

Dictionary of Mathematical Symbols in Braille/Nemeth
for the non-visually impaired teacher
Accompanying the corresponding file Braille/Nemeth

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Conversion to Braille/Nemeth: latex2nemeth
<https://sourceforge.net/projects/latex2nemeth/>

To Andrianna and Olga

acute on letter: x with acute \acute{x} ⠠⠠⠠⠠⠠
 aleph (Jewish letter), (cardinality): \aleph ⠠⠠⠠⠠⠠
 alpha math: α ⠠⠠⠠⠠
 alpha math: α ⠠⠠⠠⠠
 amalgam or coproduct: \amalg ⠠⠠⠠⠠⠠⠠⠠⠠
 ampersand (symbol): $\&$ ⠠⠠⠠⠠⠠
 and (logical): \wedge ⠠⠠⠠⠠⠠
 and (logical): \wedge ⠠⠠⠠⠠⠠
 and (logical) circled: \otimes ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 and (logical) with bar above: $\bar{\wedge}$ ⠠⠠⠠⠠⠠⠠⠠⠠
 angle: \sphericalangle ⠠⠠⠠⠠⠠
 angles measure: \sphericalangle ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 angle spherical: \sphericalangle ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 angle spherical: \sphericalangle ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 Angstrom: \AA ⠠⠠⠠⠠⠠
 approaches in limit, equals with dot above: \doteq ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 approximate: \approx ⠠⠠⠠⠠⠠⠠⠠⠠⠠
 approximate: \approx ⠠⠠⠠⠠⠠⠠⠠⠠⠠
 approximate bold: \approx ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 approximate bold negated: $\not\approx$ ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 approximate negated: $\not\approx$ or $\not\approx$ or \neq ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 approximate or equal: \cong ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arc cosine: \arccos ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arc sine: \arcsin ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arc tangent: \arctan ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 argument: \arg ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arrow curved: \curvearrowright ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arrow dashed: \dashrightarrow ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arrow dashed: \dashrightarrow ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arrow dashed left: \dashleftarrow ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arrow dashed left-right: \leftrightarrow ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arrow down: \downarrow ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arrow down with left harpoon: \harpoonleft ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arrow down with right harpoon: \harpoonright ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arrow left: \leftarrow ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arrow left: \leftarrow ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arrow left circular: \curvearrowleft ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arrow left circular: \curvearrowleft ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arrow left curved: \curvearrowleft ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arrow left curved: \curvearrowleft ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arrow left dashed: \dashleftarrow ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arrow left long: \longleftarrow ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arrow left long: \longleftarrow ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arrow left negated: \nleftarrow ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠
 arrow left-right: \leftrightarrow ⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠⠠

arrow left-right negated: \Leftrightarrow

 arrow left squiggled: \curvearrowleft

 arrow left starting with circle: $\leftarrow\circ$

 arrow left starting with circle and dot: $\leftarrow\odot$

 arrow left starting with diamond: $\leftarrow\blacklozenge$

 arrow left starting with square: $\leftarrow\square$

 arrow left starting with square and dot: $\leftarrow\square\cdot$

 arrow left with lower harpoon: \leftarrowharpoonleft

 arrow left with negation: $\leftarrow\bar{}$

 arrow left with tail: \leftarrowtail

 arrow left with tail: \leftarrowtail

 arrow left with two heads: \leftrightarrow

 arrow left with two heads: \leftrightarrow

 arrow left with upper harpoon: \leftarrowharpoonup

 arrow long, long converges: \longrightarrow

 arrow negated: \rightarrow

 arrow northeast, increasing: \nearrow , f increases: $f \nearrow$

 arrow northeast, increasing: \nearrow , f increases: $f \nearrow$

 arrow northwest: \nwarrow

 arrow northwest: \nwarrow

 arrow on letter: x with arrow \vec{x}

 arrow pointing with circle, multimap: \dashrightarrow

 arrow reverse starting with diamond and dot: \blacklozengeleftarrow

 arrow reverse starting with double vertical: \blackleftarrow

 arrow right circular: \cup

 arrowright, converges: \rightarrow or \rightarrow or \longrightarrow , the x_n converges to 2: $x_n \rightarrow 2$

 arrow right-left long: \longleftrightarrow

 arrowright long: \longrightarrow

 arrow right long with vertical, is defined from-to big: \mapsto , $\acute{\epsilon}\sigma\tau\omega$ $\acute{o}\tau\iota$ $f : X \mapsto Y$

 arrow right negated: \rightarrow

 arrow right with vertical, is defined from-to: \mapsto , let $f : X \mapsto Y$

 arrows down: \Downarrow

 arrows left: \Leftarrow

 arrows left-right: \Leftrightarrow

 arrows left with upper harpoon and right with lower harpoon: \Leftrightarrow

 arrow southeast, decreasing: \searrow , f decreases: $f \searrow$

 arrow southwest: \swarrow

 arrow squiggled: \rightsquigarrow

 arrow squiggled arrow, leads to: \rightsquigarrow

 arrow squiggled left-right: \rightsquigarrow

 arrows right, converges uniformly: \rightrightarrows , f_n converges uniformly to f , $f_n \rightrightarrows f$

