<code>&#x0000;</code>
<code>\nrightrightarrow</code> , <code>\nRightarrow</code> , both AMSsymbols	<code>&#x0000;</code>
<code>\nshortmid</code> , AMSsymbols	<code>&#x0000;</code>
<code>\nshortparallel</code> , AMSsymbols	<code>&#x0000;</code>
<code>\nsim</code> , AMSsymbols	<code>&#x0000;</code>
<code>\nsubseteq</code> , <code>\nsubseteqq</code> , both AMSsymbols	<code>&#x0000;</code>
<code>\nsucc</code> , <code>\nsucceq</code> , both AMSsymbols	<code>&#x0000;</code>
<code>\nsupseteq</code> , <code>\nsupseteqq</code> , both AMSsymbols	<code>&#x0000;</code>
<code>\ntriangleleft</code> , <code>\ntrianglelefteq</code> , both AMSsymbols	<code>&#x0000;</code>
<code>\ntriangleright</code> , <code>\ntrianglerighteq</code> , both AMSsymbols	<code>&#x0000;</code>
<code>\nu</code>	<code>&#x0000;</code>
<code>\nVDash</code> , <code>\nVdash</code> , <code>\nvDash</code> , <code>\nvDash</code> all AMSsymbols	<code>&#x0000;</code>
<code>\nwarrow</code>	<code>&#x0000;</code>

O

<code>\odot</code>	<code> \$\odot\$ </code>	<code>&#x2299;</code>
<code>\ominus</code>	<code> \$\ominus\$ </code>	<code>&#x2296;</code>
<code>\oplus</code>	<code> \$\oplus\$ </code>	<code>&#x2295;</code>
<code>\oslash</code>	<code> \$\oslash\$ </code>	<code>&#x2298;</code>
<code>\otimes</code>	<code> \$\otimes\$ </code>	<code>&#x2297;</code>
<code>\oint</code>	<code> \$\oint\$ </code>	<code>&#x222B;</code>
<code>\oldstyle</code>		<p>turns on oldstyle mode <code>{\oldstyle ... }</code> Examples: <code>\oldstyle ABCDEFGHIJKLMNOPQRSTUVWXYZ</code> yields <code> \$\oldstyle ABCDEFGHIJKLMNOPQRSTUVWXYZ\$ </code> <code>\oldstyle 0123456789</code> yields <code> \$\oldstyle 0123456789\$ </code> <code>\oldstyle abcdefghijklmnopqrstuvwxyz</code> yields <code> \$\oldstyle abcdefghijklmnopqrstuvwxyz\$ </code> <code>abcdefghijklmnopqrstuvwxyz</code> yields <code> \$abcdefghijklmnopqrstuvwxyz\$ </code> <code>{\oldstyle AB}AB</code> yields <code> \${\oldstyle AB}AB\$ </code></p>

		$\backslash oldstyle AB \backslash rm AB$ yields $\backslash oldstyle AB \backslash rm AB$ $\backslash oldstyle{AB}CD$ yields $\backslash oldstyle{AB}CD$ see also: \cal
$\backslash omega$ $\backslash Omega$	$\backslash omega$ $\backslash Omega$	$\&\#x03C9$; lowercase Greek letter omega $\&\#x03A9$; uppercase Greek letter omega
$\backslash omicron$	$\backslash omicron$	$\&\#x03BF$;
$\backslash operatorname AMSmath$?????	?????
$\backslash over$		general command for making fractions $\{ <subformula1> \over <subformula2> \}$ Creates a fraction: numerator $subformula1$ denominator $subformula2$ Examples: $a \backslash over b$ yields $a \over b$ $a+1 \backslash over b+2$ yields $a+1 \over b+2$ $\{a+1 \backslash over b+2\}+c$ yields $\{a+1 \over b+2\}+c$ Compare with: \above
$\backslash overbrace$		puts a (stretchable) over-brace over the argument; an optional superscript is placed over the overbrace; an optional subscript is placed below the argument $\backslash overbrace \#1$ Example: $\backslash overbrace{x + \backslash cdots + x}^{\backslash n\backslash rm \backslash times}_{\backslash text{(note here)}} yields \backslash overbrace{x + \backslash cdots + x}^{\backslash n\backslash rm \backslash times}_{\backslash text{(note here)}}$$ see also: \underbrace
$\backslash overleftarrow$ $\backslash overrightarrow$ $\backslash overleftrightharrow$	$\backslash overleftarrow{\}$ $\backslash overrightarrow{\}$ $\backslash overleftrightharrow{\}$	$\&\#x2190$; stretchable over left arrow $\&\#x2192$; stretchable over right arrow $\&\#x2194$; stretchable over left right arrow $\backslash overleftarrow \#1$ $\backslash overrightarrow \#1$ $\backslash overleftrightharrow \#1$ Examples: $\backslash overleftarrow{\backslash text{the argument}}$ yields $\backslash overleftarrow{\backslash text{the argument}}$ $\backslash overrightarrow{AB}$ yields $\backslash overrightarrow{AB}$ $\backslash overrightarrow{AB\backslash strut}$ yields $\backslash overrightarrow{AB\backslash strut}$ $\backslash overleftrightharrow{\backslash hspace1in}$ yields $\backslash overleftrightharrow{\backslash hspace1in}$
$\backslash overline$	$\backslash overline{\}$	$\&\#x203E$; stretchable overline $\backslash overline \#1$ Examples: $\backslash overline{AB}$ yields $\backslash overline{AB}$ $\backslash overline a$ yields $\backslash overline a$ $\backslash overline{\backslash text{a long argument}}$ yields $\backslash overline{\backslash text{a long argument}}$
$\backslash overset$		$\backslash overset \#1 \#2$ oversets argument #1 (in scriptstyle) over argument #2 (vertically centered) Examples: $\backslash overset{\backslash rm top}{\backslash rm bottom}$ yields $\backslash overset{\backslash rm top}{\backslash rm bottom}$ $\backslash overset ab$ yields $\backslash overset ab$
$\backslash overwithdelims$		general command for making fractions; uses default thickness for fraction bar for current size $\{ <subformula1> \overwithdelims <delim1> <delim2> <subformula2> \}$ Creates a fraction: numerator $subformula1$ denominator $subformula2$ $delim1$ is put before the fraction $delim2$ is put after the fraction For an empty delimiter, use ' ' in place of the delimiter.

