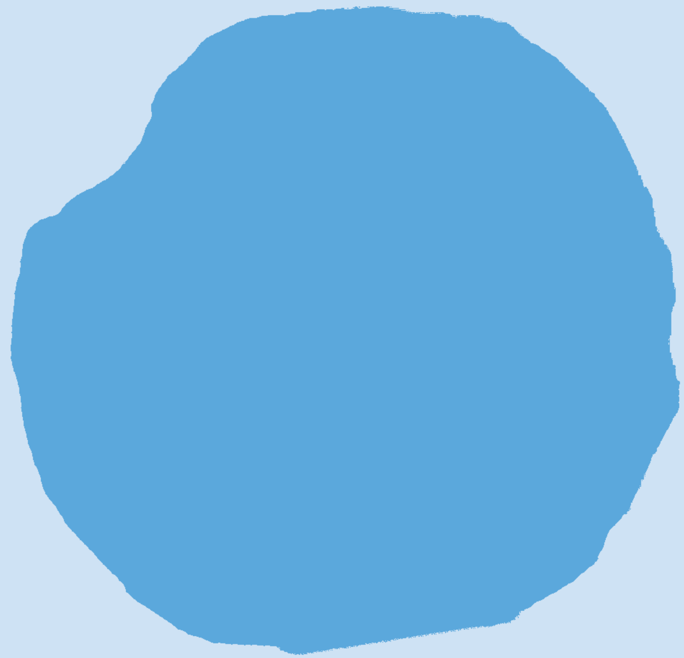


Appendix G illuminated

Debrecen 7th July, 2006

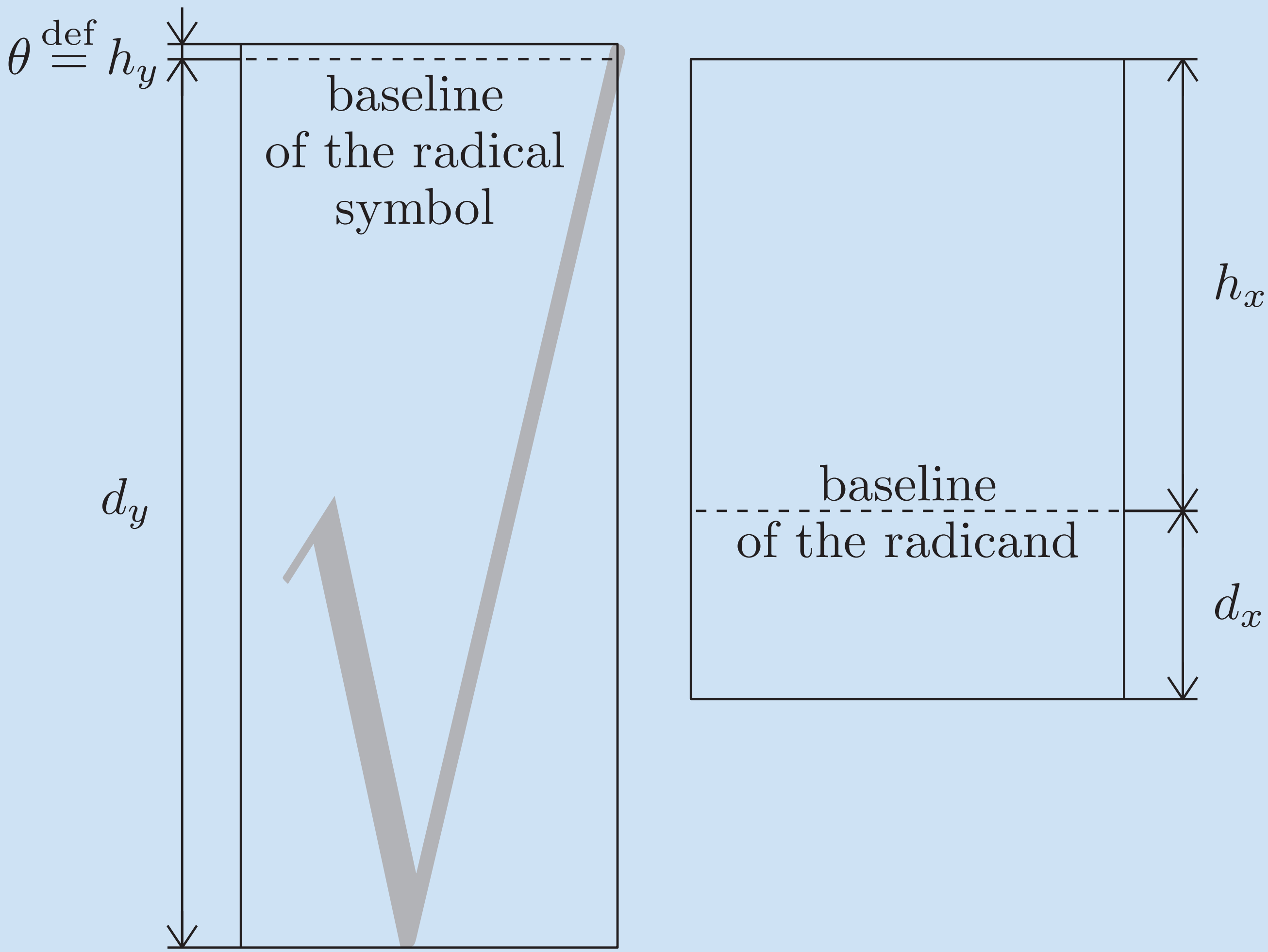
Bogusław Jackowski

Babylonian tablet with a very precise $\sqrt{2}$

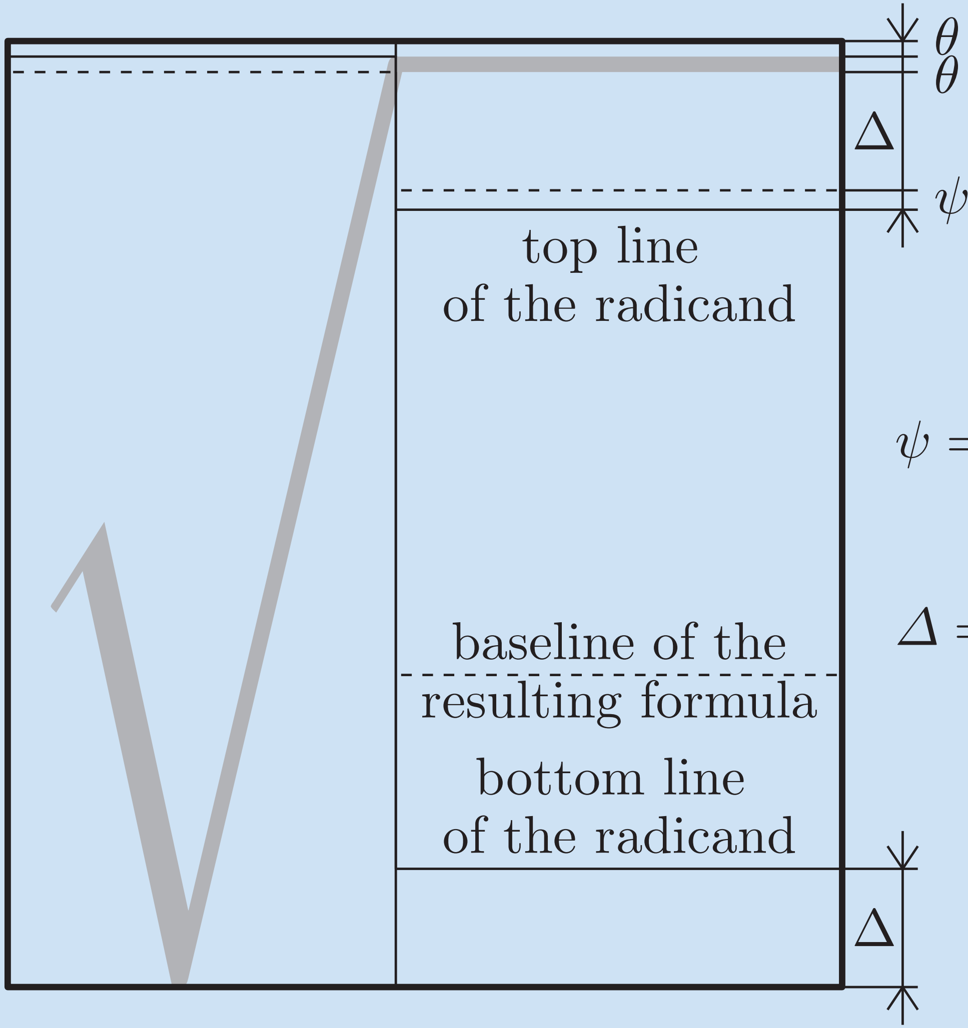
XVI–XVIII century B.C.

