The Comprehensive LaTeX Symbol List

Scott Pakin <pakin@uiuc.edu>*

July 2, 2001

Abstract

This document lists 2266 symbols and the corresponding LaTeX commands that produce them. Some of these symbols are guaranteed to be available in every LaTeX 2ε system; others require fonts and packages that may not accompany a given distribution and that therefore need to be installed. All of the fonts and packages used to prepare this document—as well as this document itself—are freely available from the Comprehensive TeX Archive Network (http://www.ctan.org).

Contents

*The original version of this document was written by David Carlisle, with several additional tables provided by Alexander Holt. See Section 7.5 on page 40 for more information about who did what.

1 Introduction

Welcome to the Comprehensive LaTeX Symbol List! This document strives to be your primary source of LaTeX symbol information: font samples, LaTeX commands, packages, usage details, caveats—everything needed to put thousands of different symbols at your disposal. All of the fonts covered herein meet the following criteria:

1. They are freely available from the Comprehensive TeX Archive Network (`http://www.ctan.org`).
2. All of their symbols have LaTeX 2_ε names. That is, a user should be able to access a symbol by name, not just by `\char`⟨*number*⟩.

These are not particularly limiting criteria; the Comprehensive LaTeX Symbol List contains samples of 2266 symbols—quite a large number. Some of these symbols are guaranteed to be available in every LaTeX 2_ε system; others require fonts and packages that may not accompany a given distribution and that therefore need to be installed. See `http://www.tex.ac.uk/cgi-bin/texfaq2html?label=instpackages+wherefiles` for help with installing new fonts and packages.

Document Usage

Each section of this document contains a number of font tables. Each table shows a set of symbols, with the corresponding LaTeX command to the right of each symbol. A table's caption indicates what package needs to be loaded in order to access that table's symbols. For example, the symbols in Table 16, "textcomp Old-Style Numerals", are made available by putting "`\usepackage{textcomp}`" in your document's preamble. "$\mathcal{AMS}$" means to use one of the $\mathcal{AMS}$ symbol packages, such as amssymb. Notes below a table provide additional information about some or all the symbols in that table.

One note that appears a few times in this document, particularly in Section 2, indicates that certain symbols do not exist in the OT1 font encoding (Donald Knuth's original, 7-bit font encoding, which is the default font encoding for LaTeX) and that you should use fontenc to select a different encoding, such as T1 (a common 8-bit font encoding). That means that you should put "`\usepackage[`⟨*encoding*⟩`]{fontenc}`" in your document's preamble, where ⟨*encoding*⟩ is, e.g., `T1` or `LY1`. To limit the change in font encoding to the current group, use "`\fontencoding{`⟨*encoding*⟩`}\selectfont`".

Section 7 contains some additional information about the symbols in this document. It shows which symbol names are not unique across packages, gives examples of how to create new symbols out of existing symbols, explains how symbols are spaced in math mode, presents a LaTeX ASCII and Latin 1 tables, and provides some information about this document itself. The Comprehensive LaTeX Symbol List ends with an index of all the symbols in the document and various additional useful terms.

Frequently Requested Symbols

There are a number of symbols that are requested over and over again on `comp.text.tex`. If you're looking for such a symbol, the following list will help you find it quickly.

2 Body-text symbols

This section lists symbols that are intended for use in running text, such as punctuation marks, accents, ligatures, and currency symbols.

Table 1: LaTeX 2_ε Escapable "Special" Characters

$	\$	%	\%	_	_	}	\}	&	\&	#	\#	{	\{

Table 2: LaTeX 2_ε Commands Defined to Work in Both Math and Text Mode

$	\$		_	_		‡	\ddag		{	\{
¶	\P	©	©	\copyright		…	\dots		}	\}
§	\S		†	\dag		£	\pounds			

Where two symbols are present, the left one is the "faked" symbol that LaTeX 2_ε provides by default, and the right one is the "true" symbol that textcomp makes available.

Table 3: Predefined LaTeX 2_ε Text-Mode Commands

	^	\textasciicircum			<	\textless
	~	\textasciitilde		a	a	\textordfeminine
	*	\textasteriskcentered		o	o	\textordmasculine
	\	\textbackslash			¶	\textparagraph
	|	\textbar			·	\textperiodcentered
	{	\textbraceleft			¿	\textquestiondown
	}	\textbraceright			“	\textquotedblleft
	•	\textbullet			”	\textquotedblright
©	©	\textcopyright			‘	\textquoteleft
	†	\textdagger			’	\textquoteright
	‡	\textdaggerdbl		®	®	\textregistered
	$	\textdollar			§	\textsection
	…	\textellipsis			£	\textsterling
	—	\textemdash		TM	™	\texttrademark
	–	\textendash			_	\textunderscore
	¡	\textexclamdown			␣	\textvisiblespace
	>	\textgreater				

Where two symbols are present, the left one is the "faked" symbol that LaTeX 2_ε provides by default, and the right one is the "true" symbol that textcomp makes available.

Table 4: Non-ASCII Letters (Excluding Accented Letters)

å	\aa	Đ	\DH*	Ł	\L	ø	\o	ß	\ss
Å	\AA	ð	\dh*	ł	\l	Ø	\O	SS	\SS
Æ	\AE	Đ	\DJ*	Ŋ	\NG*	Œ	\OE	Þ	\TH*
æ	\ae	đ	\dj*	ŋ	\ng*	œ	\oe	þ	\th*

* Not available in the OT1 font encoding. Use the fontenc package to select an alternate font encoding, such as T1.

Table 5: Letters Used to Typeset African Languages

Đ	\B{D}	ƈ	\m{c}	ʃ	\m{f}	ƙ	\m{k}	ƫ	\M{t}	ȝ	\m{Z}
đ	\B{d}	Ɗ	\m{D}	Ƒ	\m{F}	Ɲ	\m{N}	Ƭ	\M{T}	Ɛ̃	\T{E}
Ħ	\B{H}	ɖ	\M{d}	ɣ	\m{G}	ŋ	\m{n}	ƭ	\m{t}	ɛ̃	\T{e}
ħ	\B{h}	Ð	\M{D}	ɣ	\m{g}	ɔ	\m{o}	Ʈ	\m{T}	Ɔ̃	\T{O}
ŧ	\B{t}	ƈ	\m{d}	ɭ	\m{I}	Ɔ	\m{O}	ʊ	\m{u}*	ɔ̃	\T{o}
Ŧ	\B{T}	Ɛ	\m{E}	ɩ	\m{i}	Ƥ	\m{P}	Ʊ	\m{U}*		
ɓ	\m{b}	ɛ	\m{e}	Ɲ	\m{J}	ƥ	\m{p}	Ƴ	\m{Y}		
Ɓ	\m{B}	Ǝ	\M{E}	ɲ	\m{j}	ʃ	\m{s}	ƴ	\m{y}		
Ƈ	\m{C}	ə	\M{e}	Ƙ	\m{K}	ʃ	\m{S}	ʒ	\m{z}		

These characters all need the T4 font encoding, which is provided by the fc package.

* `\m{v}` and `\m{V}` are synonyms for `\m{u}` and `\m{U}`.

Table 6: Punctuation Marks Not Found in OT1

«	\guillemotleft	‹	\guilsinglleft	„	\quotedblbase	"	\textquotedbl
»	\guillemotright	›	\guilsinglright	‚	\quotesinglbase		

To get these symbols, use the fontenc package to select an alternate font encoding, such as T1.

Table 7: pifont Decorative Punctuation Marks

❛	\ding{123}	❝	\ding{125}	❡	\ding{161}	❣	\ding{163}
❜	\ding{124}	❞	\ding{126}	❢	\ding{162}		

Table 8: Text-Mode Accents

Ää	\"{A}\"{a}	Àà	\‘{A}\‘{a}	Őő	\H{A}\H{a}	Ăă	\u{A}\u{a}
Áá	\’{A}\’{a}	A̲a̲	\b{A}\b{a}	Ąą	\k{A}\k{a}†	Ǎǎ	\v{A}\v{a}
Ȧȧ	\.{A}\.{a}	Ą̧ą̧	\c{A}\c{a}	Åå	\r{A}\r{a}	Ãã	\~{A}\~{a}
Āā	\={A}\={a}	Ạạ	\d{A}\d{a}	A͡a͡	\t{A}\t{a}		
Ââ	\^{A}\^{a}	Ä̲ä̲	\G{A}\G{a}‡	Ä̈ä̈	\U{A}\U{a}‡		

Ââ `\newtie{A}\newtie{a}`* Ⓐⓐ `\textcircled{A}\textcircled{a}`

* Requires the textcomp package.

† Not available in the OT1 font encoding. Use the fontenc package to select an alternate font encoding, such as T1.

‡ Requires the T4 font encoding, provided by the fc package.

Also note the existence of `\i` and `\j`, which produce dotless versions of “i” and “j” (viz., “ı” and “ȷ”). These are useful when the accent is supposed to replace the dot. For example, “`na\"{\i}ve`” produces a correct “naïve”, while “`na\"{i}ve`” would yield the rather odd-looking “naïve”. (“`na\"{i}ve`” *does* work in encodings other than OT1, however.)

Table 9: tipa Text-Mode Accents

Ā́ā́	`\textacutemacron{A}\textacutemacron{a}`
Ǎ́ǎ́	`\textacutewedge{A}\textacutewedge{a}`
A̟a̟	`\textadvancing{A}\textadvancing{a}`
A͜a	`\textbottomtiebar{A}\textbottomtiebar{a}`
Ă̄ă̄	`\textbrevemacron{A}\textbrevemacron{a}`
Ấấ	`\textcircumacute{A}\textcircumacute{a}`
Â̇â̇	`\textcircumdot{A}\textcircumdot{a}`
Ȧ́ȧ́	`\textdotacute{A}\textdotacute{a}`
Ă̇ă̇	`\textdotbreve{A}\textdotbreve{a}`
Ȁȁ	`\textdoublegrave{A}\textdoublegrave{a}`
A̎a̎	`\textdoublevbaraccent{A}\textdoublevbaraccent{a}`
Ầầ	`\textgravecircum{A}\textgravecircum{a}`
Ȧ̀ȧ̀	`\textgravedot{A}\textgravedot{a}`
A᷅a᷅	`\textgravemid{A}\textgravemid{a}`
A̺a̺	`\textinvsubbridge{A}\textinvsubbridge{a}`
A̞a̞	`\textlowering{A}\textlowering{a}`
A᷄a᷄	`\textmidacute{A}\textmidacute{a}`
A̽a̽	`\textovercross{A}\textovercross{a}`
Ă̆ă̆	`\textoverw{A}\textoverw{a}`
Ąą	`\textpolhook{A}\textpolhook{a}`
A̝a̝	`\textraising{A}\textraising{a}`
A̠a̠	`\textretracting{A}\textretracting{a}`
Ā̊ā̊	`\textringmacron{A}\textringmacron{a}`
Ââ	`\textroundcap{A}\textroundcap{a}`
A̼a̼	`\textseagull{A}\textseagull{a}`
A̯a̯	`\textsubarch{A}\textsubarch{a}`
A̱a̱	`\textsubbar{A}\textsubbar{a}`
A̪a̪	`\textsubbridge{A}\textsubbridge{a}`
Ạạ	`\textsubdot{A}\textsubdot{a}`
A̜a̜	`\textsublhalfring{A}\textsublhalfring{a}`
A̟a̟	`\textsubplus{A}\textsubplus{a}`
A̹a̹	`\textsubrhalfring{A}\textsubrhalfring{a}`
Ḁḁ	`\textsubring{A}\textsubring{a}`
A̻a̻	`\textsubsquare{A}\textsubsquare{a}`
A̰a̰	`\textsubtilde{A}\textsubtilde{a}`
A̤a̤	`\textsubumlaut{A}\textsubumlaut{a}`
A̫a̫	`\textsubw{A}\textsubw{a}`
A̬a̬	`\textsubwedge{A}\textsubwedge{a}`
A̴a̴	`\textsuperimposetilde{A}\textsuperimposetilde{a}`
A̩a̩	`\textsyllabic{A}\textsyllabic{a}`
Ã̇ã̇	`\texttildedot{A}\texttildedot{a}`
A͡a	`\texttoptiebar{A}\texttoptiebar{a}`

(continued on next page)

(continued from previous page)

Å̇å	`\textvbaraccent{A}\textvbaraccent{a}`

tipa defines shortcut sequences for many of the above. See the tipa documentation for more information.

Table 10: wsuipa Text-Mode Accents

A̤a̤	`\dental{A}\dental{a}`
A̬a̬	`\underarch{A}\underarch{a}`

Table 11: wsuipa Diacritics

ˤ	`\ain`	˂	`\leftp`	˚	`\overring`	ˈ	`\stress`	ˬ	`\underwedge`
˥	`\corner`	˧	`\leftt`	˛	`\polishhook`	ˌ	`\syllabic`	˄	`\upp`
˅	`\downp`	ː	`\length`	˃	`\rightp`	̤	`\underdots`	˩	`\upt`
˦	`\downt`	˜	`\midtilde`	˨	`\rightt`	̥	`\underring`		
ˑ	`\halflength`	˓	`\open`	ˌ	`\secstress`	̰	`\undertilde`		

The wsuipa package defines all of the above as ordinary characters, not as accents. However, it does provide `\diatop` and `\diaunder` commands, which are used to compose diacritics with other characters. For example, `\diatop[\overring|a]` produces "å", and `\diaunder[\underdots|a]` produces "a̤". See the wsuipa documentation for more information.