		<p>Examples:</p> $a \overwithdelims [] b \quad \text{yields } \$a \overwithdelims [] b\$$ $a+1 \overwithdelims . b+2 \quad \text{yields } \$a+1 \overwithdelims . b+2\$$ $\{a+1 \overwithdelims \{ \} b+2\}+c \quad \text{yields } \$\{a+1 \overwithdelims \{ \} b+2\}+c\$$ <p>Compare with: \atopwithdelims, \abovewithdelims</p>
\owns	\owns\$	∋

P		
\parallel	\parallel\$	∥
\partial	\partial\$	∂
\perp	\perp\$	⊥ perpendicular to
\phantom		<p>phantom (both horizontal and vertical)</p> <p>Sometimes you want to <i>pretend</i> that something is there, for spacing reasons, but you don't want it to appear—you want it to be invisible—you want it to be a phantom.</p> <p>The box created by <code>\phantom</code> has width, height and depth equal to its argument. In other words, <code>\phantom</code> creates horizontal and vertical space equal to that of its argument, even though the argument isn't visible.</p> <p><code>\phantom #1</code> Example: $\sqrt{\frac{ab}}{\phantom{\frac{ab}}}}$ yields $\sqrt{\frac{ab}}{\phantom{\frac{ab}}}}$</p> <p>see also: \hphantom, \vphantom</p>
\phi	\phi\$	ϕ lowercase Greek letter phi
\Phi	\Phi\$	Φ uppercase Greek letter phi
\pi	\pi\$	π lowercase Greek letter pi
\Pi	\Pi\$	Π uppercase Greek letter Pi
\pitchfork	AMSSymbols \pitchfork\$	⋔
\pm	\pm\$	&x00B1; plus or minus see also: \mp
\pmatrix		<p>matrix enclosed in parentheses <code>\pmatrix{ <math> & <math> ... \cr <repeat as needed> }</code> alignment occurs at the ampersands; a double-backslash can be used in place of the <code>\cr</code>; the final <code>\\</code> or <code>\cr</code> is optional</p> <p>Example:</p> $A = \pmatrix{ a_{11} & a_{12} & \dots & a_{1n} \cr a_{21} & a_{22} & \dots & a_{2n} \cr \vdots & \vdots & \ddots & \vdots \cr a_{m1} & a_{m2} & \dots & a_{mn} }$ yields $A = \pmatrix{ a_{11} & a_{12} & \dots & a_{1n} \cr a_{21} & a_{22} & \dots & a_{2n} \cr \vdots & \vdots & \ddots & \vdots \cr a_{m1} & a_{m2} & \dots & a_{mn} }$
\pmb		<p>poor man's bold <code>\pmb #1</code> Examples: <code>a \pmb a \boldsymbol a</code> yields $a \pmb a \boldsymbol a$ <code>\pmb{abc}def</code> yields $\pmb{abc}def$</p>
		parenthesized modulo