Yale Babylonian Collection, photo: Bill Casselman

Typesetting a radical



Typesetting a radical

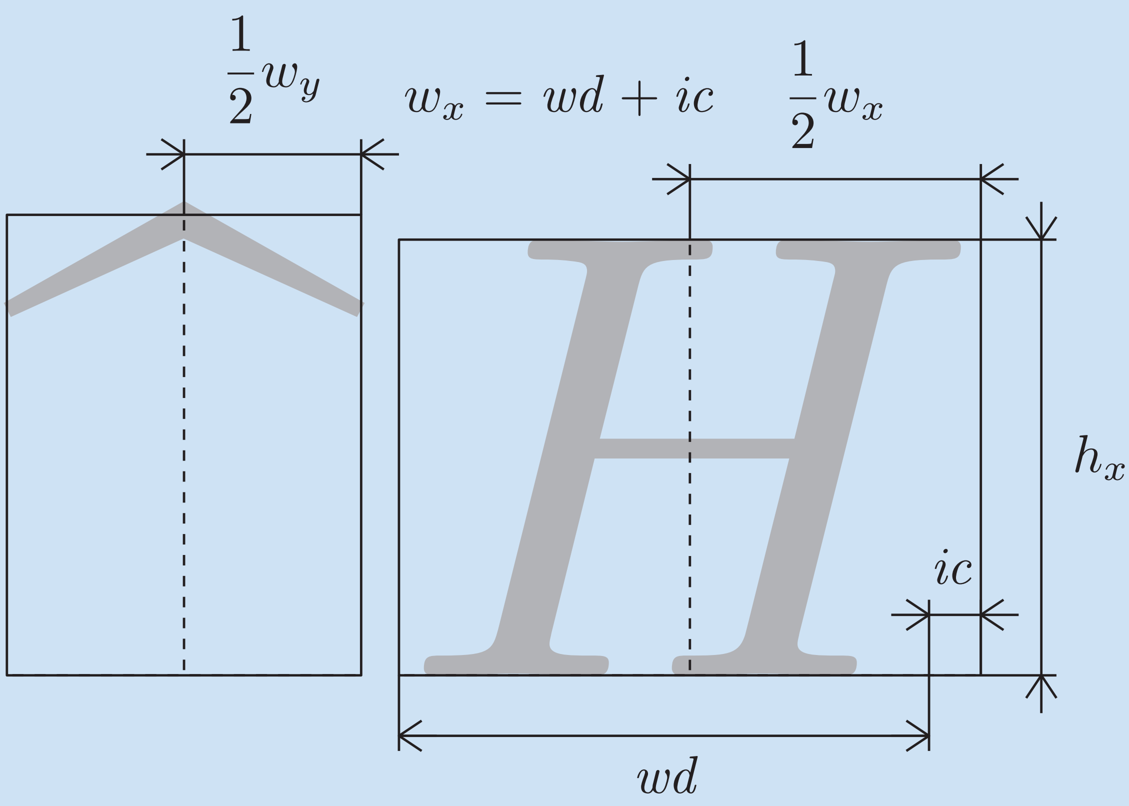


$$\psi = \begin{cases} \xi_8 + \frac{1}{4}\sigma_5, & \text{styles } D, D' \\ \frac{5}{4}\xi_8, & \text{other styles} \end{cases}$$

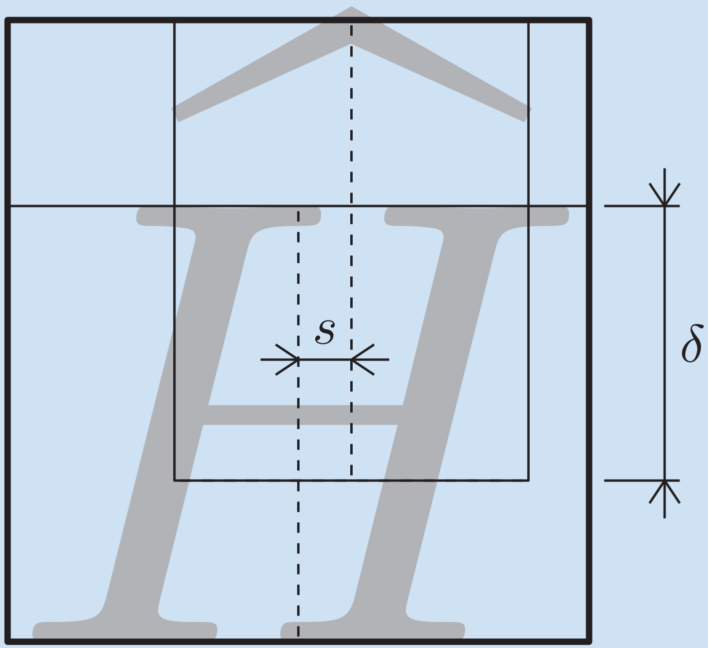
$$\mathit{\Delta} = \tfrac{1}{2}\bigl(d_y - (h_x + d_x + \psi)\bigr)$$