Table 12: textcomp Diacritics

˝	`\textacutedbl`	ˇ	`\textasciicaron`	¯	`\textasciimacron`
´	`\textasciiacute`	¨	`\textasciidieresis`	‟	`\textgravedbl`
˘	`\textasciibreve`	`	`\textasciigrave`	̲	`\texttildelow`

The textcomp package defines all of the above as ordinary characters, not as accents.

Table 13: textcomp Currency Symbols

฿	`\textbaht`	$	`\textdollar`	₲	`\textguarani`	₩	`\textwon`
¢	`\textcent`	$	`\textdollaroldstyle`	£	`\textlira`	¥	`\textyen`
¢	`\textcentoldstyle`	đ	`\textdong`	₦	`\textnaira`		
₡	`\textcolonmonetary`	€	`\texteuro`	₱	`\textpeso`		
¤	`\textcurrency`	f	`\textflorin`	£	`\textsterling`		

TABLE 14: marvosym Currency Symbols

ℛ	\Denarius	€	\EUR	€	\EURdig	€	\EURtm	₱	\Pfund
@	\Ecommerce	€	\EURcr	€	\EURhv	$	\EyesDollar	ß	\Shilling

Note that:

- \Deleatur is another macro name for \Denarius.
- The different euro signs are meant to be compatible with different fonts—Courier (\EURcr), Helvetica (\EURhv), Times (\EURtm), and the marvosym digits listed in Table 63 (\EURdig).

TABLE 15: textcomp Legal Symbols

Ⓟ	\textcircledP	©	©	\textcopyright		℠	\textservicemark
ↄ	\textcopyleft	®	®	\textregistered	™	™	\texttrademark

Where two symbols are present, the left one is the "faked" symbol that LaTeX 2ε provides by default, and the right one is the "true" symbol that textcomp makes available.

TABLE 16: textcomp Old-Style Numerals

0	\textzerooldstyle	4	\textfouroldstyle	8	\texteightoldstyle
1	\textoneoldstyle	5	\textfiveoldstyle	9	\textnineoldstyle
2	\texttwooldstyle	6	\textsixoldstyle		
3	\textthreeoldstyle	7	\textsevenoldstyle		

Rather than use the bulky \textoneoldstyle, \texttwooldstyle, etc. commands shown above, consider using \oldstylenums{...} to typeset an old-style number.

TABLE 17: wasysym Phonetic Symbols

Ð	\DH	ð	\dh	ɔ	\openo
Þ	\Thorn	ə	\inve	þ	\thorn

TABLE 18: tipa Phonetic Symbols

ɤ	\textbabygamma	ʔ	\textglotstop	ɭ	\textrtaill
ƀ	\textbarb	ˑ	\texthalflength	ɳ	\textrtailn
ȼ	\textbarc	ъ	\texthardsign	ɽ	\textrtailr
đ	\textbard	ˈ	\texthooktop	ʂ	\textrtails
ɟ	\textbardotlessj	ɓ	\texthtb	ʈ	\textrtailt
ǥ	\textbarg	ʃ	\texthtbardotlessj	ʐ	\textrtailz

(continued on next page)

(continued from previous page)

ʔ̶	\textbarglotstop	ƈ	\texthtc	ɻ	\textrthook
ɨ	\textbari	ƌ	\texthtd	ᴀ	\textsca
ɬ	\textbarl	ɠ	\texthtg	ʙ	\textscb
ɵ	\textbaro	ɦ	\texthth	ᴇ	\textsce
ʕ̶	\textbarrevglotstop	ʃ	\texththeng	ɢ	\textscg
ʉ	\textbaru	ƙ	\texthtk	ʜ	\textsch
ɬ̵	\textbeltl	ƥ	\texthtp	ə	\textschwa
β	\textbeta	ɋ	\texthtq	ɪ	\textsci
⊙	\textbullseye	ɠ̈	\texthtscg	ᴊ	\textscj
ˊ	\textceltpal	ƭ	\texthtt	ʟ	\textscl
χ	\textchi	ʰʊ	\texthvlig	ɴ	\textscn
ɛ	\textcloseepsilon	ɔ	\textinvglotstop	œ	\textscoelig
ω	\textcloseomega	ʁ	\textinvscr	ɷ	\textscomega
ɜ	\textcloserevepsilon	ι	\textiota	ǫ	\textscq
ʒ̡	\textcommatailz	λ	\textlambda	ʀ	\textscr
˩	\textcorner	ː	\textlengthmark	ɑ	\textscripta
ƀ	\textcrb	ɬ̡	\textlhookt	ʊ	\textscriptv
đ	\textcrd	ɪ	\textlhti	ᴜ	\textscu
ɠ	\textcrg	ɭ	\textlhtlongi	ʏ	\textscy
ħ	\textcrh	ɾ̠	\textlonglegr	ˌ	\textsecstress
ɔ	\textcrinvglotstop	˂	\textlptr	ь	\textsoftsign
ƛ	\textcrlambda	ɱ	\textltailm	ʗ	\textstretchc
ƻ	\textcrtwo	ɲ	\textltailn	ʦ	\texttctclig
ȼ	\textctc	ɬ	\textltilde	ʧ	\textteshlig
ȡ	\textctd	ɮ	\textlyoghlig	θ	\texttheta
ʣ	\textctdctzlig	ŋ	\textnrleg	þ	\textthorn
ʃ̡	\textctesh	ʝ	\textObardotlessj	ʦ	\texttslig
ʄ	\textctj	ɮ	\textOlyoghlig	ɐ	\textturna
ƞ	\textctn	ω	\textomega	œ	\textturncelig
ƫ	\textctt	ˠ	\textopencorner	ɥ	\textturnh
ʨ	\textcttctclig	ɔ	\textopeno	ʞ	\textturnk
ʒ̡	\textctyogh	ˌ	\textpalhook	Ʇ	\textturnlonglegr
ƶ	\textctz	ɸ	\textphi	ɯ	\textturnm
ʤ	\textdctzlig	ǀ	\textpipe	ɯɻ	\textturnmrleg
ǯ	\textdoublebaresh	ˈ	\textprimstress	ɹ	\textturnr
ǂ	\textdoublebarpipe	ʔ	\textraiseglotstop	ɻ	\textturnrrtail
≠	\textdoublebarslash	ɺ	\textraisevibyi	ɒ	\textturnscripta
‖	\textdoublepipe	ɤ	\textramshorns	ʇ	\textturnt
‖	\textdoublevertline	▯	\textrectangle	ʌ	\textturnv
↓	\textdownstep	ʻ	\textrevapostrophe	ʍ	\textturnw
ʤ̡	\textdyoghlig	ɘ	\textreve	ʎ	\textturny
ʤ	\textdzlig	ɜ	\textrevepsilon	ʊ	\textupsilon
ɛ	\textepsilon	ʕ	\textrevglotstop	↑	\textupstep
ʃ	\textesh	ƹ	\textrevyogh	ǀ	\textvertline
ɾ	\textfishhookr	ɜʶ	\textrhookrevepsilon	ɺ	\textvibyi
g	\textg	ɚ	\textrhookschwa	ʯ	\textvibyy
ɣ	\textgamma	ʷ	\textrhoticity	ƿ	\textwynn
↘	\textglobfall	˃	\textrptr	ʒ	\textyogh
↗	\textglobrise	ɖ	\textrtaild		

tipa defines shortcut characters for many of the above. It also defines a command \tone for denoting tone letters (pitches). See the tipa documentation for more information.

TABLE 19: wsuipa Phonetic Symbols

ɤ	\babygamma	ŋ	\eng	ɱ	\labdentalnas	ə	\schwa
ƀ	\barb	ɚ	\er	ɬ	\latfric	ɪ	\sci
đ	\bard	ʃ	\esh	ɯ̟	\legm	ɴ	\scn
ɨ	\bari	ð	\eth	ɾ	\legr	ʀ	\scr
ɬ	\barl	ɾ	\flapr	ɮ	\lz	ɑ	\scripta
ɵ	\baro	ʔ	\glotstop	ɑ	\nialpha	ɡ	\scriptg
ᵽ	\barp	ɓ	\hookb	β	\nibeta	ʊ	\scriptv
ɨ	\barsci	ɗ	\hookd	χ	\nichi	ᴜ	\scu
ʉ	\barscu	ɠ	\hookg	ɛ	\niepsilon	ʏ	\scy
ʉ	\baru	ɦ	\hookh	ɣ	\nigamma	ⱱ	\slashb
⊙	\clickb	ʄ	\hookheng	ɩ	\niiota	ȼ	\slashc
ʗ	\clickc	ɜ̩	\hookrevepsilon	ƛ	\nilambda	ɖ	\slashd
ʇ	\clickt	ʰʊ	\hv	ω	\niomega	ᵾ	\slashu
ɷ	\closedniomega	ɐ	\inva	ɸ	\niphi	ɗ	\taild
ɞ	\closedrevepsilon	ʇ	\invf	σ	\nisigma	ɻ	\tailinvr
ƀ	\crossb	ɔ	\invglotstop	θ	\nitheta	ɭ	\taill
đ	\crossd	ɥ	\invh	ʊ	\niupsilon	ɳ	\tailn
ħ	\crossh	ɺ	\invlegr	ɲ	\nj	ɽ	\tailr
ƛ	\crossnilambda	ɯ	\invm	œ	\oo	ʂ	\tails
ɕ	\curlyc	ɹ	\invr	ɔ	\openo	ʈ	\tailt
ʃ	\curlyesh	ʁ	\invscr	ɘ	\reve	ʐ	\tailz
ʒ	\curlyyogh	ɒ	\invscripta	ʕ	\reveject	ʧ	\tesh
ʐ	\curlyz	ʌ	\invv	ɜ	\revepsilon	þ	\thorn
ɨ	\dlbari	ʍ	\invw	ʕ	\revglotstop	ƭ	\tildel
ʤ	\dz	ʎ	\invy	ᴅ	\scd	ʒ	\yogh
ʔ	\ejective	ɣ	\ipagamma	ɢ	\scg		

TABLE 20: Miscellaneous textcomp Symbols

⁎	\textasteriskcentered		○	\textopenbullet
‖	\textbardbl	ª	a̲	\textordfeminine
◯	\textbigcircle	º	o̲	\textordmasculine
ƀ	\textblank		¶	\textparagraph
¦	\textbrokenbar		·	\textperiodcentered
•	\textbullet		‰	\textpertenthousand
†	\textdagger		‰	\textperthousand
‡	\textdaggerdbl		¶	\textpilcrow
⸗	\textdblhyphen		'	\textquotesingle
⸗	\textdblhyphenchar		‚	\textquotestraightbase
⁒	\textdiscount		„	\textquotestraightdblbase
℮	\textestimated		℞	\textrecipe
⸘	\textinterrobang		※	\textreferencemark
¡	\textinterrobangdown		§	\textsection
♪	\textmusicalnote		—	\textthreequartersemdash
№	\textnumero		—	\texttwelveudash

Where two symbols are present, the left one is the "faked" symbol that LaTeX 2ε provides by default, and the right one is the "true" symbol that textcomp makes available.

3 Mathematical symbols

Most, but not all, of the symbols in this section are math-mode only. That is, they yield a "`Missing $ inserted`" error message if not used within `$...$`, `\[...\]`, or another math-mode environment. Operators marked as "variable-sized" are taller in displayed formulas, shorter in in-text formulas, and possibly shorter still when used in various levels of superscripts or subscripts.

Alphanumeric symbols (e.g., "$\mathscr{L}$" and "$\mathbb{Z}$") are usually produced using one of the math alphabets in Table 66 rather than with an explicit symbol command. Look there first if you need a symbol for a transform, number set, or some other alphanumeric.

The various text-mode symbols defined by the textcomp package are made available in math mode through the mathcomp package.

Table 21: Binary Operators

$\amalg$	`\amalg`	$\cup$	`\cup`	$\oplus$	`\oplus`	$\times$	`\times`
$*$	`\ast`	$\dagger$	`\dagger`	$\oslash$	`\oslash`	$\triangleleft$	`\triangleleft`
$\bigcirc$	`\bigcirc`	$\ddagger$	`\ddagger`	$\otimes$	`\otimes`	$\triangleright$	`\triangleright`
$\bigtriangledown$	`\bigtriangledown`	$\diamond$	`\diamond`	$\pm$	`\pm`	$\unlhd$	`\unlhd`*
$\bigtriangleup$	`\bigtriangleup`	$\div$	`\div`	$\rhd$	`\rhd`*	$\unrhd$	`\unrhd`*
$\bullet$	`\bullet`	$\lhd$	`\lhd`*	$\setminus$	`\setminus`	$\uplus$	`\uplus`
$\cap$	`\cap`	$\mp$	`\mp`	$\sqcap$	`\sqcap`	$\vee$	`\vee`
$\cdot$	`\cdot`	$\odot$	`\odot`	$\sqcup$	`\sqcup`	$\wedge$	`\wedge`
$\circ$	`\circ`	$\ominus$	`\ominus`	$\star$	`\star`	$\wr$	`\wr`

* Not predefined in LaTeX 2_ε. Use one of the packages latexsym, amsfonts, amssymb, txfonts, pxfonts, or wasysym.