 arrows right-left: \rightleftarrows

 arrows right with upper harpoon and left with lower harpoon: \rightleftarrows

 arrow starting and ending with bullet: $\bullet\rightarrow\bullet$

 arrow starting and ending with circle, double multivalued: $\circ\rightarrow\circ$

arrow starting with circle: $\circ \rightarrow$
 arrow starting with circle and dot: $\odot \rightarrow$
 arrow starting with diamond: $\diamond \rightarrow$
 arrow starting with diamond and dot: $\diamond \rightarrow$
 arrow starting with square: $\square \rightarrow$
 arrow starting with square and dot: $\blacksquare \rightarrow$
 arrows up: \Uparrow
 arrow up: \Uparrow
 arrow up-down: \Updownarrow
 arrow up with left harpoon: \harpoonleft
 arrow up with right harpoon: \harpoonright
 arrow wavy, leads to: \rightsquigarrow
 arrow with down harpoon: \harpoonright
 arrow with tail: \rightharpoonright
 arrow with two heads: \leftrightarrow
 arrow with two heads negated: \nleftrightarrow
 arrow with upper harpoon: $\overleftarrow{\hspace{1cm}}$
 asterisk: $*$
 asterisk boxed: $\boxed{*}$
 asterisk in square: \square
 asymptotic: \asymp
 asymptotically equal, behaves as: \simeq
 asymptotically equal negated: $\not\asymp$
 asymptotically equivalent, behaves as: \sim
 asymptotically equivalent, behaves as: \sim
 at: $@$
 a with circle above: $\overset{\circ}{a}$
 back epsilon: ε
 back epsilon: ε
 back prime: \backprime
 back similar, behaves as: \backsim
 back similar or equal: \backsimeq
 backslash in circle: \circ
 backslash in square: \square
 backslash math: \backslash
 backslash text: \backslash
 bar boxed: $\boxed{\bar{\hspace{1cm}}}$
 bar on letter: x with bar above \bar{x}
 because: \because
 behaves as, asymptotically equal: \simeq
 behaves as, asymptotically equivalent: \sim
 belongs reversed and negated: $\not\in$
 belongs to: \in (the x belongs to A : $x \in A$)
 beta math: β
 beta math: β

contour integral: \oint :::::
 contour integral clockwise: \oint :::::
 contour integral counterclockwise: \oint :::::
 converges uniformly, right arrow above right arrow: \rightrightarrows , the functions f_n converge uniformly
 to f , $f_n \rightrightarrows f$:::::
 copyright: \copyright :::::
 correct: \checkmark :::
 cosecant: \csc :::::
 cosine: \cos :::::
 cosine hyperbolic: \cosh :::::
 cosine, hyperbolic: \cosh :::::
 cotangent: \cot :::::
 cotangent hyperbolic: \coth :::::
 cotangent hyperbolic: \coth :::::
 curved arrow left: \curvearrowleft :::::
 curved arrow right: \curvearrowright :::::
 dagger: \dagger :::
 dagger double: \ddagger :::
 daleth math Hebrew: \daleth :::::
 dash circled: \ominus :::::
 decreasing and converges to: \searrow , the sequence a_n decreases and converges to a : $a_n \searrow a$
 :::::
 decreasing, southeast arrow: \searrow , the function f is decreasing: $f \searrow$:::::
 defined as, colon equals: $:=$:::::
 defined from-to large, right arrow large with vertical: \mapsto , let $f : X \mapsto Y$:::::
 defined from-to, right arrow with vertical: \mapsto , let $f : X \mapsto Y$:::::
 defined to be approximate: \approx :::::
 defines: $=:$:::::
 defines similarly: \sim :::::
 degree: \deg :::::
 delta math: δ :::
 delta math: δ :::
 Delta math: Δ :::::
 Delta math: Δ :::::
 derivative of a function: the derivative of f : f' . In differential equations and in Physics
 with a dot: the derivative of the function $x(t)$: \dot{x} . Double derivative f'' , triple f''' , quadruple
 $f^{(4)}$, n -th derivative $f^{(n)}$. In differential equations double derivative of x : \ddot{x} :::::
 :::::
 determinant: \det :::::
 diagonal dots: $\cdot\cdot$:::::
 diamond with dot: \diamond :::::
 difference: $-$, of x and y : $x - y$::
 difference symmetric: Δ , of A and B : $A\Delta B$:::
 digamma math: F :::
 digamma math: F :::