$3 \cdot 2^1 \cdot \sqrt{2 - \sqrt{3}}$

Typesetting an accented symbol



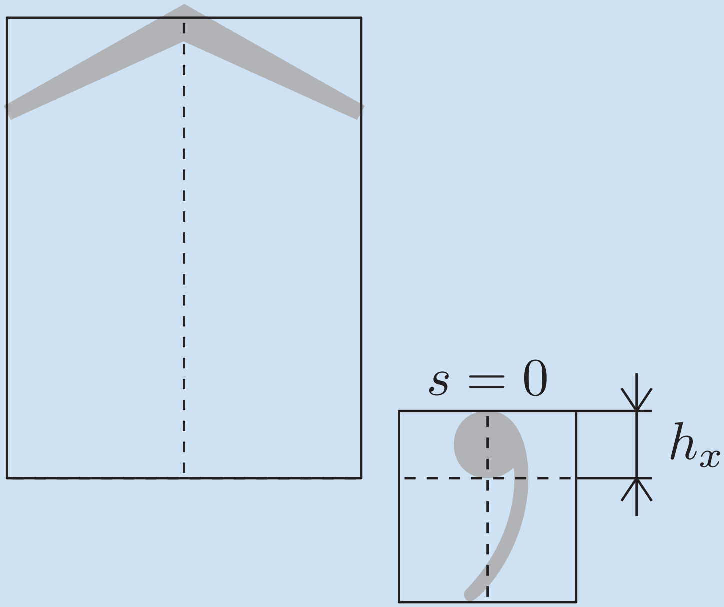
Typesetting an accented symbol



s – italic correction between the accentee symbol and the *skewchar*

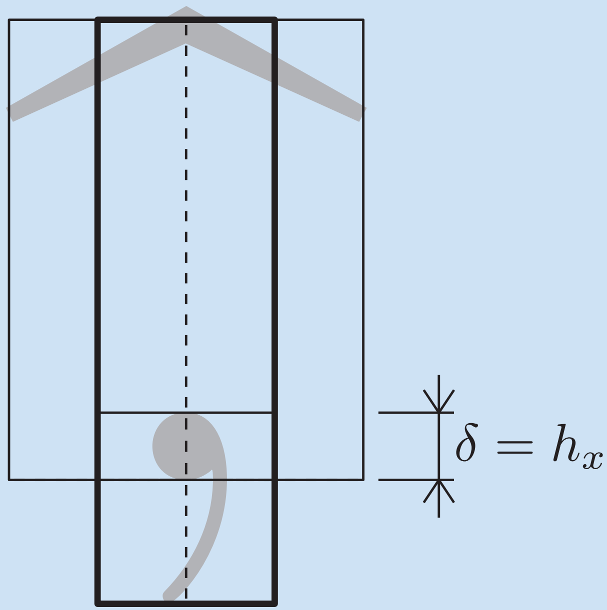
$\delta = \min(x\text{-}height, h_x)$

Typesetting an accented symbol



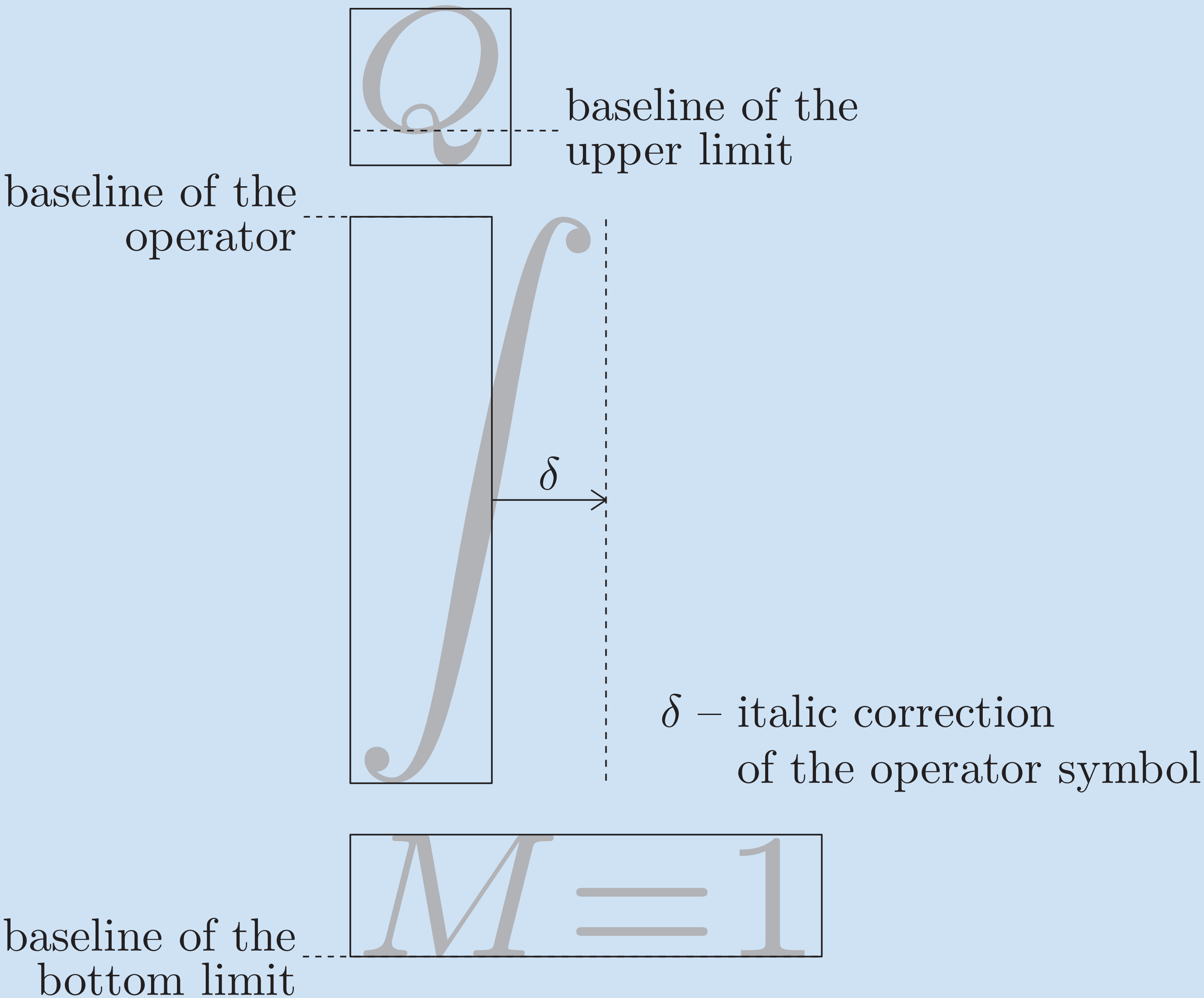
s – italic correction between the accentee symbol and the *skewchar*