Table 22: Variable-sized Math Operators

$\bigcap$	`\bigcap`	$\bigotimes$	`\bigotimes`	$\bigwedge$	`\bigwedge`	$\prod$	`\prod`
$\bigcup$	`\bigcup`	$\bigsqcup$	`\bigsqcup`	$\coprod$	`\coprod`	$\sum$	`\sum`
$\bigodot$	`\bigodot`	$\biguplus$	`\biguplus`	$\int$	`\int`		
$\bigoplus$	`\bigoplus`	$\bigvee$	`\bigvee`	$\oint$	`\oint`		

Table 23: $\mathcal{AMS}$ Binary Operators

$\barwedge$	`\barwedge`	$\circledcirc$	`\circledcirc`	$\intercal$	`\intercal`
$\boxdot$	`\boxdot`	$\circleddash$	`\circleddash`	$\leftthreetimes$	`\leftthreetimes`
$\boxminus$	`\boxminus`	$\Cup$	`\Cup`	$\ltimes$	`\ltimes`
$\boxplus$	`\boxplus`	$\curlyvee$	`\curlyvee`	$\rightthreetimes$	`\rightthreetimes`
$\boxtimes$	`\boxtimes`	$\curlywedge$	`\curlywedge`	$\rtimes$	`\rtimes`
$\Cap$	`\Cap`	$\divideontimes$	`\divideontimes`	$\smallsetminus$	`\smallsetminus`
$\centerdot$	`\centerdot`	$\dotplus$	`\dotplus`	$\veebar$	`\veebar`
$\circledast$	`\circledast`	$\doublebarwedge$	`\doublebarwedge`		

TABLE 24: stmaryrd Binary Operators

⧼	\baro	⫼	\interleave	⊛	\varoast
⧵	\bbslash	⪡	\leftslice	⦶	\varobar
⅋	\binampersand	⫛	\merge	⦸	\varobslash
⅋	\bindnasrepma	⨵	\minuso	⊚	\varocircle
⧆	\boxast	⫠	\moo	⊙	\varodot
⧈	\boxbar	⨣	\nplus	⦵	\varogreaterthan
⧈	\boxbox	⦶	\obar	⦴	\varolessthan
⧅	\boxbslash	⧠	\oblong	⊖	\varominus
⧇	\boxcircle	⦸	\obslash	⊕	\varoplus
⊡	\boxdot	⦵	\ogreaterthan	⊘	\varoslash
□	\boxempty	⦴	\olessthan	⊗	\varotimes
⧄	\boxslash	⦶	\ovee	⦶	\varovee
⤈	\curlyveedownarrow	⦵	\owedge	⦵	\varowedge
⤉	\curlyveeuparrow	⧐	\rightslice	⨯	\vartimes
⤈	\curlywedgedownarrow	⫽	\sslash	⟙	\Ydown
⤉	\curlywedgeuparrow	⫿	\talloblong	⪡	\Yleft
⧹	\fatbslash	◯	\varbigcirc	⪢	\Yright
⨟	\fatsemi	⋎	\varcurlyvee	⟘	\Yup
⫽	\fatslash	⋏	\varcurlywedge		

TABLE 25: Variable-sized stmaryrd Math Operators

⨆	\bigbox	⫼	\biginterleave	⨅	\bigsqcap
⋎	\bigcurlyvee	⨣	\bignplus	▽	\bigtriangledown
⋏	\bigcurlywedge	⫴	\bigparallel	△	\bigtriangleup

TABLE 26: Variable-sized wasysym Math Operators

⨌	\iiint	∯	\oiint	∮	\varoint
∭	\iint	∫	\varint		

TABLE 27: txfonts/pxfonts Binary Operators

⦶	\circledbar	⦵	\circledwedge	○	\medcirc
⦸	\circledbslash	⅋	\invamp	⨦	\sqcapplus
⦶	\circledvee	●	\medbullet	⨧	\sqcupplus

TABLE 28: Variable-sized txfonts/pxfonts Math Operators

⨦	⨦	\bigsqcapplus	∲	∲	\ointclockwise
⨥	⨥	\bigsqcupplus	∳	∳	\ointctrclockwise
⨍	⨍	\fint	⨌	⨌	\sqiiint
∫⋯∫	∫⋯∫	\idotsint*	⨋	⨋	\sqiint
⨌	⨌	\iiiint*	⨏	⨏	\sqint
∭	∭	\iiint*,†	⨌	⨌	\varoiiintclockwise
∬	∬	\iint*,†	⨌	⨌	\varoiiintctrclockwise
∰	∰	\oiiintclockwise	⨋	⨋	\varoiintclockwise
∰	∰	\oiiintctrclockwise	⨋	⨋	\varoiintctrclockwise
∰	∰	\oiiint	∮	∮	\varointclockwise
∯	∯	\oiintclockwise	∮	∮	\varointctrclockwise
∯	∯	\oiintctrclockwise	×	×	\varprod
∯	∯	\oiint†			

* Also defined by amsmath.

† Also defined by wasysym.

TABLE 29: Relation Symbols

≈	\approx	∈	\in	≺	\prec	⊂	\subset
≍	\asymp	⋈	\Join*	≼	\preceq	⊆	\subseteq
⋈	\bowtie	≤	\leq	∝	\propto	≻	\succ
≅	\cong	≪	\ll	∼	\sim	≽	\succeq
⊣	\dashv	∣	\mid	≃	\simeq	⊃	\supset
≐	\doteq	⊨	\models	⌣	\smile	⊇	\supseteq
≡	\equiv	≠	\neq	⊏	\sqsubset*	⊢	\vdash
⌢	\frown	∋	\ni	⊑	\sqsubseteq		
≥	\geq	∥	\parallel	⊐	\sqsupset*		
≫	\gg	⊥	\perp	⊒	\sqsupseteq		

* Not predefined in LaTeX 2ε. Use one of the packages latexsym, amsfonts, amssymb, txfonts, pxfonts, or wasysym.

TABLE 30: $\mathcal{AMS}$ Binary Relations

≊	\approxeq	⩾	\gtrdot	⌣	\smallsmile
϶	\backepsilon	⋛	\gtreqless	⊏	\sqsubset
∽	\backsim	⪌	\gtreqqless	⊐	\sqsupset
⋍	\backsimeq	≷	\gtrless	⋐	\Subset
∵	\because	≳	\gtrsim	⊆	\subseteqq
≬	\between	≦	\leqq	⪸	\succapprox
◀	\blacktriangleleft	⩽	\leqslant	⪰	\succcurlyeq
▶	\blacktriangleright	⪅	\lessapprox	≿	\succsim
≎	\Bumpeq	⩿	\lessdot	⋑	\Supset
≏	\bumpeq	⪋	\lesseqgtr	⊇	\supseteqq
≗	\circeq	⪋	\lesseqqgtr	∴	\therefore
≼	\curlyeqprec	≶	\lessgtr	≈	\thickapprox
≽	\curlyeqsucc	≲	\lesssim	∼	\thicksim
≑	\doteqdot	⋘	\lll	⊴	\trianglelefteq
≖	\eqcirc	⫛	\pitchfork	≜	\triangleq
⪖	\eqslantgtr	⪷	\precapprox	⊵	\trianglerighteq
⪕	\eqslantless	⪯	\preccurlyeq	∝	\varpropto
≒	\fallingdotseq	≾	\precsim	◁	\vartriangleleft
≧	\geqq	≓	\risingdotseq	▷	\vartriangleright
⩾	\geqslant	∣	\shortmid	⊩	\Vdash
⋙	\ggg	∥	\shortparallel	⊨	\vDash
≳	\gtrapprox	⌢	\smallfrown	⊪	\Vvdash

TABLE 31: $\mathcal{AMS}$ Negated Binary Relations

⪊	\gnapprox	⩽̸	\nleqslant	⋬	\ntrianglerighteq
≩	\gneq	≮	\nless	⊬	\nvdash
≩	\gneqq	∤	\nmid	⊭	\nvDash
⋧	\gnsim	∦	\nparallel	⊯	\nVDash
≯	\gvertneqq	⊀	\nprec	⪹	\precnapprox
⪈	\lnapprox	⪯̸	\npreceq	⋨	\precnsim
≨	\lneq	↛	\nshortmid	⊊	\subsetneq
≨	\lneqq	∦	\nshortparallel	⫋	\subsetneqq
⋦	\lnsim	≁	\nsim	⪺	\succnapprox
≰	\lvertneqq	⊈	\nsubseteq	⋩	\succnsim
≇	\ncong	⊁	\nsucc	⊋	\supsetneq
≱	\ngeq	⊁	\nsucceq	⫌	\supsetneqq
≱	\ngeqq	⊉	\nsupseteq	⊊	\varsubsetneq
⩾̸	\ngeqslant	⊉	\nsupseteqq	⫋	\varsubsetneqq
≯	\ngtr	⋪	\ntriangleleft	⊋	\varsupsetneq
≰	\nleq	⋬	\ntrianglelefteq	⫌	\varsupsetneqq
≰	\nleqq	⋫	\ntriangleright		

TABLE 32: stmaryrd Binary Relations

⋲	\inplus	⫅	\subsetpluseq	⧏	\trianglelefteqslant
⋳	\niplus	⫆	\supsetplus	⧐	\trianglerighteqslant
⊂	\subsetplus	⫆	\supsetpluseq		

TABLE 33: stmaryrd Negated Binary Relations

⋪	\ntriangleleftequalslant	⋫	\ntrianglerightequalslant

TABLE 34: txfonts/pxfonts Binary Relations

⇐⊡	\boxdotLeft	⋈	\lrtimes	⪵	\npreceqq
←⊡	\boxdotleft	⫞	\Mappedfromchar	⋨	\nprecsim
⊡→	\boxdotright	↤	\mappedfromchar	≠	\nsimeq
⊡⇒	\boxdotRight	⫦	\mmappedfromchar	⋤	\nsqsubset
←□	\boxleft	⫡	\Mmappedfromchar	⋢	\nsqsubseteq
⇐□	\boxLeft	⫧	\mmapstochar	⋥	\nsqsupset
□⇒	\boxRight	⫠	\Mmapstochar	⋣	\nsqsupseteq
□→	\boxright	⊶	\multimapboth	⊄	\nSubset
←⊙	\circleddotleft	⫰	\multimapbothvert	⫋	\nsubseteqq
⊙→	\circleddotright	⊸	\multimapdot	⪹	\nsuccapprox
⊛	\circledgtr	⧟	\multimapdotboth	⋩	\nsucccurlyeq
⊜	\circledless	⟜	\multimapdotbothA	⪶	\nsucceqq
←○	\circleleft	⧞	\multimapdotbothAvert	⋩	\nsuccsim
○→	\circleright	⟝	\multimapdotbothB	⊅	\nSupset
:≈	\colonapprox	⧠	\multimapdotbothBvert	≉	\nthickapprox
::≈	\Colonapprox	⧡	\multimapdotbothvert	↞	\ntwoheadleftarrow
:−	\coloneq	⧜	\multimapdotinv	↠	\ntwoheadrightarrow
::−	\Coloneq	⟖	\multimapinv	∦	\nvarparallel
:=	\coloneqq	≆	\napproxeq	⫲	\nvarparallelinv
::=	\Coloneqq	≭	\nasymp	⊮	\nVdash
:∼	\colonsim	≁	\nbacksim	⤡	\Nwarrow
::∼	\Colonsim	≠	\nbacksimeq	⨯	\openJoin
↔	\dashleftrightarrow	≠	\nBumpeq	×	\opentimes
←◈	\Diamonddotleft	≠	\nbumpeq	⫫	\Perp
⇐◈	\DiamonddotLeft	⤢	\Nearrow	⪷	\preceqq
◈→	\Diamonddotright	≢	\nequiv	⪹	\precneqq
◈⇒	\DiamonddotRight	≯	\ngg	⋈	\rJoin
←◇	\Diamondleft	≱	\ngtrapprox	⤇	\Rrightarrow
⇐◇	\DiamondLeft	≯	\ngtrless	⤡	\Searrow
◇→	\Diamondright	≱	\ngtrsim	⥊	\strictfi
◇⇒	\DiamondRight	≴	\nlessapprox	⥌	\strictif
−::	\Eqcolon	≰	\nlessgtr	⥋	\strictiff
−:	\eqcolon	≴	\nlesssim	⪸	\succeqq
=::	\Eqqcolon	≪	\nll	⪺	\succneqq
=:	\eqqcolon	∉	\notin	⤣	\Swarrow
≈	\eqsim	∌	\notni	∥	\varparallel
↜	\leftsquigarrow	⪹	\nprecapprox	⫳	\varparallelinv
⋉	\lJoin	⪵	\npreccurlyeq	⊫	\VvDash

Table 35: Arrow Symbols

⇓	\Downarrow	⟵	\longleftarrow	⇒	\Rightarrow
↓	\downarrow	⟸	\Longleftarrow	⇁	\rightharpoondown
↩	\hookleftarrow	⟷	\longleftrightarrow	⇀	\rightharpoonup
↪	\hookrightarrow	⟺	\Longleftrightarrow	⇌	\rightleftharpoons
⇝	\leadsto*	⟼	\longmapsto	↘	\searrow
⇐	\Leftarrow	⟶	\longrightarrow	↙	\swarrow
←	\leftarrow	⟹	\Longrightarrow	↑	\uparrow
↽	\leftharpoondown	↦	\mapsto	⇑	\Uparrow
↼	\leftharpoonup	↗	\nearrow	⇕	\Updownarrow
⇔	\Leftrightarrow	↖	\nwarrow	↕	\updownarrow
↔	\leftrightarrow	→	\rightarrow		

* Not predefined in LaTeX 2ε. Use one of the packages latexsym, amsfonts, amssymb, txfonts, pxfonts, or wasysym.