dimension: \dim
 direct difference: \ominus
 direct division: \oslash
 direct product: \otimes or \odot
 direct sum: \oplus (of E and F : $E \oplus F$)
 direct sum: \oplus , of E and F : $E \oplus F$
 divide: $/$
 divide on times: \times
 divides on times: \times
 divides or thus or vertical: $|$, the number n διαρρεί divides m : $n|m$
 division: $/$ or $:$ or \div or with fraction, of x and y : x/y or $x : y$ or $x \div y$ or $\frac{x}{y}$
 does not divide: \nmid
 does not imply: \nRightarrow
 does not imply reversed: \nLeftarrow
 does not imply semantically: \nVdash
 does not imply semantically with double vertical: \nVdash
 does not precede: \nprec
 does not prove: \nVdash
 dollar: $\$$
 dot boxed: \square
 dot boxed: \square
 dot centered: \cdot ή \cdot
 dot on letter: x with dot above \dot{x}
 dots: \dots
 dots diagonal, dots falling: $\ddot{\cdot}$
 dots raising: $\dot{\cdot}$
 dots vertical: $\dot{\cdot}$
 double colon or approximate: \approx
 double colon or equal: \doteq
 double colon or equal: \doteq
 double colon or similar: \doteqsim
 double dagger: \ddagger
 double derivative: of f : f'' . In differential equations or in Physics with dots: of the function $x(t)$: \ddot{x}
 double dot above letter: x with double dot above \ddot{x}
 double intersection: \cap
 double perpendicular: \perp
 double T: π
 double union: \cup
 doubly multimap, arrow starting and ending with circle: $\circ\!\!\circ$
 d with horizontal deletion of its vertical line: \dagger
 empty set: \emptyset or \varnothing
 end of proof, white square: \square
 epsilon math: ϵ
 epsilon math: ϵ

epsilon math alternative: ε ::::
 epsilon math alternative: ϵ ::::
 equals: =, the x is equal with y : $x = y$:::
 equals and double colon: $=::$:::::
 equals colon, excess: $-\colon$::::
 equals (one line) and double colon: $-\colon$:::::
 equals with approximate above: \cong :::::
 equals with bump above and below: \approx :::::
 equals with circle above: \doteq :::::
 equals with circle inside: \equiv :::::
 equals with dot above, approaches the limit: \doteq :::::
 equals with dots above and below, geometrically equals with: \doteq :::::
 equals with triangle above: \triangleq :::::
 equivalence class: [], of x : $[x]$:::
 equivalent, equals with three lines: \equiv :::
 equivalent, if and only if: \Leftrightarrow :::::
 eta math: η :::
 eta math: η :::
 eth, partial derivative with upper deletion: \eth :::::
 excess, dash colon: $-\colon$:::::
 exclusive or: \vee :::::
 exclusive or: \vee :::::
 exponent: \exp :::::
 exponent: x raised to y : x^y :::::
 exponentiation symbol: \wedge :::
 F inverted: \dagger :::::
 for all: \forall :::
 forces: \Vdash :::::
 Fourier reverse transform: of a function f : \check{f} :::::
 Fourier transform: of a function f : \hat{f} :::::
 fraction, of x and y : $\frac{x}{y}$:::::
 frown: \frown :::
 g alternative: \mathfrak{g} :::
 game: \supset :::::
 gamma math: γ :::
 gamma math: γ :::
 Gamma math: Γ :::::
 Gamma math: Γ :::::
 geometrical equal with, equal with dot above and below: \doteq :::::
 gimel math Hebrew: \beth :::::
 gradient symbol (nabla): ∇ (gradient of f : ∇f) :::
 grave on letter: x with grave \grave{x} :::
 greater: $>$:::
 greater: $>$:::
 greater but not approximate: \gtrapprox :::::

greater but not equal: \gtrsim :::::
 greater but not equal (one line): \gtrsim :::::
 greater but not equal (two lines): \gtrsim :::::
 greater but not similar: \gtrsim :::::
 greater by far, greater by magnitude, greater double: \gg :::::
 greater by far, greater by magnitude, greater triple: \ggg :::::
 greater by far, much greater in order: \ggg :::::
 greater circled: \circ :::::
 greater low bound, infimum: \inf :::::
 greater or approximate: \gtrapprox :::::
 greater or equal: \geq , x is greater or equal to y : $x \geq y$:::::
 greater or equal alternative: \geq :::::
 greater or equal negated: \nlessgtr :::::
 greater or equal or less: \gtrlessgtr :::::
 greater or similar: \gtrsim :::::
 greater or similar negated: \nlessgtr :::::
 greater or similar negated: \nlessgtr :::::
 greater-smaller: \gtrless :::::
 greater with dot: \gtrdot :::::
 greater with equal above: \gtrsim :::::
 greater with equal below: \gtrsim :::::
 greater with equal below and smaller further below: \gtrsim :::::
 greatest common divisor: \gcd :::::
 harpoon down left: \swarrow :::::
 harpoon up left: \nwarrow :::::
 hat inverted on letter: x with inverted hat: \check{x} :::::
 hat on letter: x with hat: \hat{x} :::::
 hom: hom :::::
 h with deletion of its vertical line: \hbar :::::
 h with diagonal deletion of its vertical line: \hbar :::::
 i dotless: ι :::::
 if and only if, equivalent: \Leftrightarrow :::::
 imaginary part: \Im :::::
 implied starting with square with dot: \Leftarrow :::::
 implies: \Rightarrow :::::
 implies downwards: \Downarrow :::::
 implies long: \Longrightarrow :::::
 implies long starting with double vertical: \Rrightarrow :::::
 implies long starting with vertical: \Rightarrow :::::
 implies negated: \nRightarrow :::::
 implies northeast: \nearrow :::::
 implies northwest: \nwarrow :::::
 implies reversed: \Leftarrow :::::
 implies reversed: \Leftarrow :::::
 implies reversed big: \Leftarrow :::::