Typesetting an accented symbol



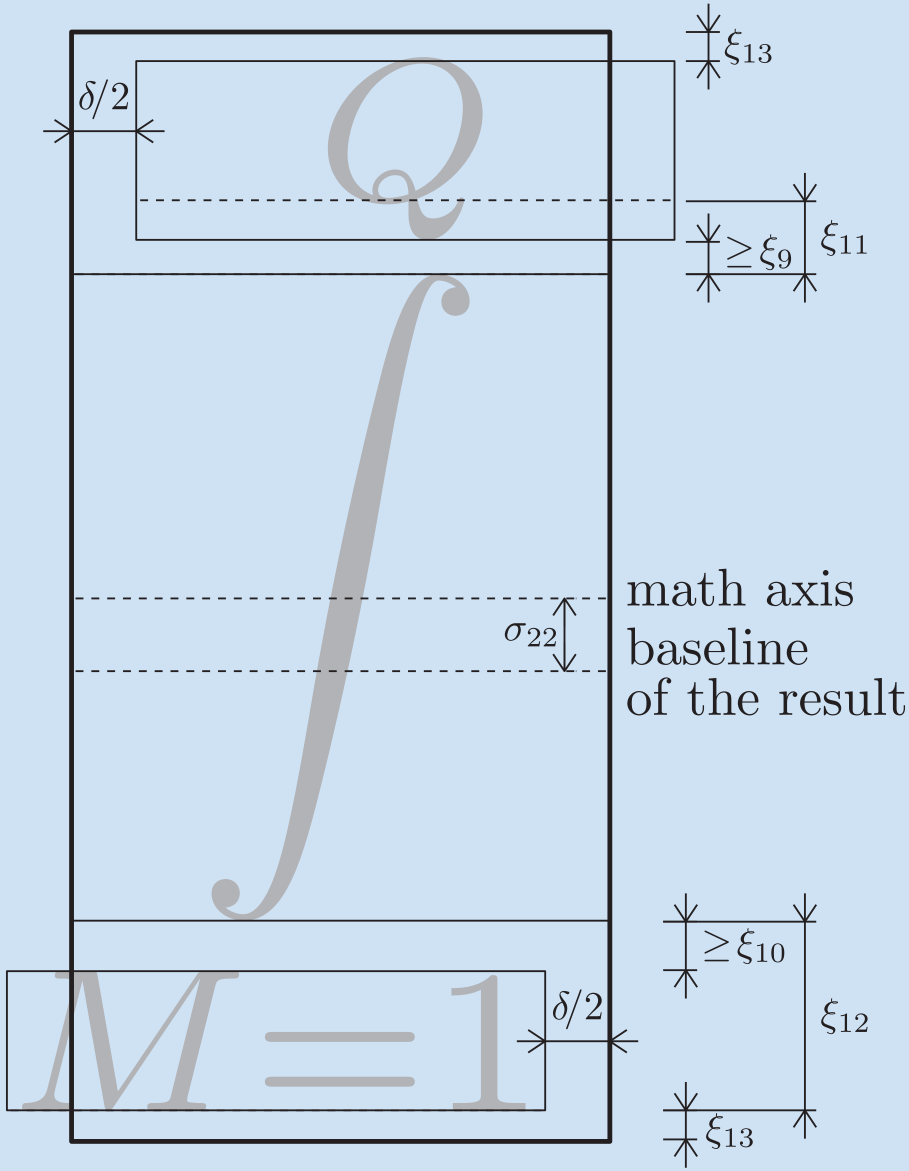
$$\delta = \min(x\text{-}height, h_x)$$

Typesetting an operator with limits

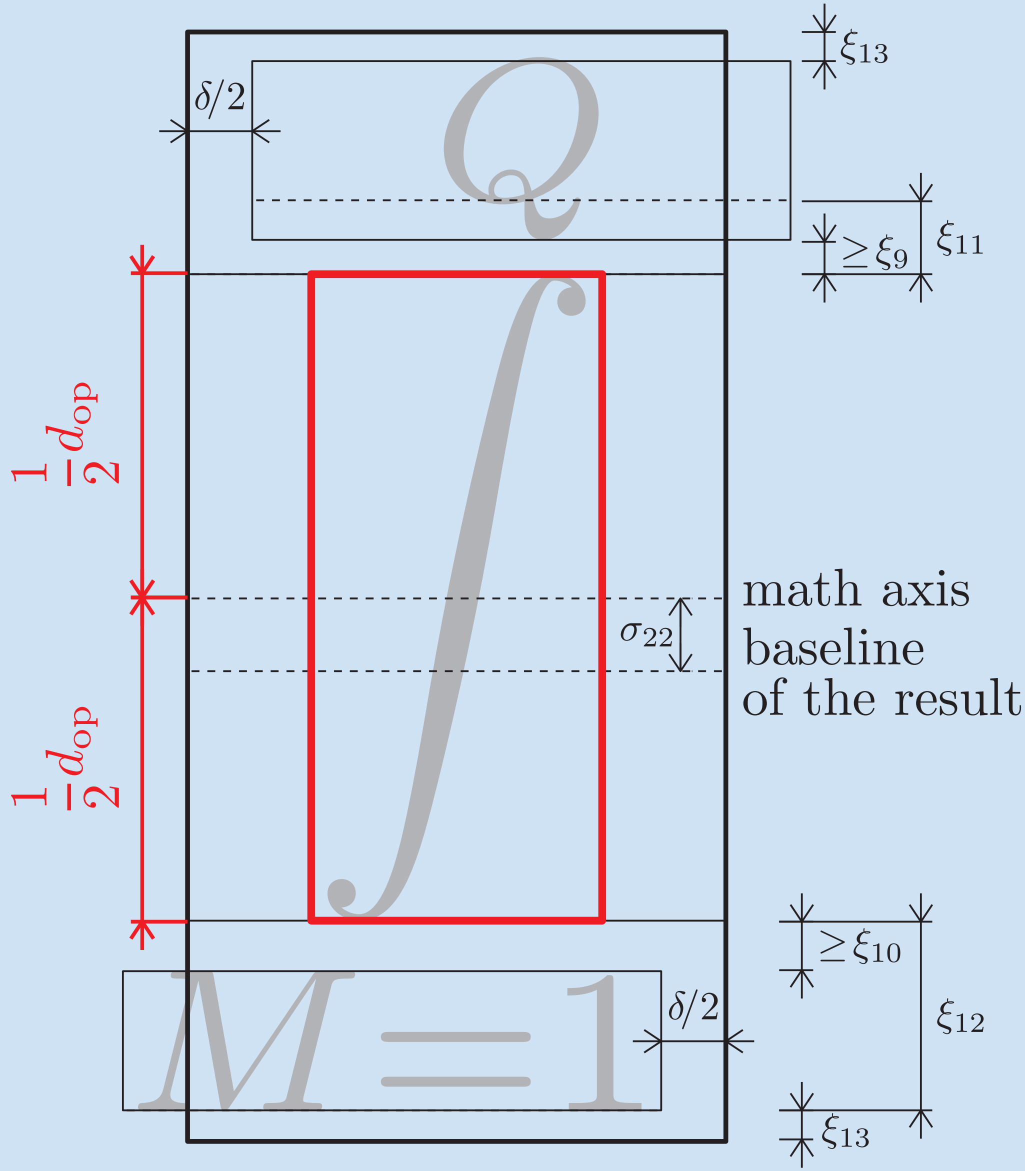


$3 \cdot 2^3 \cdot \sqrt{2-\sqrt{2+\sqrt{2+\sqrt{3}}}}$

Typesetting an operator with limits

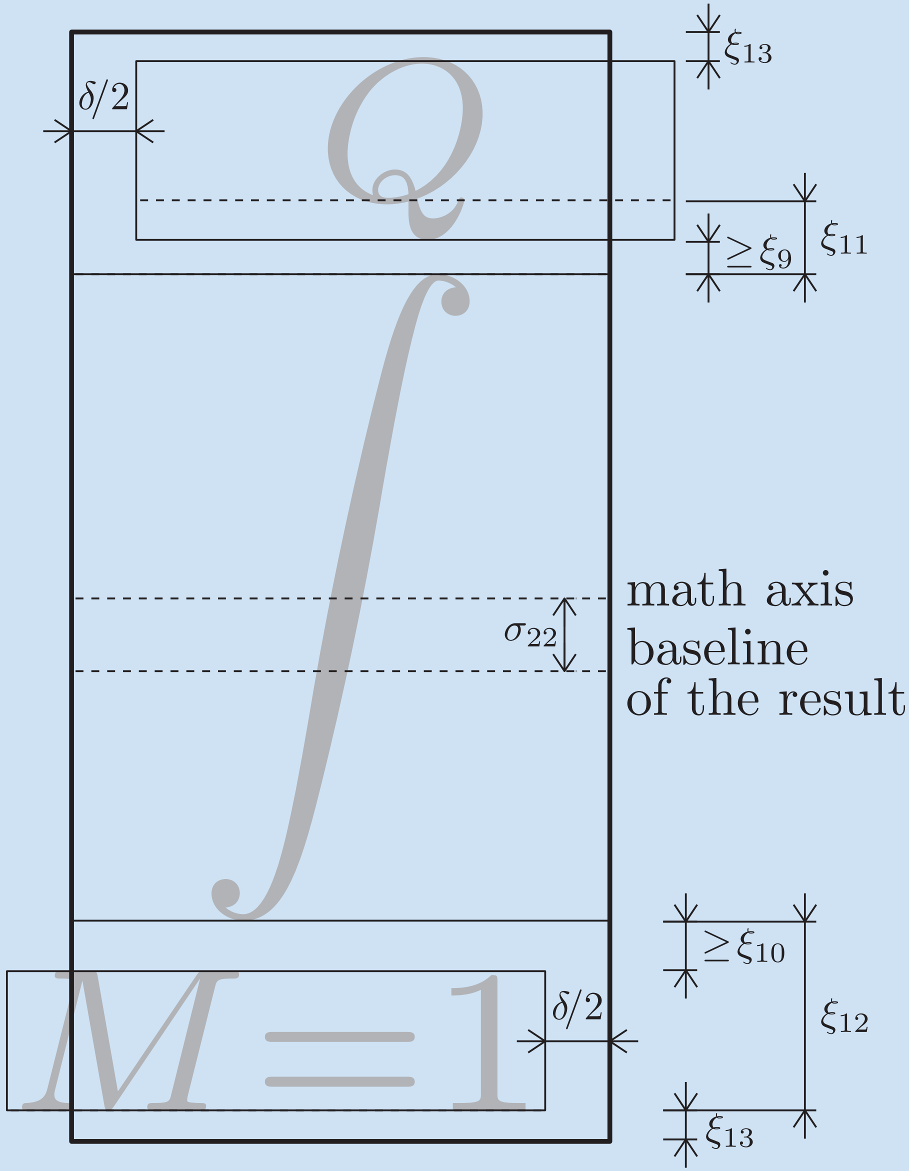


Typesetting an operator with limits

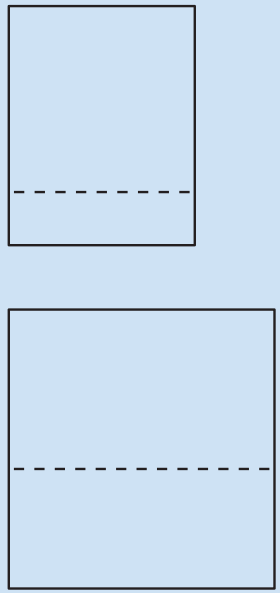


$3 \cdot 2^3 \cdot \sqrt{2-\sqrt{2+\sqrt{2+\sqrt{3}}}}$

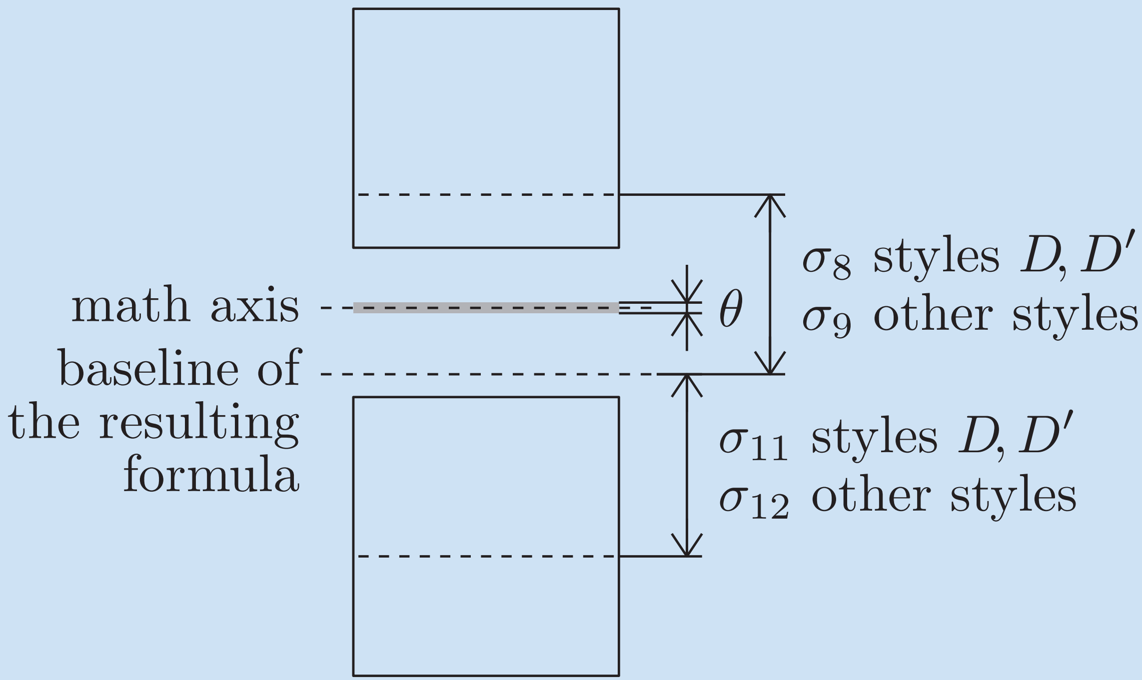
Typesetting an operator with limits