<code>\pmod</code>	<code>\$_pmod{ }\$</code>	<p><code>\pmod #1</code> Examples: <code>5\equiv 8 \pmod 3</code> yields <code>5\equiv 8 \pmod 3\$</code> <code>\pmod{n+m}</code> yields <code>\$_pmod{n+m}\$</code></p>
<code>\pod</code>	<code>\$_pod{ }\$</code>	<p>parenthesized argument <code>\pod #1</code> Example: <code>\pod a</code> yields <code>\$_pod a\$</code> <code>\pod{abc}</code> yields <code>\$_pod{abc}\$</code></p>
<code>\Pr</code>	<code>\$_Pr\$</code>	
<code>\prec</code>	<code>\$_prec\$</code>	<code>&#x227A;</code>
<code>\precapprox</code> AMSsymbols	<code>\$_precapprox\$</code>	<code>&#x2AB7;</code>
<code>\precnapprox</code> AMSsymbols	<code>\$_precnapprox\$</code>	<code>&#x2AB9;</code>
<code>\preccurlyeq</code> AMSsymbols	<code>\$_preccurlyeq\$</code>	<code>&#x227C;</code>
<code>\preceq</code>	<code>\$_preceq\$</code>	<code>&#x2AAE;</code>
<code>\precneqq</code> AMSsymbols	<code>\$_precneqq\$</code>	<code>&#x2AB5;</code>
<code>\precsim</code> AMSsymbols	<code>\$_precsim\$</code>	<code>&#x227E;</code>
<code>\precnsim</code> AMSsymbols	<code>\$_precnsim\$</code>	<code>&#x22E8;</code>
<code>\prime</code>	<code>\$_prime\$</code>	<code>&#x2032;</code>
<code>\prod</code>	<code>\$_prod\$</code>	<p><code>&#x220F;</code> Examples: <code>\prod_{j=1}^n</code> (inline mode) yields <code>\$_prod_{j=1}^n\$</code> <code>\prod_{j=1}^n</code> (display mode) yields <code>\$_prod_{j=1}^n\$</code></p>
<code>\projlim</code> AMSmath	<code>\$_projlim\$</code>	
<code>\propto</code>	<code>\$_propto\$</code>	<code>&#x221D;</code>
<code>\psi</code>	<code>\$_psi\$</code>	<code>&#x03C9;</code> lowercase Greek letter psi
<code>\Psi</code>	<code>\$_Psi\$</code>	<code>&#x03A9;</code> uppercase Greek letter psi

Q
`$\def\mark{\rlap{\normalsize\textstyle |}\kern 1px} $`

<code>\quad</code>	<code>\quad</code> is a 1em space
<code>\qquad</code>	<code>\qquad</code> is a 2em space
Examples:	
<code> \quad \quad </code>	yields <code>\$_quad \quad \$_</code>
<code> \qquad\hphantom{ }</code>	yields <code>\$_qquad\hphantom{ }\$</code>

R

<code>\raise</code>		<code>&#x0000;</code>
<code>\rangle</code>	<code>\$_rangle\$</code>	<p><code>&#x27E9;</code> non-stretchy right angle bracket see also: \langle</p>
<code>\rbrace</code>	<code>\$_rbrace\$</code>	<p>non-stretchy right brace see also: \lbrace</p>
<code>\rbrack</code>	<code>\$_rbrack\$</code>	<p>right bracket: non-stretchy when used alone; stretchy when used with <code>\left</code> or <code>\right</code> (see below) Examples: <code>\rbrack \frac ab, c \rbrack</code> yields <code>\$_lbrack \frac ab, c \rbrack\$</code> <code>\left\rbrack \frac ab, c \right\rbrack</code> yields <code>\$_left\rbrack \frac ab, c \right\rbrack\$</code></p>

		see also: \brack , []
<code>\rceil</code>	\lrcorner	<code>&#x2309;</code> see also: \lceil
<code>\Re</code>		<code>&#x0000;</code>
<code>\renewcommand [newcommand]</code>		<code>&#x0000;</code>
<code>\require (non-standard)</code>		<code>&#x0000;</code>
<code>\restriction, AMSsymbols</code>		<code>&#x0000;</code>
<code>\rfloor</code>		<code>&#x0000;</code>
<code>\rgroup</code>		<code>&#x0000;</code>
<code>\rhd, AMSsymbols</code>		<code>&#x0000;</code>
<code>\rho</code>		<code>&#x0000;</code>
<code>\right</code>		<code>&#x0000;</code>
<code>\rightarrow, \Rrightarrow</code>		<code>&#x0000;</code>
<code>\rightarrowtail, AMSsymbols</code>		<code>&#x0000;</code>
<code>\rightharpoondown, \rightharpoonup</code>		<code>&#x0000;</code>
<code>\rightleftarrows, AMSsymbols</code>		<code>&#x0000;</code>
<code>\rightleftharpoons</code>		<code>&#x0000;</code>
<code>\rightleftharpoons, AMSsymbols (two different ones?)</code>		<code>&#x0000;</code>
<code>\rightrightarrows, AMSsymbols</code>		<code>&#x0000;</code>
<code>\rightsquigarrow, AMSsymbols</code>		<code>&#x0000;</code>
<code>\rightthreetimes, AMSsymbols</code>		<code>&#x0000;</code>
<code>\risingdotseq, AMSsymbols</code>		<code>&#x0000;</code>
<code>\rlap</code>		<code>&#x0000;</code>
<code>\rm</code>		see also: \text , \hbox
<code>\rmoustache</code>		<code>&#x0000;</code>
<code>\root</code>		<code>&#x0000;</code>
<code>\Rrightarrow, AMSsymbols</code>		<code>&#x0000;</code>
<code>\Rsh, AMSsymbols</code>		<code>&#x0000;</code>
<code>\rtimes, AMSsymbols</code>		<code>&#x0000;</code>
<code>\Rule (non-standard)</code>		<code>&#x0000;</code>
<code>\rvert, \rVert, both AMSmath</code>		<code>&#x0000;</code>