implies reversed long: \Leftarrow
 implies reversed long starting with double vertical: $\Leftarrow\!\!\!|$
 implies reversed long starting with vertical: $\Leftarrow\!\!\!|$
 implies reversed negated: \nLeftarrow
 implies reversed starting with diamond: \Leftrightarrow
 implies reversed starting with diamond with dot: \Leftrightarrow
 implies reversed starting with square: $\Leftarrow\!\!\!\square$
 implies reversed starting with vertical: $\Leftarrow\!\!\!|$
 implies reversed with double vertical: $\Leftarrow\!\!\!|$
 implies reversed with three lines: $\Leftarrow\!\!\!\equiv$
 implies reversed with three lines: $\Leftarrow\!\!\!\equiv$
 implies semantic: \vDash
 implies semantic: \vDash
 implies semantic with double vertical: $\vDash\!\!\!|$
 implies semantic with double vertical: $\vDash\!\!\!|$
 implies semantic with triple vertical: $\vDash\!\!\!\equiv$
 implies semantic with triple vertical: $\vDash\!\!\!\equiv$
 implies southeast: \searrow
 implies southwest: \swarrow
 implies starting with diamond: \Leftrightarrow
 implies starting with diamond with dot: \Leftrightarrow
 implies starting with double vertical: $\Rightarrow\!\!\!|$
 implies starting with square: $\Rightarrow\!\!\!\square$
 implies starting with square with dot: $\Rightarrow\!\!\!\square$
 implies up-down, up-down arrow: \Updownarrow
 implies upwards: \Uparrow
 implies with three lines: $\Rightarrow\!\!\!\equiv$
 increasing and converges to: $\nearrow, a_n \alpha\xi\acute{\alpha}\nu\epsilon\iota$ increases and converges to $a: a_n \nearrow a$
 increasing, northeast arrow: \nearrow, f is increasing: $f \nearrow$
 independent (in probability): \perp
 index: x with index $y: x_y$
 infimum, largest low bound: \inf
 infinity: ∞
 inner product left: \langle
 inner product, left: \langle
 inner product: of x and $y: \langle x, y \rangle$
 inner product right: \rangle
 inner product, right: \rangle
 integer part: $[]$ (of $x: [x]$)
 integer part (lower: $\lfloor \rfloor$, of $x: \lfloor x \rfloor$)
 integer part lower: $\lfloor \rfloor$, of $x: \lfloor x \rfloor$
 integer part (upper: $\lceil \rceil$, of $x: \lceil x \rceil$)
 integral: \int
 integral contour: \oint
 integral contour clockwise: \oint

integral contour counterclockwise: \oint :::::

integral double: \iint ::::

integral double: \iint ::::

integral double of quaternia: \iiint :::::

integral lower: \int , of f from a to b : $\int_a^b f$::::

integral, lower: \int , of f from a to b : $\int_a^b f$::::

integral of quaternia: \iiint :::::

integral of quaternions double: \iiint :::::

integral quadruple: \iiiii :::::

integral quadruple: \iiiii :::::

integrals, many consecutive: $\int \dots \int$:::::

integral spatial: \iiiii :::::

integral spatial: \iiiii :::::

integral spatial clockwise: \iiiii :::::

integral spatial clockwise: \iiiii :::::

integral spatial clockwise alternative: \iiiii :::::

integral spatial clockwise alternative: \iiiii :::::

integral spatial clockwise, alternative: \iiiii :::::

integral spatial counterclockwise: \iiiii :::::

integral spatial counterclockwise: \iiiii :::::

integral spatial counterclockwise alternative: \iiiii :::::

integral surface: \iint :::::

integral surface clockwise: \iint :::::

integral surface counterclockwise: \iint :::::

integral triple: \iiiii :::::

integral triple: \iiiii :::::

integral triple of quaternia: \iiiii :::::

integral triple operator of quaternia: \iiiii :::::

integral upper: $\bar{\int}$ (of f from a to b : $\bar{\int}_a^b f$) ::::