Typesetting a generalized fraction



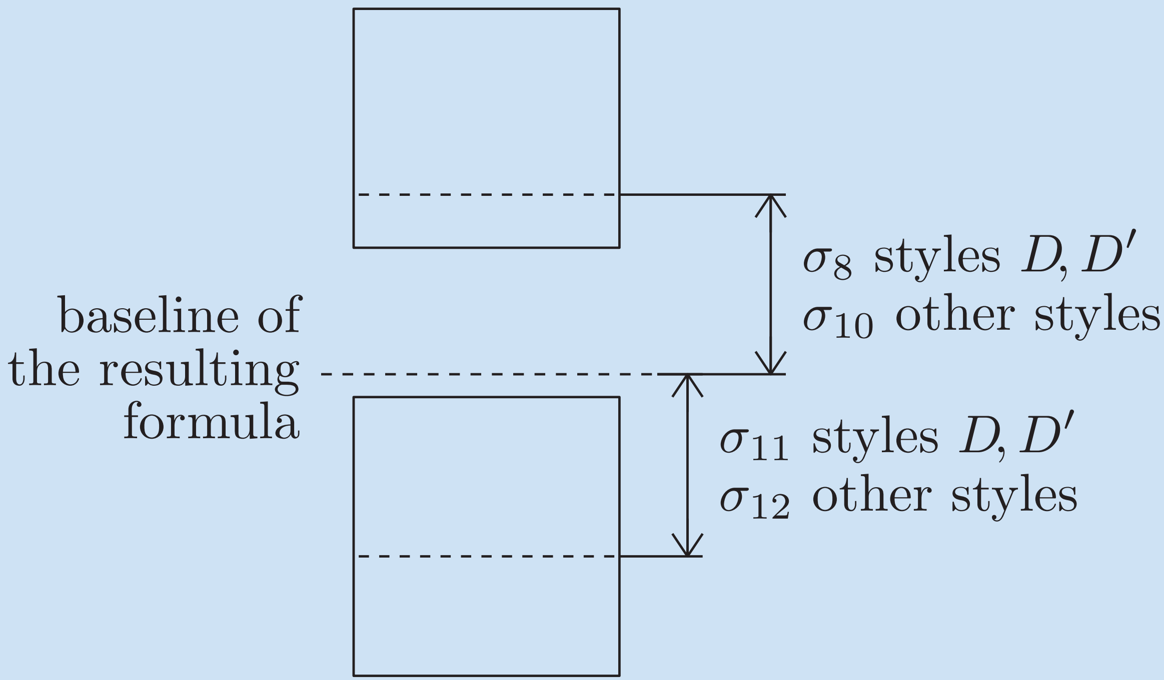
Typesetting a generalized fraction

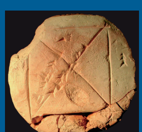


θ is either given explicitly (`\abovewithdelims`) or $\theta = \xi_8$

$3 \cdot 2^4 \cdot \sqrt{2-\sqrt{2+\sqrt{2+\sqrt{2+\sqrt{3}}}}}$

Typesetting a generalized fraction

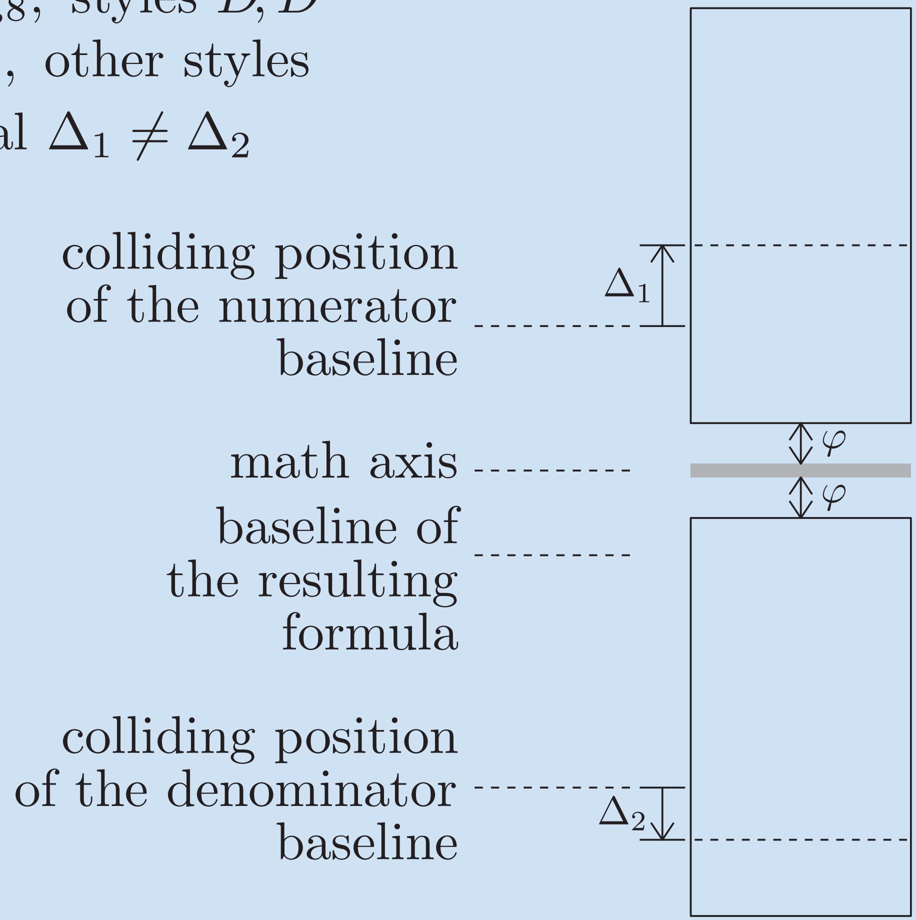




Typesetting a generalized fraction (resolving collisions)

$$\varphi = \begin{cases} 3\xi_8, & \text{styles } D, D' \\ \xi_8, & \text{other styles} \end{cases}$$