S		
<code>\S</code>		<code>&#x0000;</code>
<code>\scr</code>		<code>&#x0000;</code>
<code>\scriptscriptstyle</code>		<code>&#x0000;</code> see also: \displaystyle , \scriptstyle , \textstyle
<code>\scriptsize</code>		<code>&#x0000;</code>
<code>\scriptstyle</code>		<code>&#x0000;</code> see also: \displaystyle , \scriptscriptstyle , \textstyle
<code>\seqrrw</code>		<code>&#x0000;</code>
<code>\sec</code>		<code>&#x0000;</code>
<code>\setminus</code>		<code>&#x0000;</code>
<code>\sf</code>		<code>&#x0000;</code>
<code>\sharp</code>	\sharp	<code>&#x266F;</code> musical sharp symbol see also: \flat
<code>\shortmid, AMSsymbols</code>		<code>&#x0000;</code>
<code>\shortparallel, AMSsymbols</code>		<code>&#x0000;</code>
<code>\shoveleft, \shoveright, both AMSmath</code>		<code>&#x0000;</code>

<code>\sideset, AMSmath</code>		<code>&#x0000;</code>
<code>\sigma, \Sigma</code>		<code>&#x0000;</code>
<code>\sim, \simeq</code>		<code>&#x0000;</code>
<code>\sin</code>		<code>&#x0000;</code>
<code>\sinh</code>		<code>&#x0000;</code>
<code>\skew</code>		<code>&#x0000;</code>
<code>\small</code>		<code>&#x0000;</code>
<code>\smallfrown, AMSsymbols</code>		<code>&#x0000;</code>
<code>\smallint</code>		<code>&#x0000;</code>
<code>\smallsetminus, AMSsymbols</code>		<code>&#x0000;</code>
<code>\smallsmile, AMSsymbols</code>		<code>&#x0000;</code>
<code>\smash</code>		<code>&#x0000;</code>
<code>\smile</code>	<code>\$_\smile\$</code>	<code>&#x2323;</code> see also: \frown
<code>\space, \Space</code>		<code>&#x0000;</code>
<code>\spadesuit</code>	<code>\$_\spadesuit\$</code>	<code>&#x2660;</code> see also: \clubsuit , \diamondsuit , \heartsuit
<code>\sphericalangle, AMSsymbols</code>		<code>&#x0000;</code>
<code>\sqcap, \sqcup</code>		<code>&#x0000;</code>
<code>\sqrt</code>		<code>&#x0000;</code>
<code>\sqsubset, \sqsupset</code> both AMSsymbols		<code>&#x0000;</code>
<code>\sqsubseteq, \sqsupseteq</code>		<code>&#x0000;</code>
<code>\square, AMSsymbols</code>		<code>&#x0000;</code>
<code>\stackrel</code>		<code>&#x0000;</code>
<code>\star</code>		<code>&#x0000;</code>
<code>\strut</code>		<code>&#x0000;</code>
<code>\style [HTML] non-standard</code>		<code>&#x0000;</code>
<code>\subset</code>		<code>&#x0000;</code>
<code>\Subset, AMSsymbols</code>		<code>&#x0000;</code>
<code>\subseteq</code>		<code>&#x0000;</code>
<code>\subseteqq, \subsetneq, both AMSsymbols</code>		<code>&#x0000;</code>
<code>\subsetneqq, AMSsymbols</code>		<code>&#x0000;</code>
<code>\substack, AMSmath/td></code>		<code>&#x0000;</code>
<code>\succ</code>		<code>&#x0000;</code>
<code>\succapprox, AMSsymbols</code>		<code>&#x0000;</code>
<code>\succcurlyeq, AMSsymbols</code>		<code>&#x0000;</code>
<code>\succeq</code>		<code>&#x0000;</code>
<code>\succnapprox, AMSsymbols</code>		<code>&#x0000;</code>
<code>\succneqq, AMSsymbols</code>		<code>&#x0000;</code>
<code>\succneqq, AMSsymbols</code>		<code>&#x0000;</code>
<code>\succsim, AMSsymbols</code>		<code>&#x0000;</code>
<code>\succsim, AMSsymbols</code>		<code>&#x0000;</code>
<code>\sum</code>		<code>&#x0000;</code>
<code>\sup</code>		<code>&#x0000;</code>
<code>\supset</code>		<code>&#x0000;</code>
<code>\Supset, AMSsymbols</code>		<code>&#x0000;</code>
<code>\supseteq</code>		<code>&#x0000;</code>
<code>\supseteqq, AMSsymbols</code>		<code>&#x0000;</code>
<code>\supsetneq, AMSsymbols</code>		<code>&#x0000;</code>

<code>\supsetneqq</code> , AMSsymbols	<code>&#x0000;</code>
<code>\surd</code>	<code>&#x0000;</code>
<code>\swarrow</code>	<code>&#x0000;</code>