integral upper: $\bar{\int}$, of f from a to b : $\bar{\int}_a^b f$::::

integral with slash: \int ::::

interior of set: of the set X : $\overset{\circ}{X}$ or X° :::::

interior or polar of set: the polar of K : K° :::::

intersection: \cap , of A and B : $A \cap B$::::

intersection big with plus: \pitchfork :::::

intersection double: \pitchfork :::::

intersection of many sets: \cap , of A_1, \dots, A_n : $\cap_{k=1}^n A_k$ or $A_1 \cap \dots \cap A_n$::::

intersection squared: \sqcap :::::

intersection squared big: \sqcap :::::

intersection squared big with plus: \pitchfork :::::

intersection squared with plus: \pitchfork :::::

intersection with plus: \pitchfork :::::

inverted ampersand: \wp \wp
 inverted F: \daleth \daleth
 inverted Omega: \oslash \oslash
 iota math: ι ι
 iota math: ι ι
 j dotless: j j
 kappa math: κ κ
 kappa math: κ κ
 kappa math alternative: \varkappa \varkappa
 kappa math alternative: \varkappa \varkappa
 k blackboard: \mathbb{k} \mathbb{k}
 kernel: \ker \ker
 koppa math: \daleth \daleth
 lambda math: λ λ
 lambda math: λ λ
 Lambda math: Λ Λ
 Lambda math: Λ Λ
 lambda with diagonal negation: λ λ
 lambda with horizontal negation: λ λ
 Laplacian, triangle: Δ Δ
 l calligraphic: ℓ ℓ
 leads to: \rightsquigarrow \rightsquigarrow
 leads to ext: \sim \sim
 left arrows: \Leftarrow \Leftarrow
 left arrow with double head negated: \nleftarrow \nleftarrow
 left bracket with double vertical line: \llbracket \llbracket
 left bracket with double vertical line: \llbracket \llbracket
 left bracket with double vertical line big: \llbracket \llbracket
 left quote, Greek second level left quote: ‘ ‘
 left quote, second level Greek left quote: ‘ ‘
 left right join, vertical-times-vertical, butterfly: \bowtie \bowtie
 left right times, vertical-times-vertical, butterfly: \bowtie \bowtie
 left triangle black: \blacktriangleleft \blacktriangleleft
 left triangle, normal subgroup: \triangleleft : H is a normal subgroup of G : $H \triangleleft G$ \triangleleft
 left triangle or equal, normal subgroup \trianglelefteq \trianglelefteq
 left triangle with negation, not a normal subgroup: \ntriangleleft \ntriangleleft
 less: $<$ $<$
 less but not approximate: \lesssim \lesssim
 less but not equal: \leq \leq
 less but not equal: \leq \leq
 less but not equal: \leq \leq
 less but not similar: \lesssim \lesssim
 less by far, less in order, double less: \ll \ll
 less by far, less in order, triple less: \lll \lll
 less by far, much less in order: \lll \lll

less circled: \ominus :::::
 less-greater: \lesseqgtr :::::
 less-greater negated: \nlessseqgtr :::::
 less negated: \lessdot :::::
 less or approximate: \lesssim :::::
 less or approximate negated: \nlessapprox :::::
 less or equal: \leq , the x is less or equal to y : $x \leq y$:::::
 less or equal above: \leqslant :::::
 less or equal (alternative): \leqq :::::
 less or equal negated: \nlessoreq :::::
 less or equal negated: \nlessoreq :::::
 less or equal negated: \nlessoreq :::::
 less or equal or greater: \lesseqgtr :::::
 less or equal or greater: \lesseqgtr :::::
 less or greater negated: \nlessgtr :::::
 less or similar: \lesssim :::::
 less with dot: \lessdot :::::
 less with equals below: \leqslant :::::
 lg: \lg :::::
 liminf: \liminf :::::
 limit: \lim :::::
 limsup: \limsup :::::
 logarithm: \log :::::
 long equivalent, long left-right arrow: \iff :::::
 lozenge: \diamond :::::
 lozenge black: \blacklozenge :::::
 lozenge black: \blacklozenge :::::
 macron on letter: x with macron \bar{x} :::::
 mapped from: \longleftarrow :::::
 mapped from, big: \longleftarrow :::::
 mapped from, big with double vertical line: $\longleftarrow\!\!\!|$:::::
 mapsto long: \longmapsto :::::
 mapsto with double vertical line: $\longmapsto\!\!\!|$:::::
 maximum: \max :::::
 measure of angle: \sphericalangle :::::
 minimal upper bound, supremum: \sup :::::
 minimum: \min :::::
 minus boxed: \boxminus :::::
 minus boxed: \boxminus :::::
 minus-plus: \mp :::::
 models: \models :::::
 much cgreater superset: \supseteq :::::
 much greater: \gg :::::
 much greater negated: \nlessgtr :::::
 much less negated: \ll :::::