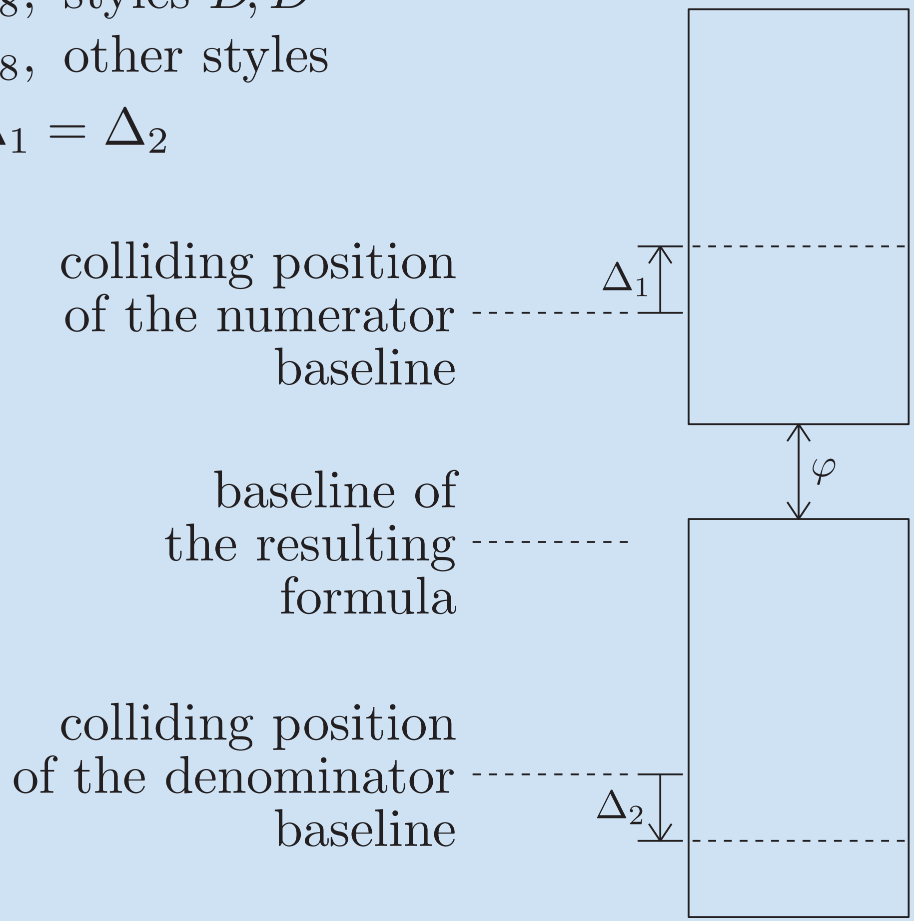
in general $\Delta_1 \neq \Delta_2$



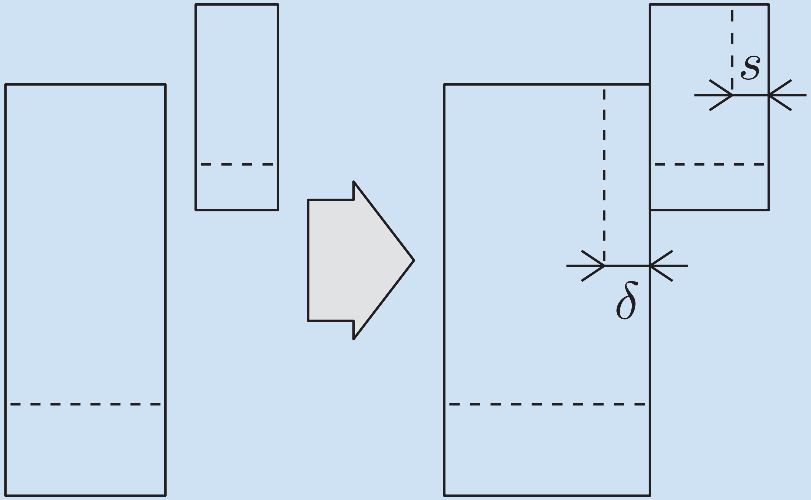
Typesetting a generalized fraction (resolving collisions)

$$\varphi = \begin{cases} 7\xi_8, & \text{styles } D, D' \\ 3\xi_8, & \text{other styles} \end{cases}$$