T

<code>\tag</code>	AMSMath	used in environments to get tags (equation numbers, labels)
<code>\tan</code>	<code>\$\$\tan\$</code>	tangent
<code>\tanh</code>	<code>\$\$\tanh\$</code>	hyperbolic tangent
<code>\tau</code>	<code>\$\$\tau\$</code>	<code>&#x03C4;</code> lowercase Greek letter tau
<code>\tbinom</code>	AMSMath	notation commonly used for binomial coefficients; tiny display <code>\tbinom #1 #2</code> Examples: <code>\tbinom n k</code> yields (inline mode) <code>\$\$\tbinom nk\$</code> <code>\tbinom n k</code> yields (display mode) <code>\$\$\displaystyle\tbinom nk\$</code> <code>\binom n k</code> yields (display mode) <code>\$\$\displaystyle\binom nk\$</code> <code>\tbinom{n-1}k-1</code> yields <code>\$\$\binom{n-1}k-1\$</code> <code>\tbinom{n-1}{k-1}</code> yields <code>\$\$\tbinom{n-1}{k-1}\$</code> see also: \binom , \choose , \dbinom
<code>\TeX</code>	<code>\$\$\TeX\$</code>	the TeX logo
<code>\text</code> <code>\textbf</code> <code>\textit</code> <code>\textrm</code>		text boldface text italic text roman text used to get text (and formatted text) in math mode; single spaces are preserved <code>\text #1</code> <code>\textbf #1</code> <code>\textit #1</code> <code>\textrm #1</code> Example: <code>\text{\alpha in text mode }\alpha</code> yields <code>\$\$\text{\alpha in text mode }\alpha\$</code> <code>\textbf{\alpha in textbf mode }\alpha</code> yields <code>\$\$\textbf{\alpha in textbf mode }\alpha\$</code> <code>\textit{\alpha in textit mode }\alpha</code> yields <code>\$\$\textit{\alpha in textit mode }\alpha\$</code> <code>\textrm{\alpha in textrm mode }\alpha</code> yields <code>\$\$\textrm{\alpha in textrm mode }\alpha\$</code> see also: \hbox , \rm
<code>\textstyle</code>		used to over-ride automatic style rules and force text (inline) style; stays in force until the end of math mode or the braced environment, or until another style is selected <code>{ \textstyle ... }</code> Example: In display mode: <code>\frac ab + {\textstyle \frac cd + \frac ef} + \frac gh</code> yields <code>\$\$\displaystyle\frac ab + {\textstyle \frac cd + \frac ef} + \frac gh\$</code> Example: In inline mode: <code>\frac ab+{\displaystyle\frac ab}+\frac ab+{\scriptstyle\frac ab+{\scriptscriptstyle\frac ab}}</code> yields: <code>\$\$\frac ab + {\displaystyle\frac ab}+\frac ab+{\scriptstyle\frac ab+{\scriptscriptstyle\frac ab}}\$</code> see also: \displaystyle , \scriptstyle , \scriptscriptstyle
<code>\tfrac</code>	AMSMath	tiny fraction <code>\tfrac #1 #2</code> Examples: <code>\tfrac ab \frac ab</code> (display mode) yields <code>\$\$\displaystyle\tfrac ab \frac ab\$</code> <code>\tfrac ab \frac ab</code> (inline mode) yields <code>\$\$\tfrac ab \frac ab\$</code> see also: \frac

<code>\therefore</code>	AMSsymbols	<code>\$\$\therefore\$</code>	<code>&#x2234</code>
<code>\theta</code> <code>\Theta</code>		<code>\$\$\theta\$</code> <code>\$\$\Theta\$</code>	<code>&#x03B8;</code> lowercase Greek letter theta <code>&#x0398;</code> uppercase Greek letter theta
<code>\thickapprox</code>	AMSsymbols	<code>\$\$\thickapprox\$</code>	<code>&#x2248;</code> Compare: <code>approx \ \ \thickapprox</code> yields <code>\$\$\approx \ \ \thickapprox \$</code>
<code>\thicksim</code>	AMSsymbols	<code>\$\$\thicksim\$</code>	<code>&#x223C;</code> Compare: <code>sim \ \ \thicksim</code> yields <code>\$\$\sim \ \ \thicksim \$</code>
<code>\thinspace</code>			thin space; normally $\frac{1}{6}$ of a quad Example: thinspace between letters: <code>\$a\thinspace b\thinspace c\thinspace d\$</code> see also: symbols for spaces
<code>\tilde</code>		<code>\$\$\tilde{ }\$</code>	<code>&#x02DC;</code> non-stretchy tilde accent <code>\tilde #1</code> Usually, #1 is a single letter; otherwise, accent is centered over argument. Examples: <code>\tilde e</code> yields <code>\$\$\tilde e\$</code> <code>\tilde E</code> yields <code>\$\$\tilde E\$</code> <code>\tilde eu</code> yields <code>\$\$\tilde eu\$</code> <code>\tilde{eu}</code> yields <code>\$\$\tilde{eu}\$</code>
<code>\times</code>		<code>\$\$\times\$</code>	<code>&#x00D7;</code>
<code>\tiny</code>			turns on tiny; a bit smaller than <code>\Tiny</code> <code>{\tiny ... }</code> Examples: <code>\tiny AaBb\alpha\beta123</code> yields <code>\$\$\tiny AaBb\alpha\beta123\$</code> <code>{\tiny A B} A B</code> yields <code>\$\${\tiny A B} A B\$</code> <code>\tiny AB \Tiny CD</code> yields <code>\$\$\tiny AB \Tiny AB\$</code> <code>\tiny{AB}CD</code> yields <code>\$\$\tiny{AB}CD\$</code>
<code>\Tiny</code>	non-standard		turns on Tiny; a bit bigger than <code>\tiny</code> <code>{\Tiny ... }</code> Examples: <code>\Tiny AaBb\alpha\beta123</code> yields <code>\$\$\Tiny AaBb\alpha\beta123\$</code> <code>{\Tiny A B} A B</code> yields <code>\$\${\Tiny A B} A B\$</code> <code>\Tiny AB \tiny CD</code> yields <code>\$\$\Tiny AB \tiny AB\$</code> <code>\Tiny{AB}CD</code> yields <code>\$\$\Tiny{AB}CD\$</code>
<code>\to</code>		<code>\$\$\to\$</code>	<code>&#x2192;</code>
<code>\top</code>		<code>\$\$\top\$</code>	<code>&#x22A4;</code>
<code>\triangle</code> <code>\triangledown</code> <code>\triangleleft</code> <code>\triangleright</code>	AMSsymbols	<code>\$\$\triangle\$</code> <code>\$\$\triangledown\$</code> <code>\$\$\triangleleft\$</code> <code>\$\$\triangleright\$</code>	<code>&#x25B3;</code> <code>&#x25BD;</code> <code>&#x25C3;</code> <code>&#x25B9;</code>
<code>\trianglelefteq</code>	AMSsymbols	<code>\$\$\trianglelefteq\$</code>	<code>&#x22B4;</code>
<code>\trianglerighteq</code>	AMSsymbols	<code>\$\$\trianglerighteq\$</code>	<code>&#x22B5;</code>
<code>\triangleq</code>	AMSsymbols	<code>\$\$\triangleq\$</code>	<code>&#x225C;</code>
<code>\tt</code>			turns on typewriter type <code>{\tt ... }</code> Examples: <code>\tt AaBb\alpha\beta123</code> yields <code>\$\$\tt AaBb\alpha\beta123\$</code> <code>{\tt A B} A B</code> yields <code>\$\$\tt A B} A B\$</code>