Table 36: $\mathcal{AMS}$ Arrows

↺	\circlearrowleft	⇇	\leftleftarrows	⇄	\rightleftarrows
↻	\circlearrowright	⇆	\leftrightarrows	⇌	\rightleftharpoons
↶	\curvearrowleft	⇋	\leftrightharpoons	⇉	\rightrightarrows
↷	\curvearrowright	↭	\leftrightsquigarrow	⇝	\rightsquigarrow
⇠	\dashleftarrow	⇚	\Lleftarrow	↱	\Rsh
⇢	\dashrightarrow	↫	\looparrowleft	↞	\twoheadleftarrow
⇊	\downdownarrows	↬	\looparrowright	↠	\twoheadrightarrow
⇃	\downharpoonleft	↰	\Lsh	↿	\upharpoonleft
⇂	\downharpoonright	⊸	\multimap	↾	\upharpoonright
↢	\leftarrowtail	↣	\rightarrowtail	⇈	\upuparrows

Table 37: $\mathcal{AMS}$ Negated Arrows

⇍	\nLeftarrow	⇎	\nLeftrightarrow	⇏	\nRightarrow
↚	\nleftarrow	↮	\nleftrightarrow	↛	\nrightarrow

Table 38: stmaryrd Arrows

⇽	\leftarrowtriangle	⇐|	\Mapsfrom	↓	\shortdownarrow
⥁	\leftrightarrowtriangle	↤	\mapsfrom	←	\shortleftarrow
⇿	\leftrightarrowtriangle	⇨	\Mapsto	→	\shortrightarrow
↯	\lightning	↗	\nnearrow	↑	\shortuparrow
⟽	\Longmapsfrom	↖	\nnwarrow	↘	\ssearrow
⟻	\longmapsfrom	⇾	\rightarrowtriangle	↙	\sswarrow
⟾	\Longmapsto	⦈	\rrparenthesis		

Table 39: Log-like Symbols

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

Calling the above "symbols" may be a bit misleading.[1] Each log-like symbol merely produces the eponymous textual equivalent, but with proper surrounding spacing. See Section 7.3 for more information.

Table 40: $\mathcal{AMS}$ Log-like Symbols

inj lim	`\injlim`	$\varinjlim$	`\varinjlim`	$\varlimsup$	`\varlimsup`
proj lim	`\projlim`	$\varliminf$	`\varliminf`	$\varprojlim$	`\varprojlim`

Load the amsmath package to get these symbols. See Section 7.3 for some additional comments regarding log-like symbols.

Table 41: Greek Letters

α	`\alpha`	θ	`\theta`	o	`o`	τ	`\tau`
β	`\beta`	ϑ	`\vartheta`	π	`\pi`	υ	`\upsilon`
γ	`\gamma`	ι	`\iota`	ϖ	`\varpi`	ϕ	`\phi`
δ	`\delta`	κ	`\kappa`	ρ	`\rho`	φ	`\varphi`
ϵ	`\epsilon`	λ	`\lambda`	ϱ	`\varrho`	χ	`\chi`
ε	`\varepsilon`	μ	`\mu`	σ	`\sigma`	ψ	`\psi`
ζ	`\zeta`	ν	`\nu`	ς	`\varsigma`	ω	`\omega`
η	`\eta`	ξ	`\xi`				
Γ	`\Gamma`	Λ	`\Lambda`	Σ	`\Sigma`	Ψ	`\Psi`
Δ	`\Delta`	Ξ	`\Xi`	Υ	`\Upsilon`	Ω	`\Omega`
Θ	`\Theta`	Π	`\Pi`	Φ	`\Phi`		

The remaining Greek majuscules can be produced with ordinary Latin letters. The symbol "M", for instance, is used for both an uppercase "m" and an uppercase "μ".

Table 42: $\mathcal{AMS}$ Greek Letters

F	`\digamma`	$\varkappa$	`\varkappa`

[1] Michael J. Downes prefers the more general term, "atomic math objects".

Table 43: txfonts/pxfonts Upright Greek Letters

α	\alphaup	θ	\thetaup	π	\piup	ϕ	\phiup
β	\betaup	ϑ	\varthetaup	ϖ	\varpiup	φ	\varphiup
γ	\gammaup	ι	\iotaup	ρ	\rhoup	χ	\chiup
δ	\deltaup	κ	\kappaup	ϱ	\varrhoup	ψ	\psiup
ϵ	\epsilonup	λ	\lambdaup	σ	\sigmaup	ω	\omegaup
ε	\varepsilonup	μ	\muup	ς	\varsigmaup		
ζ	\zetaup	ν	\nuup	τ	\tauup		
η	\etaup	ξ	\xiup	υ	\upsilonup		

Table 44: txfonts/pxfonts Variant Latin Letters

g	\varg	v	\varv	w	\varw	y	\vary

Pass the varg option to txfonts/pxfonts to replace g, v, w, and y with g, v, w, and y in every mathematical expression in your document.

Table 45: $\mathcal{AMS}$ Hebrew Letters

ב	\beth	ד	\daleth	ג	\gimel

\aleph appears in Table 56 on page 21.

Table 46: Variable-sized Delimiters

(	$\left($	(	)	$\right)$	)	$\uparrow$	$\left\uparrow\right.$	\uparrow	$\Uparrow$	$\left\Uparrow\right.$	\Uparrow
[	$\left[$	[	]	$\right]$	]	$\downarrow$	$\left\downarrow\right.$	\downarrow	$\Downarrow$	$\left\Downarrow\right.$	\Downarrow
{	$\left\{$	\{	}	$\right\}$	\}	$\updownarrow$	$\left\updownarrow\right.$	\updownarrow	$\Updownarrow$	$\left\Updownarrow\right.$	\Updownarrow
$\lfloor$	$\left\lfloor\right.$	\lfloor	$\rfloor$	$\left.\rfloor\right.$	\rfloor	$\lceil$	$\left\lceil\right.$	\lceil	$\rceil$	$\left.\rceil\right.$	\rceil
$\langle$	$\left\langle\right.$	\langle	$\rangle$	$\left.\rangle\right.$	\rangle	/	$\left/\right.$	/	\	$\left\backslash\right.$	\backslash
$\|$	$\left\|\right.$	|	$\\|$	$\left.\\|\right.$	\\|						

When used with \left and \right, these symbols expand to the height of the inner math expression.

Table 47: Large, Variable-sized Delimiters

$\backslash$	$\left.\backslash\right.$	\rmoustache	$\int$	$\left\int\right.$	\lmoustache	)	$\left.)\right.$	\rgroup	(	$\left(\right.$	\lgroup
$\|$	$\left.\vert\right.$	\arrowvert	$\\|$	$\left.\Vert\right.$	\Arrowvert	$\vert$	$\left.\vert\right.$	\bracevert			

These symbols *must* be used with \left and \right.

TABLE 48: $\mathcal{AMS}$ Delimiters

⌜	`\ulcorner`	⌝	`\urcorner`	⌞	`\llcorner`	⌟	`\lrcorner`

TABLE 49: stmaryrd Delimiters

⟅	`\Lbag`	⟆	`\Rbag`	⦇	`\lbag`	⦈	`\rbag`
⫛	`\llceil`	⫛	`\rrceil`	⦋	`\llfloor`	⦋	`\rrfloor`
⦇	`\llparenthesis`	⦈	`\rrparenthesis`				

TABLE 50: Variable-Sized stmaryrd Delimiters

⟦	⟦	`\llbracket`	⟧	⟧	`\rrbracket`		

TABLE 51: textcomp Text-Mode Delimiters

⟨	`\textlangle`	⟩	`\textrangle`
⟦	`\textlbrackdbl`	⟧	`\textrbrackdbl`
{	`\textlquill`	}	`\textrquill`

TABLE 52: Math-Mode Accents

$\acute{a}$	`\acute{a}`	$\breve{a}$	`\breve{a}`	$\ddot{a}$	`\ddot{a}`	$\grave{a}$	`\grave{a}`	$\tilde{a}$	`\tilde{a}`
$\bar{a}$	`\bar{a}`	$\check{a}$	`\check{a}`	$\dot{a}$	`\dot{a}`	$\hat{a}$	`\hat{a}`	$\vec{a}$	`\vec{a}`

Also note the existence of `\imath` and `\jmath`, which produce dotless versions of "$\imath$" and "$\jmath$". (See Table 56 on the following page.) These are useful when the accent is supposed to replace the dot. For example, "`\hat{\imath}`" produces a correct "$\hat{\imath}$", while "`\hat{i}`" would yield the rather odd-looking "$\hat{i}$".

TABLE 53: Some Other Constructions

$\widetilde{abc}$	`\widetilde{abc}`	$\widehat{abc}$	`\widehat{abc}`
$\overleftarrow{abc}$	`\overleftarrow{abc}`	$\overrightarrow{abc}$	`\overrightarrow{abc}`
$\overline{abc}$	`\overline{abc}`	$\underline{abc}$	`\underline{abc}`
$\overbrace{abc}$	`\overbrace{abc}`	$\underbrace{abc}$	`\underbrace{abc}`
$\sqrt{abc}$	`\sqrt{abc}`	$\sqrt[n]{abc}$	`\sqrt[n]{abc}`
f'	`f'`	$\frac{abc}{xyz}$	`\frac{abc}{xyz}`

Table 54: $\mathcal{AMS}$ Extensible Arrow Accents

$\overleftarrow{a}$	`\overleftarrow{a}`	$\overrightarrow{a}$	`\overrightarrow{a}`	$\overleftrightarrow{a}$	`\overleftrightarrow{a}`
$\underleftarrow{a}$	`\underleftarrow{a}`	$\underrightarrow{a}$	`\underrightarrow{a}`	$\underleftrightarrow{a}$	`\underleftrightarrow{a}`

These accents are called "extensible" because they stretch to fit their argument. For example, "`$\underrightarrow{ABCdef}$`" produces "$\underrightarrow{ABCdef}$".

Table 55: Punctuation Symbols (Math Mode)

,	,	;	;	:	`\colon`*	.	`\ldotp`
·	`\cdotp`						

* While ":" is valid in math mode, `\colon` uses different surrounding spacing. See Section 7.3 and the Short Math Guide for LaTeX [Dow00] for more information on math-mode spacing.

Table 56: Miscellaneous LaTeX 2_ε Symbols

$\aleph$	`\aleph`	ℓ	`\ell`	$\jmath$	`\jmath`	$\spadesuit$	`\spadesuit`
$\angle$	`\angle`	$\emptyset$	`\emptyset`	$\ldots$	`\ldots`	$\surd$	`\surd`
$\backslash$	`\backslash`	$\exists$	`\exists`	$\mho$*	`\mho`	$\top$	`\top`
$\bot$	`\bot`	$\flat$	`\flat`	∇	`\nabla`	$\triangle$	`\triangle`
$\Box$*	`\Box`	$\forall$	`\forall`	$\natural$	`\natural`	$\vdots$	`\vdots`
$\cdots$	`\cdots`	$\hbar$	`\hbar`	$\neg$	`\neg`	$\wp$	`\wp`
$\clubsuit$	`\clubsuit`	$\heartsuit$	`\heartsuit`	∂	`\partial`		
$\ddots$	`\ddots`	$\Im$	`\Im`	$\prime$	`\prime`		
$\Diamond$*	`\Diamond`	$\imath$	`\imath`	$\Re$	`\Re`		
$\diamondsuit$	`\diamondsuit`	∞	`\infty`	$\sharp$	`\sharp`		

* Not predefined in LaTeX 2_ε. Use one of the packages latexsym, amsfonts, amssymb, txfonts, pxfonts, or wasysym.