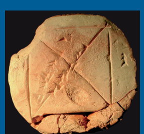
always $\Delta_1 = \Delta_2$



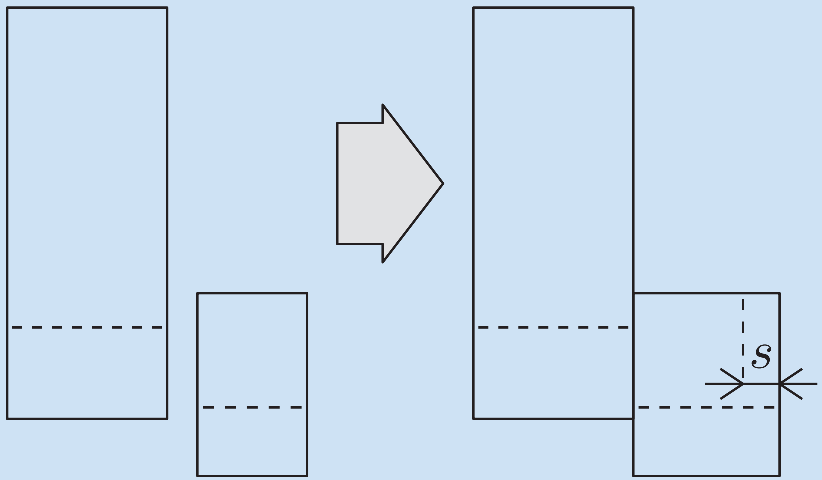
Typesetting indices



horizontal placement
of a superscript

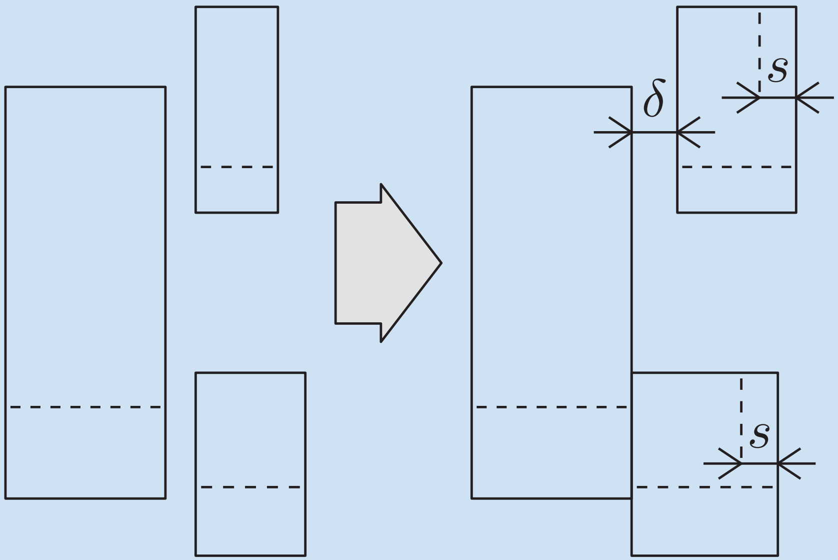


Typesetting indices

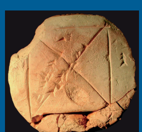


horizontal placement
of a subscript

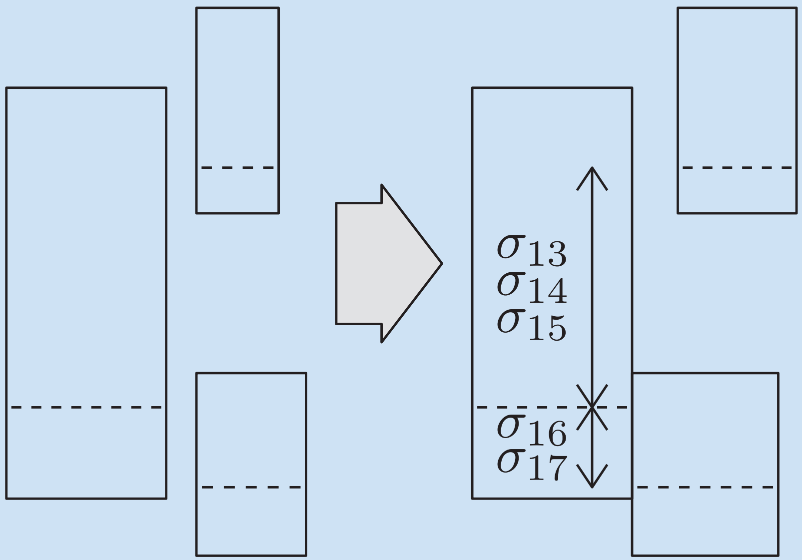
Typesetting indices



horizontal placement
of a superscript and a subscript

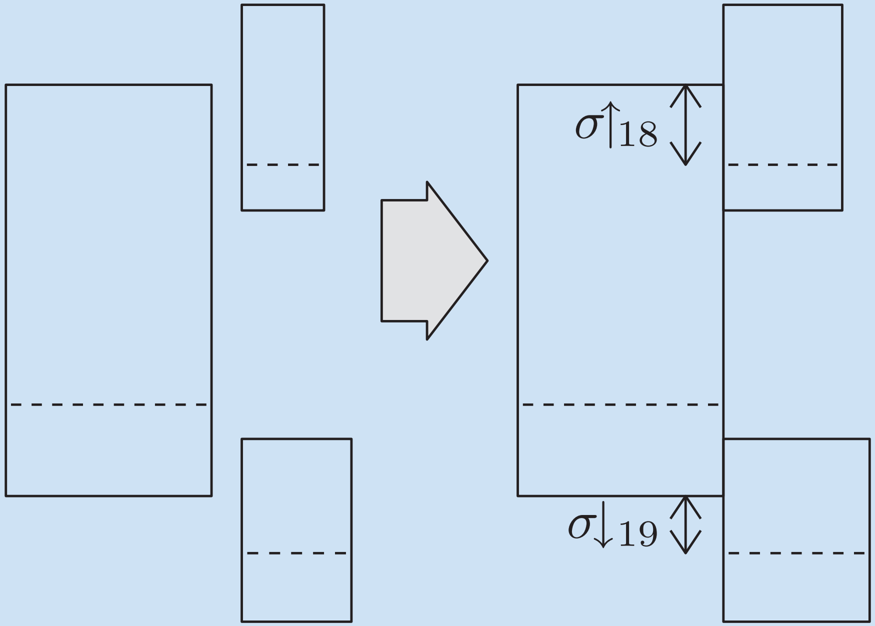


Typesetting indices



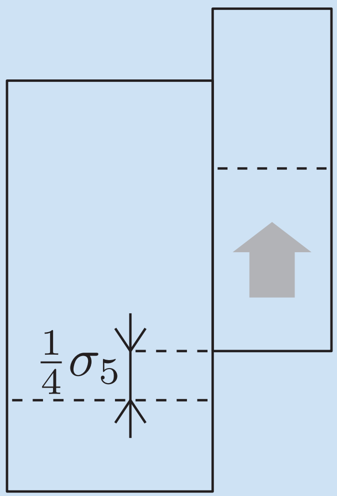
vertical placement of indices
for the kernel being a symbol

Typesetting indices



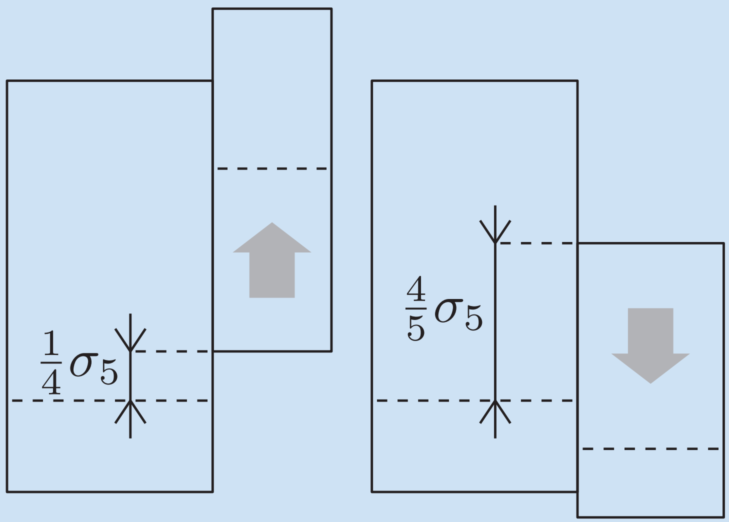
vertical placement of indices
for the kernel being a boxed formula

Typesetting indices



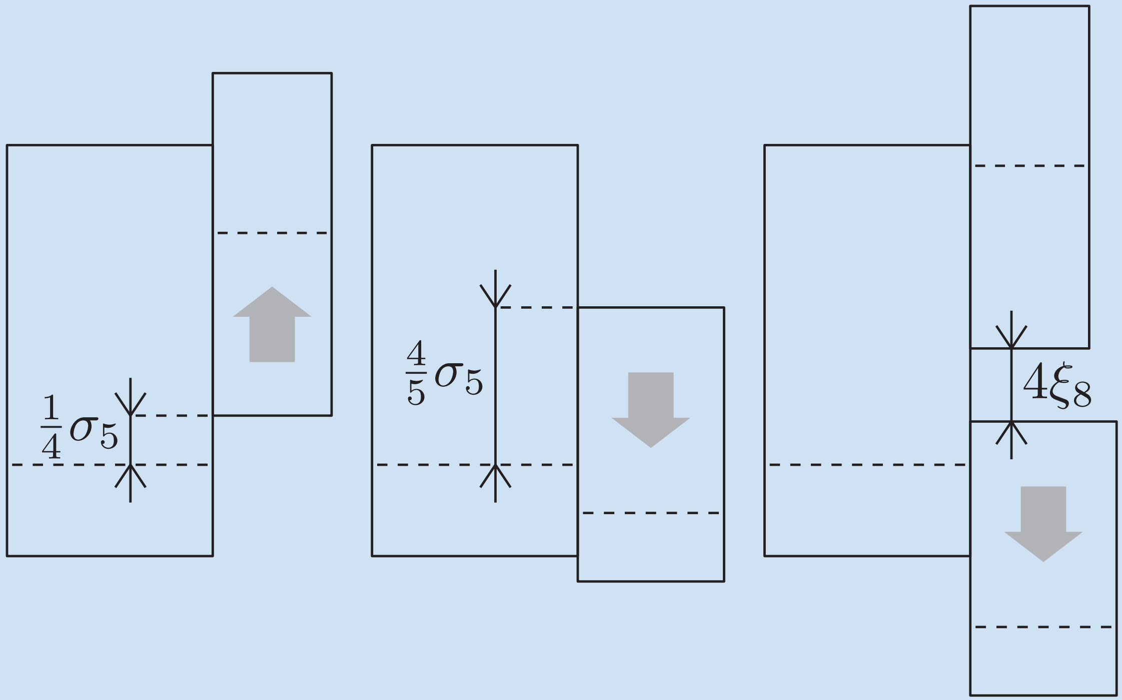
placement of indices – resolving collisions

Typesetting indices



placement of indices – resolving collisions

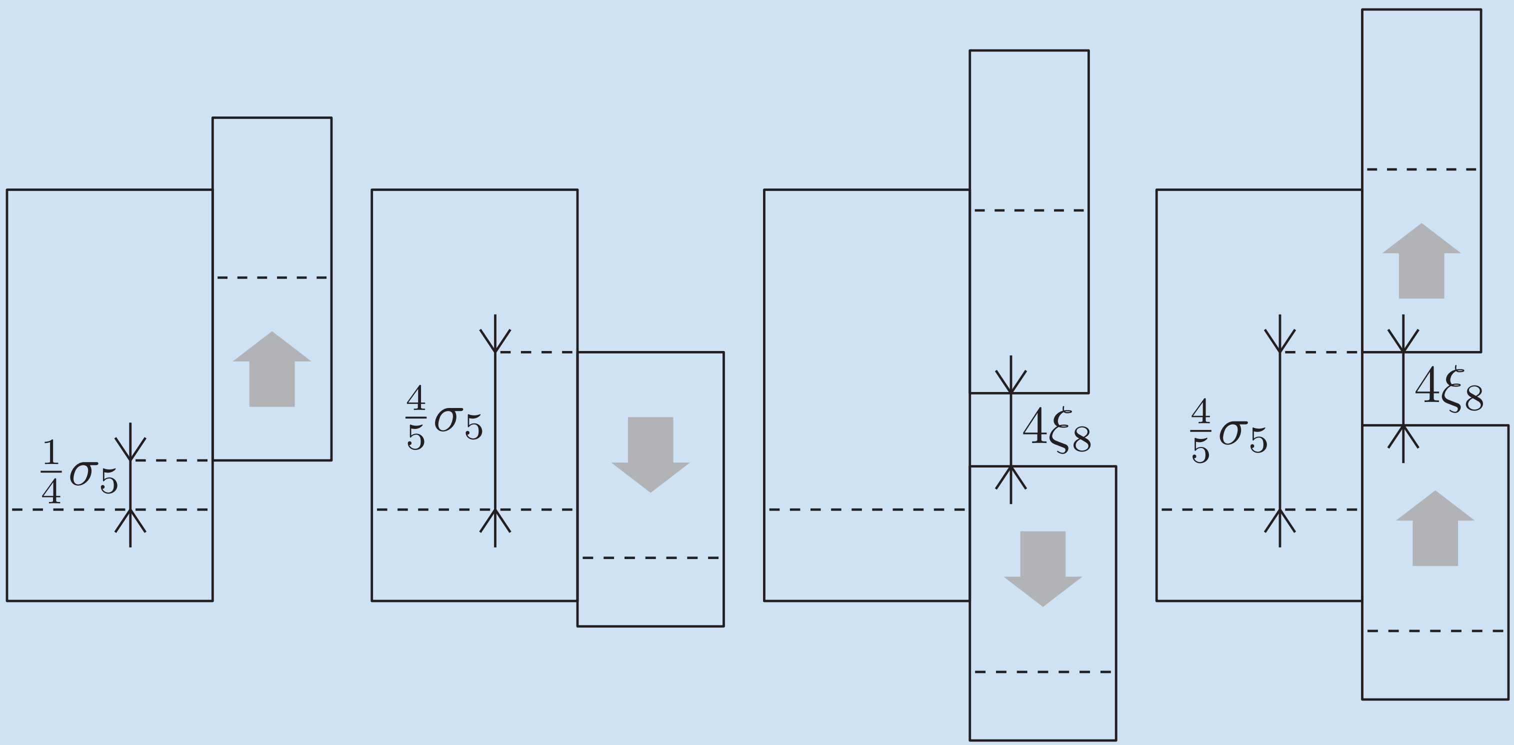
Typesetting indices



placement of indices – resolving collisions

$3 \cdot 2^5 \cdot \sqrt{2 - \sqrt{2 + \sqrt{2 + \sqrt{2 + \sqrt{2 + \sqrt{3}}}}}}$