much smaller: \ll \ll
 much smaller subset: \Subset \Subset
 multimap, arrow with circle as head: \rightarrow \rightarrow
 multimap doubly, arrow starting and ending in circle: $\circ\rightarrow$ $\circ\rightarrow$
 multimap ending in bullet: \rightarrow \rightarrow
 multimap starting with bullet: $\bullet\rightarrow$ $\bullet\rightarrow$
 multimap starting with bullet ending with circle: $\bullet\rightarrow$ $\bullet\rightarrow$
 multimap starting with circle: $\circ\rightarrow$ $\circ\rightarrow$
 multimap starting with circle ending with bullet: $\circ\rightarrow$ $\circ\rightarrow$
 multimap with bullet above and circle below: $\circ\rightarrow$ $\circ\rightarrow$
 multimap with bullet below and circle above: $\circ\rightarrow$ $\circ\rightarrow$
 multimap with bullets: $\bullet\rightarrow$ $\bullet\rightarrow$
 multimap with circles: $\circ\rightarrow$ $\circ\rightarrow$
 mu math: μ μ
 mu math: μ μ
 nail double: π π
 natural logarithm: \ln \ln
 natural logarithm: \ln \ln
 negation (logical): \neg \neg
 neither equal nor about equal: \neq \neq
 norm: $\| \cdot \|$, of x : $\|x\|$ $\| \cdot \|$ $\| \cdot \|$
 normal subgroup: \triangleleft : the group H is a normal subgroup of the group G : $H \triangleleft G$ \triangleleft \triangleleft
 normal subgroup, left triangle: \triangleleft \triangleleft
 normal subgroup or equal, left triangle or equal: \trianglelefteq \trianglelefteq
 normal sub-or-equal group, left triangle or equal: \trianglelefteq \trianglelefteq
 not equal: \neq \neq
 not equal: \neq \neq
 not equivalent: \neq \neq
 not equivalent, not left-right arrow: \nleftrightarrow \nleftrightarrow
 not equivalent with: \nleftrightarrow \nleftrightarrow
 not greater: \nless \nless
 not greater or approximate: \nless \nless
 not greater or equal: \nless \nless
 not greater or equal: \nless \nless
 not greater or equal: \nless \nless
 not in, does not belong to, is not an element of: \notin \notin
 nu math: ν ν
 Nu math: ν ν
 omega math: ω ω
 omega math: ω ω
 Omega math: Ω Ω
 Omega math: Ω Ω
 or (logical): \vee \vee
 or (logical): \vee \vee
 or (logical) circled: $\circ\vee$ $\circ\vee$

overline on expression, complex conjugate: oveline above $z + w$: $\overline{z + w}$:::::

paragraph: § ::::

paragraph (symbol): ¶ ::::

paragraph symbol: ¶ ::::

parallel: || or // ::::

parallel negated: ‖ or ‗ ::::

parallel, reversed: ‖ ::::

parallel reversed negated: ‗ ::::

parenthesis left: (::

parenthesis left: (::

parenthesis right:) ::

partial derivative, set boundary, theta calligraphic: ∂ ::::

perpendicular: \perp , the x is perpendicular to y , $x \perp y$, the orthogonal to F subspace: F^\perp ::::

phi math: ϕ ::::

phi math: ϕ ::::

Phi math: Φ ::::

Phi math: Φ ::::

phi math alternative: φ ::::

phi math alternative: φ ::::

pi math: π ::::

pi math: π ::::

Pi math: Π ::::

Pi math: Π ::::

pi math alternative: ϖ ::::

Planck constant: \hbar ::::

plus: +, of x and y : $x + y$::

plus boxed: \boxplus ::::

plus-minus: \pm , the equation $x^2 = 1$ has solution the real numbers ± 1 ::::

plus squared: \boxplus ::::

plus with dot: $\dot{+}$, of x and y : $x \dot{+} y$::::

plus with hat: $\hat{+}$, of x and y : $x \hat{+} y$::::

p math alternative: \wp ::::

pounds £ ::::

pounds UK: £ ::::

precedes: < ::::

precedes but not approximate: $\not\approx$::::

precedes but not similar: $\not\sim$::::

precedes negated: \nless ::::

precedes or approximate: \approx ::::

precedes or approximate negated: $\not\approx$::::

precedes or curly equals negated: \nless ::::

precedes or curved equals: \leq ::::

precedes or curved equals above: \lessgtr ::::

precedes or equal: \leq ::::

precedes or equal negated: \nless ::::