Table 57: Miscellaneous $\mathcal{AMS}$ Symbols

$\angle$	`\angle`	$\complement$	`\complement`	$\measuredangle$	`\measuredangle`
$\backprime$	`\backprime`	$\diagdown$	`\diagdown`	$\mho$	`\mho`
$\Bbbk$	`\Bbbk`	$\diagup$	`\diagup`	$\nexists$	`\nexists`
$\bigstar$	`\bigstar`	$\eth$	`\eth`	$\sphericalangle$	`\sphericalangle`
$\blacklozenge$	`\blacklozenge`	$\Finv$	`\Finv`	$\square$	`\square`
$\blacksquare$	`\blacksquare`	$\Game$	`\Game`	$\triangledown$	`\triangledown`
$\blacktriangle$	`\blacktriangle`	$\hbar$	`\hbar`	$\varnothing$	`\varnothing`
$\blacktriangledown$	`\blacktriangledown`	$\hslash$	`\hslash`	$\vartriangle$	`\vartriangle`
$\circledS$	`\circledS`	$\lozenge$	`\lozenge`		

Table 58: $\mathcal{AMS}$ Commands Defined to Work in Both Math and Text Mode

✓	`\checkmark`	®	`\circledR`	✠	`\maltese`

Table 59: stmaryrd Extension Characters

⫽	\Arrownot	⫲	\Mapsfromchar	⫳	\Mapstochar
⫻	\arrownot	⫱	\mapsfromchar		

Table 60: Other wasysym Math-Mode Symbols

≳	\apprge	⋈	\Join	℧	\mho	⊐	\sqsupset
≲	\apprle	⇝	\leadsto	○	\ocircle	⊴	\unlhd
□	\Box	◁	\lhd	▷	\rhd	⊵	\unrhd
◇	\Diamond	◀	\LHD	▶	\RHD	∝	\wasypropto
⌐	\invneg	⊛	\logof	⊏	\sqsubset		

Table 61: Miscellaneous txfonts/pxfonts Symbols

◆	\Diamondblack	ƛ	\lambdaslash	♧	\varclubsuit	♤	\varspadesuit
⟐	\Diamonddot	¢	\mathcent	♦	\vardiamondsuit		
ƛ	\lambdabar	£	\mathsterling	♥	\varheartsuit		

Table 62: textcomp Text-Mode Math and Science Symbols

℃	\textcelsius	−	\textminus	√	\textsurd
°	\textdegree	µ	\textmu	¾	\textthreequarters
÷	\textdiv	Ω	\textohm	³	\textthreesuperior
↓	\textdownarrow	½	\textonehalf	×	\texttimes
/	\textfractionsolidus	¼	\textonequarter	²	\texttwosuperior
←	\textleftarrow	¹	\textonesuperior	↑	\textuparrow
¬	\textlnot	±	\textpm		
℧	\textmho	→	\textrightarrow		

Table 63: marvosym Math Symbols

0	\MVZero	2	\MVTwo	4	\MVFour	6	\MVSix	8	\MVEight
1	\MVOne	3	\MVThree	5	\MVFive	7	\MVSeven	9	\MVNine

∢	\Anglesign	·	\Squaredot	$\vec{}$	\Vectorarrowhigh
≙	\Corresponds	$\vec{}$	\Vectorarrow		

Table 64: ar Aspect Ratio Symbol

Æ	\AR

Table 65: ulsy Contradiction and Other Symbols

↯	\blitza	↯	\blitzb	↯	\blitzc	↯	\blitzd	↯	\blitze	⊖	\odplus

Table 66: Math Alphabets

		Required package
ABCdef123	`\mathrm{ABCdef123}`	*none*
ABCdef123	`\mathit{ABCdef123}`	*none*
*ABCdef*123	`\mathnormal{ABCdef123}`	*none*
$\mathcal{ABC}$	`\mathcal{ABC}`	*none*
$\mathscr{ABC}$	`\mathscr{ABC}`	mathrsfs
$\mathcal{ABC}$	`\mathcal{ABC}`	euscript with option: mathcal
or	`\mathscr{ABC}`	euscript with option: mathscr
$\mathpzc{ABCdef123}$	`\mathpzc{ABCdef123}`	*none*; manually defined*
$\mathbb{ABC}$	`\mathbb{ABC}`	amsfonts, amssymb, txfonts, or pxfonts
$\varmathbb{ABC}$	`\varmathbb{ABC}`	txfonts or pxfonts
$\mathbb{ABCdef123}$	`\mathbb{ABCdef123}`	bbold or mathbbol†
$\mathbbm{ABCdef12}$	`\mathbbm{ABCdef12}`	bbm
$\mathbbmss{ABCdef12}$	`\mathbbmss{ABCdef12}`	bbm
$\mathbbmtt{ABCdef12}$	`\mathbbmtt{ABCdef12}`	bbm
$\mathbb{ABC1}$	`\mathbb{ABC1}`	dsfont
$\mathbb{ABC1}$	`\mathbb{ABC1}`	dsfont with option: sans
$\mathfrak{ABCdef123}$	`\mathfrak{ABCdef123}`	eufrak
$\mathfrak{ABCdef123}$	`\textfrak{ABCdef123}`	yfonts
$\mathfrak{ABCdef123}$	`\textswab{ABCdef123}`	yfonts

* Put "`\DeclareMathAlphabet{\mathpzc}{OT1}{pzc}{m}{it}`" in your document's preamble to make `\mathpzc` typeset its argument in Zapf Chancery.

† The mathbbol package defines some additional blackboard bold characters: parentheses, square brackets, angle brackets, and—if the bbgreekl option is passed to matbbol—Greek letters. For instance, "$\mathbb{\Langle\Lbrack\Lparen\bbalpha\bbbeta\bbgamma\Rparen\Rbrack\Rangle}$" is produced by "`\mathbb{\Langle\Lbrack\Lparen\bbalpha\bbbeta\bbgamma\Rparen\Rbrack\Rangle}`".

4 Science and technology symbols

This section lists symbols that are employed in various branches of science and engineering (and, because we were extremely liberal in our classification, astrology, too).

TABLE 67: wasysym Electrical and Physical Symbols

∼	\AC	≋	\VHF	∿∿∿	\photon	≈	\HF	∿∿∿	\gluon

TABLE 68: ifsym Pulse Diagram Symbols

⎿	\FallingEdge	⎾⏌	\LongPulseLow	⎾⏌	\PulseLow	⏌	\ShortPulseHigh
⏍⏌	\LongPulseHigh	⏍⏋	\PulseHigh	⏍	\RaisingEdge	⎾	\ShortPulseLow

In addition, within \textifsym{...}, the following codes are valid:

_	l	‾	m	‾	h	‾	d	〈	<	〉	>
__	L	‾‾	M	‾‾	H	‾‾	D	〈	<<	〉	>>

This enables one to write "\textifsym{mm<DDD>mm}" to get "—⟨———⟩—" or "\textifsym{L|H|L|H|L}" to get "__⎍__⎍__".

Finally, \textifsym supports the display of segmented digits, as would appear on an LCD: "\textifsym{-123.456}" produces "- 123.456". "\textifsym{b}" outputs a blank with the same width as an "8".

TABLE 69: wasysym Astronomical Symbols

☊	\ascnode	♃	\jupiter	●	\newmoon	♀	\venus
⊙	\astrosun	☾	\leftmoon	♇	\pluto	♈	\vernal
☋	\descnode	♂	\mars	☽	\rightmoon		
♁	\earth	☿	\mercury	♄	\saturn		
○	\fullmoon	♆	\neptune	♅	\uranus		

TABLE 70: marvosym Astronomical Symbols

☿	\Mercury	♂	\Mars	♅	\Uranus	☉	\Sun
♀	\Venus	♃	\Jupiter	♆	\Neptune	☽	\Moon
♁	\Earth	♄	\Saturn	♇	\Pluto		

TABLE 71: wasysym Astrological Symbols

♈	\aries	♋	\cancer	♎	\libra	♑	\capricornus
♉	\taurus	♌	\leo	♏	\scorpio	♒	\aquarius
♊	\gemini	♍	\virgo	♐	\sagittarius	♓	\pisces

☌	\conjunction	☍	\opposition

TABLE 72: marvosym Astrological Symbols

♈	\Aries	♋	\Cancer	♎	\Libra	♑	\Capricorn
♉	\Taurus	♌	\Leo	♏	\Scorpio	♒	\Aquarius
♊	\Gemini	♍	\Virgo	♐	\Sagittarius	♓	\Pisces

Note that \Aries...\Pisces can also be specified with \Zodiac{1}... \Zodiac{12}.

TABLE 73: wasysym APL Symbols

⍞	\APLbox	⍠	\APLinv	⋆	\APLstar
⍝	\APLcomment	⍇	\APLleftarrowbox	⍙	\APLup
∇	\APLdown	⍟	\APLlog	⍐	\APLuparrowbox
⍗	\APLdownarrowbox	¯	\APLminus	⍀	\notbackslash
⍞	\APLinput	⍈	\APLrightarrowbox	⌿	\notslash

TABLE 74: wasysym APL Modifiers

∘	\APLcirc{}	~	\APLnot{}	|	\APLvert{}

TABLE 75: marvosym Computer Hardware Symbols

🖰	\ComputerMouse	🖴	\ParallelPort	🖲	\SerialInterface
🖮	\Keyboard	🖷	\Printer	🖳	\SerialPort

TABLE 76: ASCII Control Characters (IBM)

☺	\SOH	•	\BEL	♪	\CR	‼	\DCc	↓	\EM	▼	\US
☻	\STX	◘	\BS	♬	\SO	¶	\DCd	→	\SUB	¦	\splitvert
♥	\ETX	○	\HT	☼	\SI	§	\NAK	←	\ESC	⌂	\DEL
♦	\EOT	◙	\LF	►	\DLE	▬	\SYN	└	\FS		
♣	\ENQ	♂	\VT	◄	\DCa	↨	\ETB	↔	\GS		
♠	\ACK	♀	\FF	↕	\DCb	↑	\CAN	▲	\RS		

SOH, STX, ETX, ..., US are the names of ASCII characters 1–31. DEL is the name of ASCII character 127. \splitvert doesn't correspond to a control character but is merely the "|" character shown IBM style.

These characters require the ascii package and must be entered with the ascii font in effect, for example, "{\ascii\STX}". See the ascii package documentation for more information.

TABLE 77: marvosym Communication Symbols

🖃	\Email	FAX	\fax	🖷	\Faxmachine	🗲	\Lightning	✆	\Pickup
🗲	\Emailct	FAX	\FAX	✉	\Letter	🖭	\Mobilefone	☎	\Telefon

TABLE 78: marvosym Engineering Symbols

	\Beam		\Force		\Octosteel		\RoundedTTsteel
	\Bearing		\Hexasteel		\Rectpipe		\Squarepipe
	\Circpipe		\Lefttorque		\Rectsteel		\Squaresteel
	\Circsteel		\Lineload		\Righttorque		\Tsteel
	\Fixedbearing		\Loosebearing		\RoundedLsteel		\TTsteel
	\Flatsteel		\Lsteel		\RoundedTsteel		

TABLE 79: marvosym Biological Symbols

	\Female		\FemaleMale		\MALE		\Neutral
	\FEMALE		\Hermaphrodite		\Male		
	\FemaleFemale		\HERMAPHRODITE		\MaleMale		

TABLE 80: marvosym Safety-Related Symbols

	\Biohazard		\CEsign		\Explosionsafe		\Radioactivity
	\BSEfree		\Estatically		\Laserbeam		\Stopsign

5 Dingbats

Dingbats are symbols such as stars, arrows, and geometric shapes. They are commonly used as bullets in itemized lists or, more generally, as a means to draw attention to the text that follows.

The pifont dingbat package warrants special mention. Among other capabilities, pifont provides a LaTeX interface to the PostScript Zapf Dingbats font. However, rather than name each of the dingbats individually, pifont merely provides a single `\ding` command, which outputs the character that lies at a given position in the font. The consequence is that the pifont symbols can't be listed by name in this document's index, so be mindful of that fact when searching for a particular symbol.