		<code>\tt AB \rm CD</code>	yields $\tt AB \rm CD$
		<code>\tt{AB}CD</code>	yields $\tt{AB}CD$
<code>\twoheadleftarrow</code> AMSsymbols	<code>\$\$\twoheadleftarrow\$</code>	<code>&#x219E;</code>	
<code>\twoheadrightarrow</code> AMSsymbols	<code>\$\$\twoheadrightarrow\$</code>	<code>&#x21A0;</code>	

U

<code>\ulcorner</code> AMSsymbols	<code>\$\$\ulcorner\$</code>	<code>&#x250C;</code>	upper left corner
<code>\urcorner</code> AMSsymbols	<code>\$\$\urcorner\$</code>	<code>&#x2510;</code>	upper right corner
		see also: \llcorner , \lrcorner	
<code>\underbrace</code>		<p>puts a (stretchable) under-brace under the argument; an optional superscript is placed over the argument; an optional subscript is placed below the under-brace</p> <p><code>\underbrace #1</code></p> <p>Example:</p> $\underbrace{x + \cdots + x}_{n \text{ times}}^{\text{(note here)}} \text{ yields } \underbrace{x + \cdots + x}_{n \text{ times}}^{\text{(note here)}}$ <p>see also: \overbrace</p>	
<code>\underleftarrow</code>	<code>\$\$\underleftarrow{ }\$</code>	<code>&#x2190;</code>	stretchable under left arrow
<code>\underrightarrow</code>	<code>\$\$\underrightarrow{ }\$</code>	<code>&#x2192;</code>	stretchable under right arrow
<code>\underleftrightarrow</code>	<code>\$\$\underleftrightarrow{ }\$</code>	<code>&#x2194;</code>	stretchable under left right arrow
		<p><code>\underleftarrow #1</code></p> <p><code>\underrightarrow #1</code></p> <p><code>\underleftrightarrow #1</code></p> <p>Examples:</p> $\underleftarrow{\text{the argument}} \text{ yields } \underleftarrow{\text{the argument}}$ $\underrightarrow{AB} \text{ yields } \underrightarrow{AB}$ $\underrightarrow{AB\strut} \text{ yields } \underrightarrow{AB\strut}$ $\underleftrightarrow{\hspace{1in}} \text{ yields } \underleftrightarrow{\hspace{1in}}$	
<code>\underline</code>	<code>\$\$\underline{ }\$</code>	<code>&#x005F;</code>	stretchable underline
		<p><code>\underline #1</code></p> <p>Examples:</p> $\underline{AB} \text{ yields } \underline{AB}$ $\underline{a} \text{ yields } \underline{a}$ $\underline{\text{a long argument}} \text{ yields } \underline{\text{a long argument}}$	
<code>\underset</code>		<p><code>\underset #1 #2</code></p> <p>undersets argument #1 (in scriptstyle) under argument #2 (vertically centered)</p> <p>Examples:</p> $\underset{\rm bottom}{\rm top} \text{ yields } \underset{\rm bottom}{\rm top}$ $\underset{ab}{} \text{ yields } \underset{ab}{} $	
<code>\unicode</code> non-standard		<p><code>\unicode #1</code></p> <p>Example:</p> $\unicode{x263a} \text{ yields } \unicode{x263a}$ <p><code>&#x263a;</code> yields $\text{\textcircled{S}}$</p>	
<code>\unlhd</code> AMSsymbols	<code>\$\$\unlhd\$</code>	<code>&#x22B4;</code>	underlined left-hand (left-pointing) diamond
<code>\unrhd</code> AMSsymbols	<code>\$\$\unrhd\$</code>	<code>&#x22B5;</code>	underlined right-hand (right-pointing) diamond
<code>\uparrow</code>	<code>\$\$\uparrow\$</code>	<code>&#x2191;</code>	
<code>\Uparrow</code>	<code>\$\$\Uparrow\$</code>	<code>&#x21D1;</code>	
<code>\updownarrow</code>	<code>\$\$\updownarrow\$</code>	<code>&#x2195;</code>	
<code>\Updownarrow</code>	<code>\$\$\Updownarrow\$</code>	<code>&#x21D5;</code>	
<code>\upharpoonleft</code> AMSsymbols	<code>\$\$\upharpoonleft\$</code>	<code>&#x21BF;</code>	
<code>\upharpoonright</code> AMSsymbols	<code>\$\$\upharpoonright\$</code>	<code>&#x21BE;</code>	