precedes or equal negated: \nlessapprox :::::
 precedes or similar: \lesssim :::::
 precedes or similar negated: \nlesssim :::::
 precedes with equal below: \leq :::::
 prime: \prime ::
 prime reversed: \surd :::
 product: \cdot or \times or no symbol, of x and y : $x \cdot y$ or $x \times y$ or xy :::
 product big (alternative to \prod): \bigtimes :::::
 product left semidirect, left vertical times: \ltimes :::::
 product of sequence: \prod , of a_n from $n = 1$ to infinity: $\prod_{n=1}^{\infty} a_n$:::::
 product right semidirect, times right vertical: \rtimes :::::
 product semidirect right: \rtimes :::::
 product with dots: \dots , of a_1 to a_n : $a_1 a_2 \dots a_n$ or $a_1 \times \dots \times a_n$:::::
 projection: Pr :::::
 proportional with: \propto , f is proportional to g : $f \propto g$:::
 proved by: \dashv :::::
 proves: \vdash :::::
 proves with triple vertical line: \equiv :::::
 psi math: ψ :::
 psi math: ψ :::
 Psi math: Ψ :::
 Psi math: Ψ :::
 qoppa math: \wp :::
 real part: \Re :::
 registered in text: $\text{\textcircled{R}}$:::::
 rho math: ρ :::
 rho math: ρ :::
 rho math alternative: ϱ :::
 rho math alternative: ϱ :::
 right bracket with big double vertical: $\big] \big]$:::::
 right bracket with double vertical: $\] \]$:::
 right bracket with double vertical line: $\] \]$:::
 right parenthesis: $)$::
 right quote, Greek right second level quote: \textquoteright :::
 right quote, Greek second level right quote: \textquoteright :::
 right triangle black: \blacktriangleright :::::
 right triangle, contains as a normal subgroup: \triangleright :::::
 right triangle or equal, contains or equal as a normal subgroup: \trianglerighteq :::::
 right triangle or equal with negation, does not contain or equal as a normal subgroup:
 \ntrianglerighteq :::::
 right triangle with negation, does not contain as a normal subgroup: \ntriangleright :::::
 root n -th: $\sqrt[n]{}$, of x : $\sqrt[n]{x}$:::::
 root (just the symbol): $\sqrt{}$::
 root squared: $\sqrt{}$, of x : \sqrt{x} :::
 root squared: $\sqrt{}$, of x : \sqrt{x} :::

sampi (Greek): \wp :::
secant: \sec :::
section (symbol): \S :::
section symbol: \S :::
semidirect left product: \ltimes :::
semidirect left product, left vertical-times, left join: \ltimes :::
semidirect right product, times-right vertical, right join: \rtimes :::
set difference: \setminus , of the sets A and B : $A \setminus B$:::
sharp (music symbol): \sharp :::
sigma math: σ :::
sigma math: σ :::
Sigma math: Σ :::
Sigma math: Σ :::
sigma math alternative (Greek final sigma): ς :::
sigma math final: ς :::
similar backwards: \simeq :::
similar negated: \nsim :::
similar reversed negated: \nsmile :::
sine: \sin :::
sine hyperbolic: \sinh :::
sine hyperbolic: \sinh :::
slash boxed: $\boxed{/}$:::
smaller: $<$:::
smaller negated: \nless :::
small subset negated, subset in subset negated: $\not\subset$:::
small superset negated, superset in superset negated: $\not\supset$:::
smile: \smile :::
southeast arrow, decreasing: \searrow , the function f is decreasing: $f \searrow$:::
southeast implies: \searrow :::
southwest arrow: \swarrow :::
space visible: \sqcup :::
square black: \blacksquare :::
square black, end of proof: \blacksquare :::
squared union with plus: \boxplus :::
square white, end of proof: \square :::
star: \star :::
star black: \blackstar :::
star black: \blackstar :::
stigma (Greek): ς :::
strict iff: $\varepsilon\text{-}$:::
strict left if: $\varepsilon\text{-}$:::
strict right if: $\rightarrow\text{-}$:::
subset: \subset :::
subset but not equal: \subsetneq :::
subset but not equal (alternative): \subsetneq :::