Table 81: bbding Arrows

➥	\ArrowBoldDownRight	➧	\ArrowBoldRightShort	➦	\ArrowBoldUpRight
➲	\ArrowBoldRightCircled	➠	\ArrowBoldRightStrobe		

Table 82: pifont Arrows

✒	\ding{212}	✓	\ding{221}	✦	\ding{230}	✧	\ding{239}	✩	\ding{249}
✓	\ding{213}	✔	\ding{222}	✧	\ding{231}	✩	\ding{241}	✪	\ding{250}
✗	\ding{214}	✕	\ding{223}	✪	\ding{232}	✫	\ding{242}	✬	\ding{251}
✘	\ding{215}	✖	\ding{224}	✫	\ding{233}	✬	\ding{243}	✭	\ding{252}
✙	\ding{216}	✗	\ding{225}	✬	\ding{234}	✭	\ding{244}	✮	\ding{253}
✚	\ding{217}	✘	\ding{226}	✭	\ding{235}	✮	\ding{245}	✯	\ding{254}
✛	\ding{218}	✙	\ding{227}	✮	\ding{236}	✯	\ding{246}		
✜	\ding{219}	✚	\ding{228}	✯	\ding{237}	✰	\ding{247}		
✢	\ding{220}	✛	\ding{229}	✰	\ding{238}	✱	\ding{248}		

Table 83: marvosym Scissors

✁	\Cutleft	✂	\Cutright	✃	\Leftscissors
---	\Cutline	---	\Kutline	✄	\Rightscissors

Table 84: bbding Scissors

✀	\ScissorHollowLeft	✃	\ScissorLeftBrokenTop
✁	\ScissorHollowRight	✄	\ScissorRight
✂	\ScissorLeft	✄	\ScissorRightBrokenBottom
✂	\ScissorLeftBrokenBottom	✄	\ScissorRightBrokenTop

Table 85: pifont Scissors

✁	\ding{33}	✂	\ding{34}	✃	\ding{35}	✄	\ding{36}

Table 86: dingbat Pencils

✎	\largepencil	✎	\smallpencil

TABLE 87: bbding Pencils and Nibs

\NibLeft	\PencilLeft	\PencilRightDown
\NibRight	\PencilLeftDown	\PencilRightUp
\NibSolidLeft	\PencilLeftUp	
\NibSolidRight	\PencilRight	

TABLE 88: pifont Pencils and Nibs

\ding{46} \ding{47} \ding{48} \ding{49} \ding{50}

TABLE 89: dingbat Hands

\leftpointright	\rightpointleft	\rightpointright
\leftthumbsdown	\rightthumbsdown	
\leftthumbsup	\rightthumbsup	

TABLE 90: bbding Hands

\HandCuffLeft	\HandCuffRightUp	\HandPencilLeft
\HandCuffLeftUp	\HandLeft	\HandRight
\HandCuffRight	\HandLeftUp	\HandRightUp

TABLE 91: pifont Hands

\ding{42} \ding{43} \ding{44} \ding{45}

TABLE 92: bbding Crosses and Plusses

\Cross	\CrossOpenShadow	\PlusOutline
\CrossBoldOutline	\CrossOutline	\PlusThinCenterOpen
\CrossClowerTips	\Plus	
\CrossMaltese	\PlusCenterOpen	

TABLE 93: pifont Crosses and Plusses

\ding{57}	\ding{59}	\ding{61}	\ding{63}
\ding{58}	\ding{60}	\ding{62}	\ding{64}

TABLE 94: bbding Xs and Check Marks

\Checkmark	\XSolid	\XSolidBrush
\CheckmarkBold	\XSolidBold	

TABLE 95: pifont Xs and Check Marks

✓	\ding{51}	✗	\ding{53}	✗	\ding{55}
✔	\ding{52}	✘	\ding{54}	✘	\ding{56}

TABLE 96: wasysym Xs and Check Marks

☑	\CheckedBox	□	\Square	☒	\XBox

TABLE 97: pifont Circled Numbers

①	\ding{172}	❶	\ding{182}	①	\ding{192}	❶	\ding{202}
②	\ding{173}	❷	\ding{183}	②	\ding{193}	❷	\ding{203}
③	\ding{174}	❸	\ding{184}	③	\ding{194}	❸	\ding{204}
④	\ding{175}	❹	\ding{185}	④	\ding{195}	❹	\ding{205}
⑤	\ding{176}	❺	\ding{186}	⑤	\ding{196}	❺	\ding{206}
⑥	\ding{177}	❻	\ding{187}	⑥	\ding{197}	❻	\ding{207}
⑦	\ding{178}	❼	\ding{188}	⑦	\ding{198}	❼	\ding{208}
⑧	\ding{179}	❽	\ding{189}	⑧	\ding{199}	❽	\ding{209}
⑨	\ding{180}	❾	\ding{190}	⑨	\ding{200}	❾	\ding{210}
⑩	\ding{181}	❿	\ding{191}	⑩	\ding{201}	❿	\ding{211}

TABLE 98: wasysym Stars

✡	\davidsstar	✳	\hexstar	✳	\varhexstar

TABLE 99: bbding Stars, Flowers, and Similar Shapes

✻	\Asterisk	✿	\FiveFlowerPetal	✢	\JackStar
✱	\AsteriskBold	★	\FiveStar	✤	\JackStarBold
✼	\AsteriskCenterOpen	☆	\FiveStarCenterOpen	❀	\SixFlowerAlternate
✽	\AsteriskRoundedEnds	✯	\FiveStarConvex	❋	\SixFlowerAltPetal
✳	\AsteriskThin	✰	\FiveStarLines	✼	\SixFlowerOpenCenter
✲	\AsteriskThinCenterOpen	☆	\FiveStarOpen	❀	\SixFlowerPetalDotted
✡	\DavidStar	✪	\FiveStarOpenCircled	✻	\SixFlowerPetalRemoved
✸	\DavidStarSolid	✯	\FiveStarOpenDotted	❀	\SixFlowerRemovedOpenPetal
✻	\EightAsterisk	✯	\FiveStarOutline	✶	\SixStar
❁	\EightFlowerPetal	✯	\FiveStarOutlineHeavy	✺	\SixteenStarLight
✻	\EightFlowerPetalRemoved	✰	\FiveStarShadow	❄	\Snowflake
✶	\EightStar	✢	\FourAsterisk	❄	\SnowflakeChevron
✸	\EightStarBold	❀	\FourClowerOpen	❄	\SnowflakeChevronBold
✵	\EightStarConvex	✤	\FourClowerSolid	✻	\Sparkle
✴	\EightStarTaper	✦	\FourStar	✽	\SparkleBold
❀	\FiveFlowerOpen	✧	\FourStarOpen	✹	\TwelweStar

TABLE 100: pifont Stars, Flowers, and Similar Shapes

✡	\ding{65}	✪	\ding{74}	✳	\ding{83}	✲	\ding{92}	❃	\ding{101}
✢	\ding{66}	✯	\ding{75}	✴	\ding{84}	✻	\ding{93}	❄	\ding{102}
✣	\ding{67}	✰	\ding{76}	✵	\ding{85}	✼	\ding{94}	❅	\ding{103}
✤	\ding{68}	✱	\ding{77}	✶	\ding{86}	✽	\ding{95}	❆	\ding{104}
✥	\ding{69}	✲	\ding{78}	✷	\ding{87}	✾	\ding{96}	❇	\ding{105}
✦	\ding{70}	✳	\ding{79}	✸	\ding{88}	✿	\ding{97}	❈	\ding{106}
✧	\ding{71}	✴	\ding{80}	✹	\ding{89}	❀	\ding{98}	❉	\ding{107}
★	\ding{72}	✵	\ding{81}	✺	\ding{90}	❁	\ding{99}		
☆	\ding{73}	✶	\ding{82}	✻	\ding{91}	❂	\ding{100}		

TABLE 101: wasysym Geometric Shapes

⬡ \hexagon ◯ \octagon ⬠ \pentagon ⬡ \varhexagon

TABLE 102: ifsym Geometric Shapes

◯	\BigCircle	▶	\FilledBigTriangleRight	○	\SmallCircle
╳	\BigCross	▲	\FilledBigTriangleUp	×	\SmallCross
◇	\BigDiamondshape	●	\FilledCircle	◇	\SmallDiamondshape
—	\BigHBar	◈	\FilledDiamondShadowA	–	\SmallHBar
⬙	\BigLowerDiamond	◈	\FilledDiamondShadowC	⬙	\SmallLowerDiamond
⬗	\BigRightDiamond	◆	\FilledDiamondshape	⬗	\SmallRightDiamond
□	\BigSquare	●	\FilledSmallCircle	□	\SmallSquare
▽	\BigTriangleDown	◆	\FilledSmallDiamondshape	▽	\SmallTriangleDown
◁	\BigTriangleLeft	■	\FilledSmallSquare	◁	\SmallTriangleLeft
▷	\BigTriangleRight	▼	\FilledSmallTriangleDown	▷	\SmallTriangleRight
△	\BigTriangleUp	◀	\FilledSmallTriangleLeft	△	\SmallTriangleUp
|	\BigVBar	▶	\FilledSmallTriangleRight	|	\SmallVBar
○	\Circle	▲	\FilledSmallTriangleUp	↓	\SpinDown
╳	\Cross	■	\FilledSquare	↑	\SpinUp
◈	\DiamondShadowA	■	\FilledSquareShadowA	□	\Square
◈	\DiamondShadowB	■	\FilledSquareShadowC	▣	\SquareShadowA
◈	\DiamondShadowC	▼	\FilledTriangleDown	▣	\SquareShadowB
◇	\Diamondshape	◀	\FilledTriangleLeft	▣	\SquareShadowC
●	\FilledBigCircle	▶	\FilledTriangleRight	▽	\TriangleDown
◆	\FilledBigDiamondshape	▲	\FilledTriangleUp	◁	\TriangleLeft
■	\FilledBigSquare	—	\HBar	▷	\TriangleRight
▼	\FilledBigTriangleDown	⬙	\LowerDiamond	△	\TriangleUp
◀	\FilledBigTriangleLeft	⬗	\RightDiamond	|	\VBar

The ifsym documentation points out that one can use \rlap to combine some of the above into useful, new symbols. For example, \BigCircle and \FilledSmallCircle combine to give "◉". Likewise, \Square and \Cross combine to give "⊠". See Section 7.2 for more information about constructing new symbols out of existing symbols.

Table 103: bbding Geometric Shapes

○	\CircleShadow	▌	\Rectangle	❑	\SquareShadowTopLeft
●	\CircleSolid	▮	\RectangleBold	❒	\SquareShadowTopRight
◆	\DiamondSolid	▏	\RectangleThin	■	\SquareSolid
⬭	\Ellipse	□	\Square	▼	\TriangleDown
⬭	\EllipseShadow	❑	\SquareCastShadowBottomRight	▲	\TriangleUp
⬬	\EllipseSolid	❑	\SquareCastShadowTopLeft		
◖	\HalfCircleLeft	❒	\SquareCastShadowTopRight		
◗	\HalfCircleRight	❑	\SquareShadowBottomRight		

Table 104: pifont Geometric Shapes

●	\ding{108}	❑	\ding{111}	❒	\ding{114}	◆	\ding{117}	▌	\ding{121}
○	\ding{109}	❒	\ding{112}	▲	\ding{115}	◗	\ding{119}	▮	\ding{122}
■	\ding{110}	❑	\ding{113}	▼	\ding{116}	▏	\ding{120}		

Table 105: manfnt Dangerous Bend Symbols

\dbend \lhdbend \reversedvideodbend

Note that these symbols descend far beneath the baseline. manfnt also defines non-descending versions, which it calls, correspondingly, \textdbend, \textlhdbend, and \textreversedvideodbend.

Table 106: marvosym Information Symbols

🚲	\Bicycle	⚽	\Football	☞	\Pointinghand
☑	\Checkedbox	🚹	\Gentsroom	♿	\Wheelchair
🕘	\Clocklogo	🏭	\Industry	✍	\Writinghand
☕	\Coffeecup	🛈	\Info		
☒	\Crossedbox	🚺	\Ladiesroom		

Table 107: Miscellaneous dingbat Dingbats

⚓	\anchor	👁	\eye	🖳	\Sborder
➲	\carriagereturn	❖	\filledsquarewithdots	⚄	\squarewithdots
✓	\checkmark	📡	\satellitedish	🖳	\Zborder

Table 108: Miscellaneous bbding Dingbats

✉	\Envelope	✌	\Peace	✆	\PhoneHandset	✪	\SunshineOpenCircled
❖	\OrnamentDiamondSolid	☎	\Phone	✈	\Plane	✇	\Tape

TABLE 109: Miscellaneous pifont Dingbats

✇	\ding{37}	✁	\ding{40}	❤	\ding{164}	❧	\ding{167}	♠	\ding{171}
✆	\ding{38}	✉	\ding{41}	❥	\ding{165}	♣	\ding{168}	♦	\ding{169}
✈	\ding{39}	❖	\ding{118}	❦	\ding{166}	♥	\ding{170}		

6 Other symbols

The following are all the symbols that didn't fit neatly or unambiguously into any of the previous sections. (Do weather symbols belong under "Science and technology"? Should dice be considered "mathematics"?) While some of the tables contain clearly related groups of symbols (e.g., musical notes), others represent motley assortments of whatever the font designer felt like drawing.

Table 110: textcomp Genealogical Symbols

⋆	\textborn	⚮	\textdivorced	⚭	\textmarried
†	\textdied		\textleaf		

Table 111: wasysym General Symbols

℧	\agemO	◷	\clock	◀	\LEFTarrow	☺	\smiley
⚹	\ataribox	¤	\currency	ϟ	\lightning	☼	\sun
♦	\bell	⌀	\diameter	♂	\male	▲	\UParrow
☻	\blacksmiley	▼	\DOWNarrow	‰	\permil	∢	\varangle
⋈	\Bowtie	♀	\female	☎	\phone	⌑	\wasylozenge
¦	\brokenvert	☹	\frownie	➪	\pointer	∴	\wasytherefore
¢	\cent	⦸	\invdiameter	ℴ	\recorder		
✓	\checked	✠	\kreuz	▶	\RIGHTarrow		

Table 112: wasysym Musical Notes

♪	\eighthnote	𝅗𝅥	\halfnote	♫	\twonotes	𝅝	\fullnote	♩	\quarternote

See also \flat, \sharp, and \natural (Table 56).