\uplus	<code>\uplus</code>	<code>&#x228E;</code>
\uproot	<code>???</code>	<code>???</code>
υ	<code>\upsilon</code>	<code>&#x03C5;</code> lowercase Greek letter upsilon
Υ	<code>\Upsilon</code>	<code>&#x03A5;</code> uppercase Greek letter upsilon
\upuparrows	<code>\upuparrows</code>	<code>&#x21C8;</code>

V

\varDelta , AMSsymbols	<code>\varDelta</code> , AMSsymbols	<code>&#x0000;</code>
ε	<code>\varepsilon</code>	<code>&#x0000;</code>
\varGamma , AMSsymbols	<code>\varGamma</code> , AMSsymbols	<code>&#x0000;</code>
\varinjlim , AMSmath	<code>\varinjlim</code> , AMSmath	<code>&#x0000;</code>
\varkappa , AMSsymbols	<code>\varkappa</code> , AMSsymbols	<code>&#x0000;</code>
\varLambda , AMSsymbols	<code>\varLambda</code> , AMSsymbols	<code>&#x0000;</code>
\varliminf , \varlimsup , both AMSmath	<code>\varliminf</code> , <code>\varlimsup</code> , both AMSmath	<code>&#x0000;</code>
\varnothing , AMSsymbols	<code>\varnothing</code> , AMSsymbols	<code>&#x0000;</code>
\varOmega , AMSsymbols	<code>\varOmega</code> , AMSsymbols	<code>&#x0000;</code>
φ	<code>\varphi</code>	<code>&#x0000;</code>
\varPhi , AMSsymbols	<code>\varPhi</code> , AMSsymbols	<code>&#x0000;</code>
ϖ	<code>\varpi</code>	<code>&#x0000;</code>
\varPi , AMSsymbols	<code>\varPi</code> , AMSsymbols	<code>&#x0000;</code>
\varprojlim , AMSmath	<code>\varprojlim</code> , AMSmath	<code>&#x0000;</code>
\varpropto , AMSsymbols	<code>\varpropto</code> , AMSsymbols	<code>&#x0000;</code>
\varPsi , AMSsymbols	<code>\varPsi</code> , AMSsymbols	<code>&#x0000;</code>
ϱ	<code>\varrho</code>	<code>&#x0000;</code>
ς	<code>\varsigma</code>	<code>&#x0000;</code>
\varSigma , AMSsymbols	<code>\varSigma</code> , AMSsymbols	<code>&#x0000;</code>
\varsubsetneq , \varsubsetneqq , both AMSsymbols	<code>\varsubsetneq</code> , <code>\varsubsetneqq</code> , both AMSsymbols	<code>&#x0000;</code>
\varsupsetneq , \varsupsetneqq , both AMSsymbols	<code>\varsupsetneq</code> , <code>\varsupsetneqq</code> , both AMSsymbols	<code>&#x0000;</code>
ϑ	<code>\vartheta</code>	<code>&#x0000;</code>
\varTheta , AMSsymbols	<code>\varTheta</code> , AMSsymbols	<code>&#x0000;</code>
\vartriangle , \vartriangleleft , \vartriangleright , all AMSsymbols	<code>\vartriangle</code> , <code>\vartriangleleft</code> , <code>\vartriangleright</code> , all AMSsymbols	<code>&#x0000;</code>
\varUpsilon , AMSsymbols	<code>\varUpsilon</code> , AMSsymbols	<code>&#x0000;</code>

<code>\varXi</code> , AMSsymbols	<code>&#x0000;</code>
<code>\vcenter</code>	<code>&#x0000;</code>
<code>\vdash</code>	<code>&#x0000;</code>
<code>\Wdash</code> , <code>\VDash</code> , both AMSsymbols	<code>&#x0000;</code>
<code>\vdots</code>	<code>&#x0000;</code>
<code>\vec</code>	<code>&#x0000;</code>
<code>\vee</code>	<code>&#x0000;</code>
<code>\veebar</code> , AMSsymbols	<code>&#x0000;</code>
<code>\verb [verb]</code>	<code>&#x0000;</code>
<code>\vert</code> , <code>\Vert</code>	<code>&#x0000;</code>
<code>\vphantom</code>	<code>&#x0000;</code> see also: \hphantom , \phantom
<code>\Wdash</code> , AMSsymbols	<code>&#x0000;</code>