subset but not equals: \subsetneq :::::
subset but not equals (alternative): \subsetneq :::::
subset by far, subset in subset: \Subset :::::
subset negated: $\not\subset$:::::
subset or equal: \subseteq :::::
subset or equal negated: $\not\subseteq$:::::
subset or equals: \subseteq :::::
subset squared: \sqsubset :::::
subset squared or equal: \sqsubseteq :::::
subset squared or equal negated: $\not\sqsubseteq$:::::
subset square negated: $\not\sqsubset$:::::
subspace of: \hookrightarrow , the space F is a subspace of X : $F \hookrightarrow X$:::::
subtraction: $-$, of x and y : $x - y$::
succeeds: $>$:::::
succeeds and not approximate: \succapprox :::::
succeeds and not similar: \succsim :::::
succeeds negated: $\not>$:::::
succeeds or approximate: \succapprox :::::
succeeds or approximate negated: $\not\succapprox$:::::
succeeds or curly equal negated: $\not\sucrcurlyeq$:::::
succeeds or curved equals: \succcurlyeq :::::
succeeds or equal: \geq :::::
succeeds or equal negated: $\not\geq$:::::
succeeds or equal negated: $\not\geq$:::::
succeeds or similar: \succsim :::::
succeeds or similar negated: $\not\succsim$:::::
succeeds with curved equals above: \succcurlyeq :::::
succeeds with equal below: \geq :::::
sum: \sum (of the sequence a_n from $n = 1$ to infinity: $\sum_{n=1}^{\infty} a_n$) :::::
sum with dots: $+\cdots+$ (of a_1 up to a_n : $a_1 + a_2 + \cdots + a_n$) :::::
superset: \supset :::::
superset but not equal: \supsetneq :::::
superset but not equal (alternative): \supsetneq :::::
superset but not equals: \supsetneq :::::
superset but not equals (alternative): \supsetneq :::::
superset by far, superset in superset: \Supset :::::
superset negated: $\not\supset$:::::
superset or equal: \supseteq :::::
superset or equal negated: $\not\supseteq$:::::
superset or equals: \supseteq :::::
superset or equals negated: $\not\supseteq$:::::
superset squared: \sqsupset :::::
superset squared negated: $\not\sqsupset$:::::
superset squared or equal: \sqsupseteq :::::
superset square or equal negated: $\not\sqsupseteq$:::::

superspace of: \leftrightarrow , the space F is a subspace of X : $X \leftrightarrow F$:::::
 supremum, smallest upper bound: \sup :::::
 surface integral: \iint :::::
 surface integral clockwise: \oint :::::
 surface integral counterclockwise: \oint :::::
 symmetric difference: Δ , of A and B : $A\Delta B$:::
 symmetric difference: Δ , of the sets A and B : $A\Delta B$:::
 tangent: \tan :::::
 tangent hyperbolic: \tanh :::::
 tangent hyperbolic: \tanh :::::
 tau math: τ :::
 tau math: τ :::
 tautology (logical): \top :::::
 there does not exist at least one: \nexists :::::
 there exists at least one: \exists :::
 there exists exactly one: $\exists!$:::::
 therefore: \therefore :::
 theta math: θ :::
 theta math: θ :::
 Theta math: Θ :::::
 Theta math: Θ :::::
 theta math alternative: ϑ :::::
 theta math alternative: ϑ :::::
 tilde on letter: x with tilde \tilde{x} :::::
 times boxed: \boxtimes :::::
 times (multiplication): \cdot or \times or no symbol, of x and y : $x \cdot y$ or $x \times y$ or xy :::
 trademark: ™ :::::
 transformation Fourier reversed (of the function f): \check{f} :::::
 triangle black: \blacktriangle :::::
 triangle black: \blacktriangle :::::
 triangle black down: \blacktriangledown :::::
 triangle black down: \blacktriangledown :::::
 triangle, Laplacian: Δ :::
 triangle left black: \blacktriangleleft :::::
 triangle left or equal, normal subgroup or equal: \trianglelefteq :::::
 triangle left or equal, not a normal subgroup or equal: $\not\trianglelefteq$:::::
 triangle right black: \blacktriangleright :::::
 triangle right, contains as normal subgroup: \triangleright :::::
 triangle right, contains as normal subgroup: \triangleright :::::
 triangle right negated, does not contain as a normal subgroup: $\not\triangleright$:::::
 triangle right or equal, contains as normal subgroup or equal: \trianglerighteq :::::
 triangle right or equal negated, does not contain as a normal subgroup or equal: $\not\trianglerighteq$:::::
 triangle up big: Δ :::
 triangle upside down, gradient, nabla: ∇ , the gradient of the function f : ∇f :::

triangle white: \triangle ::
triangle white down: ∇ ::
triangle white down: ∇ ::
underline: below $z + w$: $\underline{z + w}$::
uniform convergence, right arrows: \Rightarrow , f_n converges uniformly to f , $f_n \Rightarrow f$::
union: \cup , of the sets A and B : $A \cup B$::
union big squared: \sqcup ::
union big squared with plus: $\sqcup+$::
union double: \uplus ::
union of many sets: \cup , of A_1, \dots, A_n : $\bigcup_{k=1}^n A_k$ or $A_1 \cup \dots \cup A_n$::
union squared: \sqcup ::
union with plus: \uplus ::
upsilon math: υ ::
upsilon math: υ ::
Upsilon math: Υ ::
Upsilon math: Υ ::
v alternative: ν ::
vector: the vector of x : \vec{x} ::
vertical boxed: \boxplus ::
vertical circled: \oplus ::
vertical dots: \vdots ::
vertical or divides: \mid , the number n divides m : $n \mid m$::
vertical, small: \lrcorner ::
w alternative: w ::
Weierstrass symbol: \wp ::
wrong, contradiction (logical): \perp ::
xi math: ξ ::
xi math: ξ ::
Xi math: Ξ ::
Xi math: Ξ ::
y alternative: y ::
zeta math: ζ ::
zeta math: ζ ::