Table 113: wasysym Circles

●	\CIRCLE	◐	\LEFTcircle	◑	\RIGHTcircle	↻	\rightturn
○	\Circle	◖	\Leftcircle	◗	\Rightcircle		
◖	\LEFTCIRCLE	◗	\RIGHTCIRCLE	↺	\leftturn		

Table 114: Miscellaneous manfnt Symbols

	\manboldkidney		\manpenkidney
	\manconcentriccircles		\manquadrifolium
	\manconcentricdiamond		\manquartercircle
	\mancone		\manrotatedquadrifolium
	\mancube		\manrotatedquartercircle
	\manerrarrow		\manstar
	\manfilledquartercircle		\mantiltpennib
	\manhpennib	▼	\mantriangledown
	\manimpossiblecube	▶	\mantriangleright
	\mankidney	▲	\mantriangleup
	\manlhpenkidney		\manvpennib

Table 115: marvosym Navigation Symbols

▶	\Forward	▼	\MoveDown	⏮	\RewindToIndex	⤒	\ToTop
⏭	\ForwardToEnd	▲	\MoveUp	⏮	\RewindToStart		
⏭	\ForwardToIndex	◀	\Rewind	⤓	\ToBottom		

Table 116: marvosym Laundry Symbols

	\AtForty		\Handwash		\ShortNinetyFive
	\AtNinetyFive		\IroningI		\ShortSixty
	\AtSixty		\IroningII		\ShortThirty
△	\Bleech		\IroningIII		\SpecialForty
Ⓐ	\CleaningA		\NoBleech		\Tumbler
Ⓕ	\CleaningF		\NoChemicalCleaning		\WashCotton
Ⓕ	\CleaningFF		\NoIroning		\WashSynthetics
Ⓟ	\CleaningP		\NoTumbler		\WashWool
Ⓟ	\CleaningPP		\ShortFifty		
	\Dontwash		\ShortForty		

Table 117: Other marvosym Symbols

†	\Ankh	✝	\Cross	♡	\Heart	☺	\Smiley
	\Bat		\FHBOlogo		\MartinVogel		\Womanface
	\Bouquet		\FHBOLOGO		\Mundus	☯	\Yinyang
✞	\Celtcross	☹	\Frowny	@	\MVAt		
Ⓐ	\CircledA		\FullFHBO	➔	\Rightarrow*		

* Standard LaTeX 2ε defines \Rightarrow to display "⇒", while marvosym redefines it to display "➔" (or ":" in math mode). This conflict can be problematic for math symbols defined in terms of \Rightarrow, such as \Longleftrightarrow, which ends up looking like "⇐:".

Table 118: ifsym Weather Symbols

	\Blitz		\FilledWeakRainCloud		\Rain		\ThinFog
	\Cloud		\Fog		\RainCloud		\WeakRain
	\FilledCloud		\Graupel		\Snow		\WeakRainCloud
	\FilledRainCloud		\Hagel		\SnowCloud		
	\FilledSnowCloud		\HalfSun		\Sun		
	\FilledSunCloud		\NoSun		\SunCloud		

In addition, \Thermo{0}...\Thermo{6} produce thermometers that are between 0/6 and 6/6 full of mercury:

Similarly, \wind{⟨*sun*⟩}{⟨*angle*⟩}{⟨*strength*⟩} will draw wind symbols with a given amount of sun (0–4), a given angle (in degrees), and a given strength in km/h (0–100). For example, \wind{0}{0}{0} produces "", \wind{2}{0}{0} produces "", and \wind{4}{0}{100} produces "".

TABLE 119: ifsym Alpine Symbols

	\FilledHut		\Joch		\Tent		\Vermessung
	\Flag		\Mountain		\VarFlag		\Village
	\HalfFilledHut		\StoneMan		\VarIceMountain		
	\Hut		\Summit		\VarMountain		
	\IceMountain		\SummitSign		\VarSummit		

TABLE 120: ifsym Clocks

	\Interval		\StopWatchStart		\VarClock		\Wecker
	\StopWatchEnd		\Taschenuhr		\VarTaschenuhr		

ifsym also exports a \showclock macro. \showclock{⟨*hours*⟩}{⟨*minutes*⟩} outputs a clock displaying the corresponding time. For instance, "\showclock{5}{40}" produces "". ⟨*hours*⟩ must be an integer from 0 to 11, and ⟨*minutes*⟩ must be an integer multiple of 5 from 0 to 55.

TABLE 121: Other ifsym Symbols

	\FilledSectioningDiamond		\Letter		\Radiation
	\Fire		\PaperLandscape		\SectioningDiamond
	\Irritant		\PaperPortrait		\Telephone
	\StrokeOne		\StrokeThree		\StrokeFive
	\StrokeTwo		\StrokeFour		

In addition, \Cube{1}...\Cube{6} produce dice with the corresponding number of spots:

7 Additional Information

Unlike the previous sections of this document, Section 7 does not contain new symbol tables. Rather, it provides additional help in using the Comprehensive LaTeX Symbol List. First, it draws attention to symbol names used by multiple packages. Then, it provides some guidelines for finding symbols and gives some examples regarding how to construct missing symbols out of existing ones. Next, it comments on the spacing surrounding symbols in math mode. After that, it presents an ASCII and Latin 1 quick-reference guide, showing how to enter all of the standard ASCII/Latin 1 symbols in LaTeX. And finally, it lists some statistics about this document itself.

7.1 Symbol Name Clashes

Unfortunately, a number of symbol names are not unique; they appear in more than one package. Depending on how the symbols are defined in each package, LaTeX will either output an error message or replace an earlier-defined symbol with a later-defined symbol. Table 122 lists the name clashes that appear in this document. The symbol "N/A" is used to indicate that the corresponding package was not available when `symbols.tex` was compiled.

Table 122: Symbol Name Clashes

Symbol	LaTeX 2ε	AMS	stmaryrd	wasysym	marvosym	bbding	ifsym	dingbat	wsuipa
`\angle`	∠	∠							
`\baro`			⌽						ɵ
`\bigtriangledown`	▽		▽						
`\bigtriangleup`	△		△						
`\checkmark`		✓						✓	
`\Circle`				○			○		
`\Cross`					✝	✝	×		
`\Letter`					✉		✉		
`\lightning`			↯	↯					
`\Rightarrow`	⇒				➔				
`\rightleftharpoons`	⇌	⇌							
`\Square`				□		□	□		
`\Sun`					ʘ		☼		
`\TriangleDown`						▼	▽		
`\TriangleUp`						▲	△		

Using multiple symbols with the same name in the same document—or even merely loading conflicting symbol packages—can be tricky, but, as evidenced by the existence of Table 122, not impossible. The general procedure is to load the first package, rename the conflicting symbols, and then load the second package. Examine the LaTeX source for this document—especially the `\savesymbol` and `\restoresymbol` macros and their subsequent usage—to see one possible way to handle symbol conflicts.

txfonts and pxfonts redefine a huge number of symbols—essentially, all of the symbols defined by latexsym, textcomp, the various $\mathcal{AMS}$ symbol sets, and LaTeX 2ε itself. The txfonts and pxfonts conflicts are not listed in Table 122 because they are designed to be compatible with the symbols they replace. Table 123 illustrates what "compatible" means in this context.

Table 123: Example of a Benign Name Clash

Symbol	Default (Computer Modern)	txfonts (Times Roman)
`R`	R	R
`\textrecipe`	℞	℞

To use the new txfonts/pxfonts symbols without altering the document's main font, merely reset the default font families back to their original values after loading one of those packages:

```
\renewcommand\rmdefault{cmr}
\renewcommand\sfdefault{cmss}
\renewcommand\ttdefault{cmtt}
```

7.2 Where can I find the symbol for ... ?

If you can't find some symbol you're looking for in this document, there are a few possible explanations:

- The symbol isn't intuitively named. As a few examples, the command to draw dice is "`\Cube`"; a plus sign with a circle around it ("exclusive or" to computer engineers) is "`\oplus`"; and lightning bolts in fonts designed by German speakers may have "blitz" in their names. The moral of the story is to be creative with synonyms when searching the index.
- The symbol is defined by some package that I overlooked (or deemed unimportant). If there's some symbol package that you think should be included in the Comprehensive LaTeX Symbol List, please send me e-mail at the address listed on the title page.
- The symbol isn't defined in any package whatsoever.

Even in the last case, all is not lost. Sometimes, a symbol exists in a font, but there is no LaTeX binding for it. For example, the PostScript Symbol font contains a "↵" symbol, which may be useful for representing a carriage return, but there is no package for accessing that symbol (as far as I know). To produce an unnamed symbol, you need to switch to the font explicitly with LaTeX 2$_\varepsilon$'s low-level font commands [LaT00] and use `\char` to request a specific character number in the font.[2]

Symbols that do not exist in any font can sometimes be fabricated out of existing symbols. The LaTeX 2$_\varepsilon$ source file called `fontdef.dtx` contains a number of such definitions. For example, `\models` (see Table 29 on page 14) is defined in that file with:

```
\def\models{\mathrel|\joinrel=}
```

where `\mathrel` and `\joinrel` are used to control the horizontal spacing. (See The TeXbook [Knu86] for more information on those commands.)

With some simple pattern-matching, one can easily define a backward `\models` sign ("⊨"):

```
\def\ismodeledby{=\joinrel\mathrel|}
```

As another example, `fontdef.dtx` composes the `\ddots` symbol (see Table 56 on page 21) out of three periods, raised 7 pt., 4 pt., and 1 pt., respectively:

```
\def\ddots{\mathinner{\mkern1mu\raise7\p@
    \vbox{\kern7\p@\hbox{.}}\mkern2mu
    \raise4\p@\hbox{.}\mkern2mu\raise\p@\hbox{.}\mkern1mu}}
```

`\p@` is a LaTeX 2$_\varepsilon$ shortcut for "`pt`" or "`1.0pt`". The remaining commands are defined in The TeXbook [Knu86]. To draw a version of `\ddots` with the dots going along the opposite diagonal, we merely have to reorder the `\raise7\p@`, `\raise4\p@`, and `\raise\p@`:

```
\makeatletter
\def\revddots{\mathinner{\mkern1mu\raise\p@
    \vbox{\kern7\p@\hbox{.}}\mkern2mu
    \raise4\p@\hbox{.}\mkern2mu\raise7\p@\hbox{.}\mkern1mu}}
\makeatother
```

(The `\makeatletter` and `\makeatother` commands are needed to coerce LaTeX into accepting "`@`" as part of a macro name.)

As a final example of creating new symbols out of existing ones, the following code defines a principal value integral symbol, which is an integral sign with a line through it:

[2] pifont defines a convenient `\Pisymbol` command for accessing symbols in PostScript fonts by number. For example, "`\Pisymbol{psy}{191}`" produces "↵".

```
\def\Xint#1{\mathchoice
   {\XXint\displaystyle\textstyle{#1}}%
   {\XXint\textstyle\scriptstyle{#1}}%
   {\XXint\scriptstyle\scriptscriptstyle{#1}}%
   {\XXint\scriptscriptstyle\scriptscriptstyle{#1}}%
   \!\int}
\def\XXint#1#2#3{{\setbox0=\hbox{$#1{#2#3}{\int}$}
     \vcenter{\hbox{$#2#3$}}\kern-.5\wd0}}
\def\ddashint{\Xint=}
\def\dashint{\Xint-}
```

`\dashint` produces a single-dashed integral sign ("$⨍$"), while `\ddashint` produces a double-dashed one ("$⨎$"). The same technique can be used to produce, for example, clockwise and counterclockwise contour integrals. (Search the `comp.text.tex` archives for a post by Donald Arseneau that says exactly how.) The preceding code was taken verbatim from the UK TEX Users' Group FAQ (`http://www.tex.ac.uk/faq`).

Accents are a special case of combining existing symbols to make new symbols. While various tables in this document show how to add an accent to an existing symbol, some applications, such as transliteration from non-Latin alphabets, require *multiple* accents per character. For instance, the creator of pdfTEX writes his name as "Hàn Thế Thành". The wsuipa package defines `\diatop` and `\diaunder` macros for putting one or more diacritics or accents above or below a given character. For example, `\diaunder[{\diatop[\'|\=]}|\textsubdot{r}]` produces "$\underset{\cdot}{\acute{\text{r}}}$". See the wsuipa documentation for more information.

The accents package facilitates the fabrication of accents in math mode. Its `\accentset` command enables *any* character to be used as an accent. For instance, `\accentset{\star}{f}` produces "$\overset{\star}{f}$" and `\accentset{e}{X}` produces "$\overset{e}{X}$". `\underaccent` does the same thing, but places the accent beneath the character. This enables constructs like `\underaccent{\tilde}{V}`, which produces "$\underset{\sim}{V}$". accents provides other accent-related features as well; see the documentation for more information.