W

<code>\wedge</code>	<code>\$\$\wedge\$</code>	<code>&#x2227;</code>
<code>\widehat</code>	<code>\$\$\widehat{\ \ \ }\$</code>	<code>&#x02C6;</code> stretchable hat accent <code>\widehat #1</code> Examples: <code>\widehat a</code> yields <code>\$\$\widehat a\$</code> <code>\widehat A</code> yields <code>\$\$\widehat A\$</code> <code>\widehat AB</code> yields <code>\$\$\widehat AB\$</code> <code>\widehat{AB}</code> yields <code>\$\$\widehat{AB}\$</code> see also: \hat
<code>\widetilde</code>	<code>\$\$\widetilde{\ \ \ }\$</code>	<code>&#x02DC;</code> stretchable tilde accent <code>\widetilde #1</code> Examples: <code>\widetilde a</code> yields <code>\$\$\widetilde a\$</code> <code>\widetilde A</code> yields <code>\$\$\widetilde A\$</code> <code>\widetilde AB</code> yields <code>\$\$\widetilde AB\$</code> <code>\widetilde{AB}</code> yields <code>\$\$\widetilde{AB}\$</code>
<code>\wp</code>	<code>\$\$\wp\$</code>	<code>&#x2118;</code> 'wiggly' letter p
<code>\wr</code>	<code>\$\$\wr\$</code>	<code>&#x2240;</code> 'wriggle' symbol

X

<code>\Xi</code>	<code>\$\$\Xi\$</code>	<code>&#x039E;</code> uppercase Greek letter xi
<code>\xi</code>	<code>\$\$\xi\$</code>	<code>&#x03BE;</code> lowercase Greek letter xi
<code>\xleftarrow AMSmath</code> <code>\xrightarrow AMSmath</code>		stretchable arrows with mathematical overset <code>\xleftarrow #1</code> <code>\xrightarrow #1</code> <code>\xrightarrow a</code> yields <code>\$\$\xrightarrow a\$</code> <code>\xrightarrow ab</code> yields <code>\$\$\xrightarrow ab\$</code>

	<code>\xrightarrow{ab}</code>	yields \xrightarrow{ab}
	<code>\xleftarrow{\text{see equation (1)}}</code>	yields $\xleftarrow{\text{see equation (1)}}$

Y

<code>\yen AMSsymbols</code>	¥	<code>&#x00A5;</code>
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Z

<code>\zeta</code>	ζ	<code>&#x03B6;</code> lowercase Greek letter zeta
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environments

\LaTeX environments of the form `\begin{xxx} ... \end{xxx}` are provided, where xxx is one of the following:

<p>align AMSmath</p> <p><code>\begin{align} ...</code> <code>\end{align}</code></p>	<p>For vertical alignment of two or more lines at one or more places:</p> <ul style="list-style-type: none"> • ampersand(s) ‘&’ are used to indicate desired alignments (see examples below) • a double backslash ‘\’ or carriage return ‘\r’ separates lines • individual lines may be tagged using the <code>\tag{}</code> command: <ul style="list-style-type: none"> ◦ default input for <code>\tag{}</code> is text ◦ you may get mathematical content inside <code>\tag{}</code> by using math delimiters; e.g., <code>\tag{\alpha}</code> <p>EXAMPLES:</p> <p>Alignment at a single location:</p> <ul style="list-style-type: none"> • use a single ampersand where alignment should occur • the final ‘\’ is optional • you may tag (or not tag) any desired subset of lines <pre>\begin{align} (a+b)^2 &= (a+b)(a+b) && \tag{3.1c} \\ &= a^2 + ab + ba + b^2 && \tag{\dagger} \\ &= a^2 + 2ab + b^2 && \tag{\ast}</pre> <p>yields $\begin{align} (a+b)^2 &= (a+b)(a+b) \tag{3.1c} \\ &= a^2 + ab + ba + b^2 \tag{\dagger} \\ &= a^2 + 2ab + b^2 \tag{\ast} \end{align}$</p> <p>Alignment at more than one location is trickier. It is best illustrated with an example: see also: \eqalign</p>
align*, [AMSMath]	�
alignat, [AMSMath]	�
alignat* [AMSMath]	�
aligned [AMSMath]	�
alignedat [AMSMath]	�
array	�
Bmatrix	�
bmatrix	�
cases	�
eqnarray	�
eqnarray*	�
equation	�

equation*	�
gather [AMSMath]	� see also: \displaylines
gather* [AMSMath]	�
gathered [AMSMath]	�
matrix	�
multiline [AMSMath]	�
multiline* [AMSMath]	�
pmatrix	�
smallmatrix, AMSMath AMSMath	�
split [AMSMath]	�
subarray, AMSmath AMSMath	�
Vmatrix	�
vmatrix	