7.3 Math-mode spacing

Terms such as "binary operators", "relations", and "punctuation" in Section 3 primarily regard the surrounding spacing. (See the Short Math Guide for LATEX [Dow00] for a nice exposition on the subject.) To use an symbol for a different purpose, you can use the TEX commands `\mathord`, `\mathop`, `\mathbin`, `\mathrel`, `\mathopen`, `\mathclose`, and `\mathpunct`. For example, if you want to use `\downarrow` as a variable (an "ordinary" symbol) instead of a delimiter, you can write "`$3 x + \mathord{\downarrow}$`" to get the properly spaced "$3x + \downarrow$" rather than the awkward-looking "$3x+ \downarrow$". See The TEXbook [Knu86] for more information.

The purpose of the "log-like symbols" in Tables 39 and 40 is to provide the correct amount of spacing around and within multiletter function names. Table 124 contrasts the output of the log-like symbols with various, naïve alternatives. In addition to spacing, the log-like symbols also handle subscripts properly. For example, "`\max_{p \in P}`" produces "$\max_{p \in P}$" in text, but "$\max\limits_{p \in P}$" as part of a displayed formula.

TABLE 124: Spacing Around/Within Log-like Symbols

LATEX expression	Output
`$r \sin \theta$`	$r \sin \theta$ (best)
`$r sin \theta$`	$r sin \theta$
`$r \mbox{sin} \theta$`	$r \mathrm{sin} \theta$

7.4 ASCII and Latin 1 quick reference

Table 125 on the next page amalgamates data from various other tables in this document into a convenient reference for LATEX 2_ε typesetting of ASCII characters, i.e., the characters available on a typical[3] computer keyboard. The first two columns list the character's ASCII code in decimal and hexadecimal. The third column shows what the character looks like. The fourth column lists the LATEX 2_ε command to typeset the

[3] typical for the United States, at least

character as a text character. And the fourth column lists the LaTeX 2ε command to typeset the character within a `\texttt{...}` command (or, more generally, when `\ttfamily` is in effect).

TABLE 125: LaTeX 2ε ASCII Table

Dec	Hex	Char	Body text	\texttt
33	21	!	!	!
34	22	"	\textquotedbl	"
35	23	#	\#	\#
36	24	$	\$	\$
37	25	%	\%	\%
38	26	&	\&	\&
39	27	’	’	’
40	28	(	(	(
41	29	)	)	)
42	2A	*	*	*
43	2B	+	+	+
44	2C	,	,	,
45	2D	-	-	-
46	2E	.	.	.
47	2F	/	/	/
48	30	0	0	0
49	31	1	1	1
50	32	2	2	2
⋮	⋮	⋮	⋮	⋮
57	39	9	9	9
58	3A	:	:	:
59	3B	;	;	;
60	3C	<	\textless	<
61	3D	=	=	=
62	3E	>	\textgreater	>
63	3F	?	?	?
64	40	@	@	@
65	41	A	A	A
66	42	B	B	B
67	43	C	C	C
⋮	⋮	⋮	⋮	⋮
90	5A	Z	Z	Z
91	5B	[	[	[
92	5C	\	\textbackslash	\char‘\\
93	5D	]	]	]
94	5E	^	\^{}	\^{}
95	5F	_	_	\char‘_
96	60	‘	‘	‘
97	61	a	a	a
98	62	b	b	b
99	63	c	c	c
⋮	⋮	⋮	⋮	⋮
122	7A	z	z	z
123	7B	{	\{	\char‘\{
124	7C	|	\textbar	|
125	7D	}	\}	\char‘\}
126	7E	~	\~{}	\~{}

The following are some additional notes about the contents of Table 125:

- `\textquotedbl` is not available in the OT1 font encoding.
- The characters “`<`”, “`>`”, and “`|`” do work as expected in math mode, although they produce, respectively, “¡”, “¿”, and “—” in text mode.[4] Hence, `$<$`, `$>$`, and `$|$` serve as a terser alternative to `\textless`, `\textgreater`, and `\textbar`. Note that for typesetting metavariables, many people prefer `\textlangle` and `\textrangle` to `\textless` and `\textgreater`, i.e., “⟨*filename*⟩” instead of “<*filename*>”.
- The various `\char` commands within `\texttt` are necessary only in the OT1 font encoding. Using other encodings (e.g., T1), commands such as `\{`, `\}`, `\_`, and `\textbackslash` all work properly.
- `\textasciicircum` can be used instead of `\^{}`, and `\textasciitilde` can be used instead of `\~{}`. For typesetting tildes in URLs and Unix filenames, some people prefer `\sim` (see Table 29 on page 14), which produces a larger symbol. But if you don’t mind the tilde produced by `\~{}`, you should use the url package to typeset URLs—it has a number of additional nice features.
- The IBM version of ASCII characters 1 to 31 can be typeset using the ascii package. See Table 76 on page 25.
- To replace ‘ and ’ with the more computer-like (and more visibly distinct) ` and ' within a `verbatim` environment, use the upquote package. Outside of `verbatim`, you can use `\char18` and `\char13` to get the modified quote characters. (The former is actually a grave accent.)

[4] Donald Knuth didn’t think such symbols were important outside of mathematics, so he omitted them from the OT1 font encoding.

Similar to Table 125, Table 126 on the following page is an amalgamation of data from other tables in this document. While Table 125 shows how to typeset the 7-bit ASCII character set, Table 126 shows the Latin 1 (Western European) character set, also known as ISO-8859-1.

The following are some additional notes about the contents of Table 126:

- A "(tc)" after a symbol name means that the textcomp package must be loaded to access that symbol. A "(T1)" means that the symbol needs the T1 font encoding. The fontenc package can change the font encoding document-wide.
- Many of the `\text...` accents can also be produced using the accent commands shown in Table 8 on page 6 plus an empty argument. For instance, `\={}` is essentially the same as `\textasciimacron`.
- The commands in the "LaTeX 2_ε" columns work in both body text and within a `\texttt{...}` command (or, more generally, when `\ttfamily` is in effect).
- Microsoft® Windows® normally uses a superset of Latin 1 called "CP1252" (Code Page 1252). CP1252 adds codes in the range 128–159 (hexadecimal 80–9F), including characters such as dashes, daggers, and quotation marks. If there's sufficient interest, a future version of the Comprehensive LaTeX Symbol List may include a CP1252 table.

7.5 About this document

History David Carlisle wrote the first version of this document in October, 1994. It originally contained all of the native LaTeX symbols (Tables 21, 22, 29, 35, 39, 41, 46, 47, 52, 53 55, and 56) and was designed to be nearly identical to the tables in Chapter 3 of Leslie Lamport's book [Lam86]. Even the table captions and the order of the symbols within each table matched! The $\mathcal{AMS}$ symbols (Tables 23, 30, 31, 36, 37, 42, 45, 48, and 57) and an initial Math Alphabets table (Table 66) were added thereafter. Later, Alexander Holt provided the stmaryrd tables (Tables 24, 25, 32, 33, 38, 49, and 59).

In January, 2001, Scott Pakin took responsibility for maintaining the symbol list and has since implemented a complete overhaul of the document. The result, now called, "The Comprehensive LaTeX Symbol List", includes the following new features:

- The addition of a handful of new math alphabets, dozens of new font tables, and thousands of new symbols
- The categorization of the symbol tables into body-text symbols, mathematical symbols, science and technology symbols, dingbats, and other symbols, to provide a more user-friendly document structure
- An index, table of contents, and a frequently-requested symbol list, to help users quickly locate symbols
- Symbol tables rewritten to list the symbols in alphabetical order
- Appendices to provide additional information relevant to using symbols in LaTeX
- Tables showing how to typeset all of the characters in the ASCII and Latin 1 font encodings

Furthermore, the internal structure of the document has been completely altered from David's original version. Most of the changes are geared towards making the document easier to extend, modify, and reformat.

Build characteristics Table 127 on page 42 lists some of this document's build characteristics. Most important is the list of packages that LaTeX couldn't find, but that `symbols.tex` otherwise would have been able to take advantage of. Complete, prebuilt versions of this document are available from CTAN (`http://www.ctan.org/` or one of its many mirror sites) in the directory `tex-archive/info/symbols/comprehensive`.

TABLE 126: LaTeX 2_ε Latin 1 Table

Dec	Hex	Char	LaTeX 2_ε	
161	A1	¡	!‘	
162	A2	¢	\textcent	(tc)
163	A3	£	\pounds	
164	A4	¤	\textcurrency	(tc)
165	A5	¥	\textyen	(tc)
166	A6	¦	\textbrokenbar	(tc)
167	A7	§	\S	
168	A8	¨	\textasciidieresis	(tc)
169	A9	©	\textcopyright	
170	AA	ª	\textordfeminine	
171	AB	«	\guillemotleft	(T1)
172	AC	¬	\textlnot	(tc)
174	AE	®	\textregistered	
175	AF	¯	\textasciimacron	(tc)
176	B0	°	\textdegree	(tc)
177	B1	±	\textpm	(tc)
178	B2	²	\texttwosuperior	(tc)
179	B3	³	\textthreesuperior	(tc)
180	B4	´	\textasciiacute	(tc)
181	B5	µ	\textmu	(tc)
182	B6	¶	\P	
183	B7	·	\textperiodcentered	
184	B8	¸	\c{}	
185	B9	¹	\textonesuperior	(tc)
186	BA	º	\textordmasculine	
187	BB	»	\guillemotright	
188	BC	¼	\textonequarter	(tc)
189	BD	½	\textonehalf	(tc)
190	BE	¾	\textthreequarters	(tc)
191	BF	¿	?‘	
192	C0	À	\‘{A}	
193	C1	Á	\’{A}	
194	C2	Â	\^{A}	
195	C3	Ã	\~{A}	
196	C4	Ä	\"{A}	
197	C5	Å	\AA	
198	C6	Æ	\AE	
199	C7	Ç	\c{C}	
200	C8	È	\‘{E}	
201	C9	É	\’{E}	
202	CA	Ê	\^{E}	
203	CB	Ë	\"{E}	
204	CC	Ì	\‘{I}	
205	CD	Í	\’{I}	
206	CE	Î	\^{I}	
207	CF	Ï	\"{I}	
208	D0	Đ	\DH	(T1)

Dec	Hex	Char	LaTeX 2_ε	
209	D1	Ñ	\~{N}	
210	D2	Ò	\‘{O}	
211	D3	Ó	\’{O}	
212	D4	Ô	\^{O}	
213	D5	Õ	\~{O}	
214	D6	Ö	\"{O}	
215	D7	×	\texttimes	(tc)
216	D8	Ø	\O	
217	D9	Ù	\‘{U}	
218	DA	Ú	\’{U}	
219	DB	Û	\^{U}	
220	DC	Ü	\"{U}	
221	DD	Ý	\’{Y}	
222	DE	Þ	\TH	(T1)
223	DF	ß	\ss	
224	E0	à	\‘{a}	
225	E1	á	\’{a}	
226	E2	â	\^{a}	
227	E3	ã	\~{a}	
228	E4	ä	\"{a}	
229	E5	å	\aa	
230	E6	æ	\ae	
231	E7	ç	\c{c}	
232	E8	è	\‘{e}	
233	E9	é	\’{e}	
234	EA	ê	\^{e}	
235	EB	ë	\"{e}	
236	EC	ì	\‘{ı}	
237	ED	í	\’{ı}	
238	EE	î	\^{ı}	
239	EF	ï	\"{ı}	
240	F0	ð	\dh	(T1)
241	F1	ñ	\~{n}	
242	F2	ò	\‘{o}	
243	F3	ó	\’{o}	
244	F4	ô	\^{o}	
245	F5	õ	\~{o}	
246	F6	ö	\"{o}	
247	F7	÷	\textdiv	(tc)
248	F8	ø	\o	
249	F9	ù	\‘{u}	
250	FA	ú	\’{u}	
251	FB	û	\^{u}	
252	FC	ü	\"{u}	
253	FD	ý	\’{y}	
254	FE	þ	\th	(T1)
255	FF	ÿ	\"{y}	

TABLE 127: Document Characteristics

Characteristic	Value
Source file:	`symbols.tex`
Build date:	July 2, 2001
Symbols documented:	2266
Packages included:	textcomp latexsym amssymb stmaryrd euscript wasysym pifont marvosym manfnt bbding ifsym tipa wsuipa ulsy ar txfonts fclfont ascii dingbat yfonts accents mathrsfs zapfchan bbold dsfont bbm
Packages omitted:	*none*

References

[Dow00] Michael Downes. Short math guide for LaTeX, July 19, 2000. Version 1.07. Available from `http://www.ams.org/tex/short-math-guide.html`.

[Knu86] Donald E. Knuth. *The TeXbook*, volume A of *Computers and Typesetting*. Addison-Wesley, Reading, MA, USA, 1986.

[Lam86] Leslie Lamport. *LaTeX: A document preparation system*. Addison-Wesley, Reading, MA, USA, 1986.

[LAT00] LaTeX3 Project Team. LaTeX 2ε font selection, January 30, 2000. Available from `http://www.ctan.org/tex-archive/macros/latex/doc/fntguide.ps` (also included in many TeX distributions).

Index

If you're having trouble locating a symbol, try looking under "T" for "`\text`...". Many text-mode commands begin with that prefix.

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U