Typesetting indices



placement of indices – resolving collisions

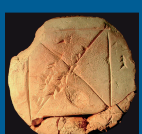
Future of (math) typesetting

$$3 \cdot 2^6 \cdot \sqrt{2 - \sqrt{2 + \sqrt{2 + \sqrt{2 + \sqrt{2 + \sqrt{2 + \sqrt{3}}}}}}}$$

Future of (math) typesetting

$$3 \cdot 2^6 \cdot \sqrt{2 - \sqrt{2 + \sqrt{2 + \sqrt{2 + \sqrt{2 + \sqrt{2 + \sqrt{3}}}}}}}$$

$3 \cdot 2^6 \cdot \sqrt{2 - \sqrt{2 + \sqrt{2 + \sqrt{2 + \sqrt{2 + \sqrt{2 + \sqrt{3}}}}}}}$

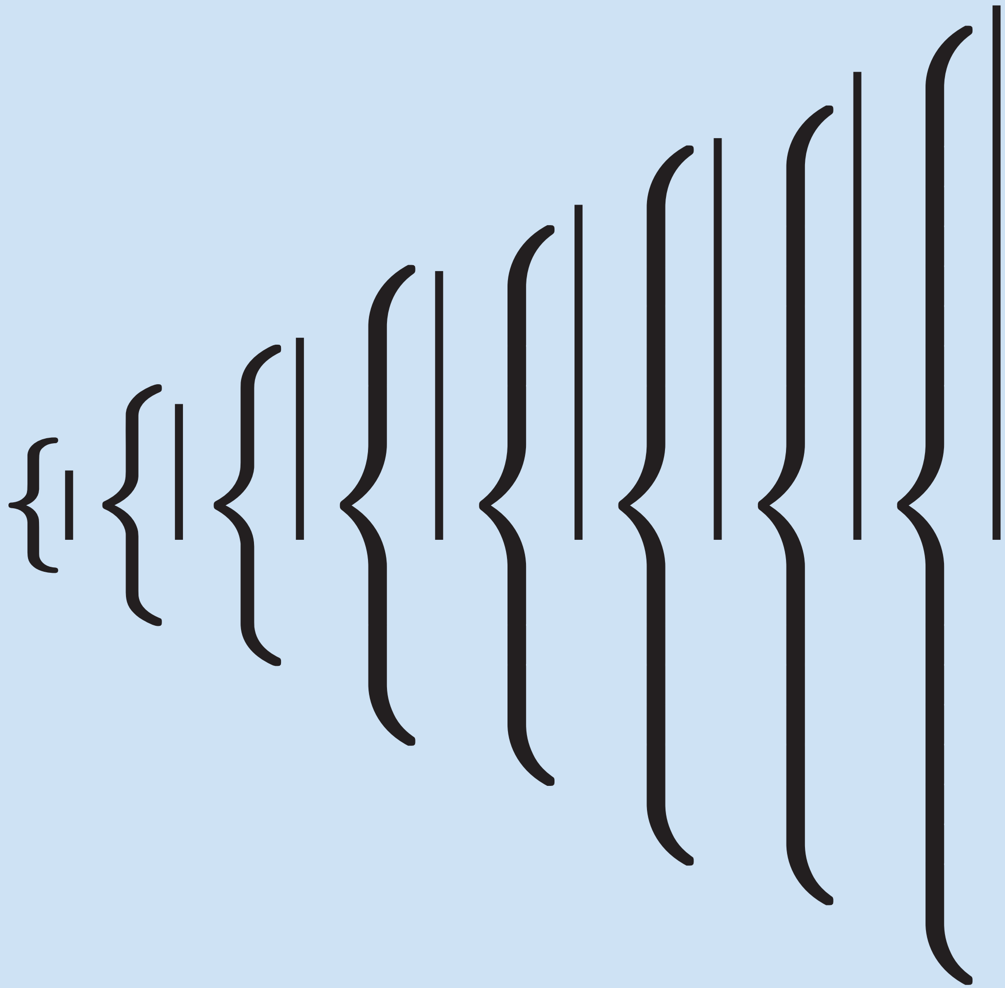


Future of (math) typesetting

$$3 \cdot 2^6 \cdot \sqrt{2 - \sqrt{2 + \sqrt{2 + \sqrt{2 + \sqrt{2 + \sqrt{2 + \sqrt{3}}}}}}} \approx \pi$$

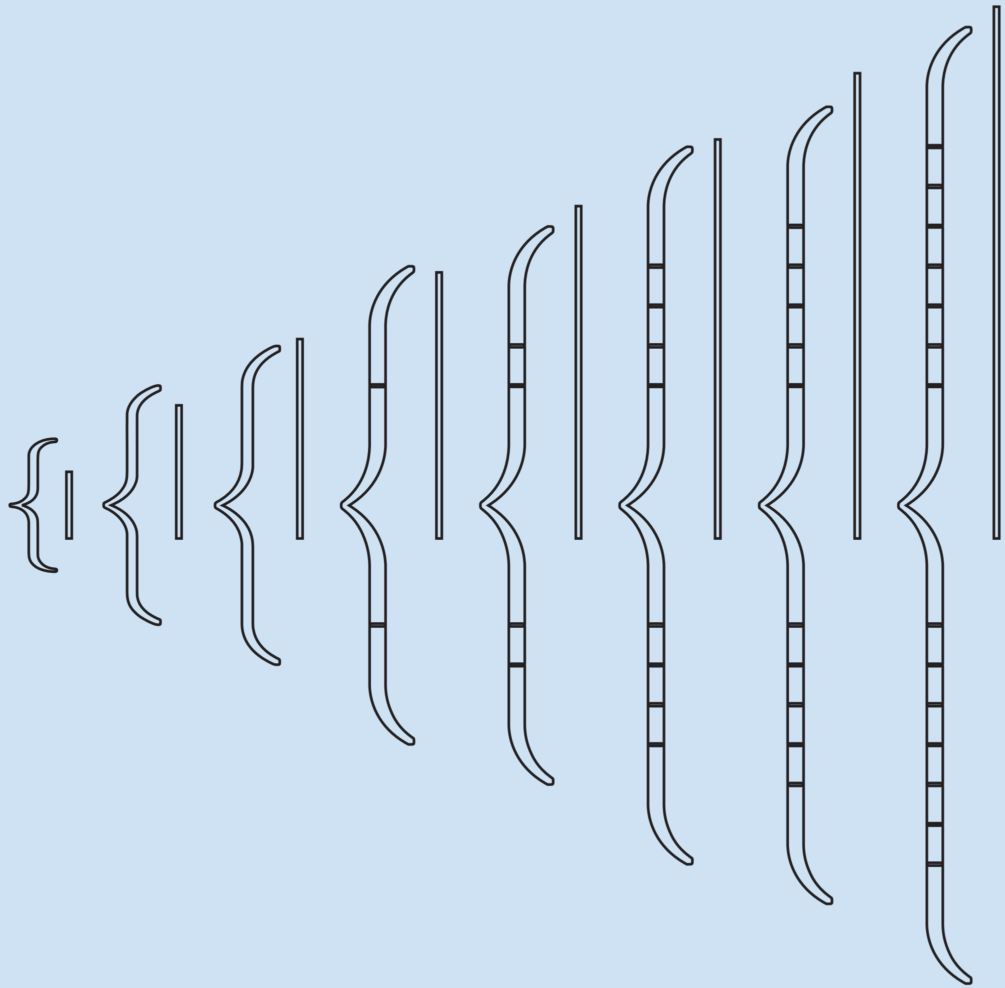
$3 \cdot 2^6 \cdot \sqrt{2 - \sqrt{2 + \sqrt{2 + \sqrt{2 + \sqrt{2 + \sqrt{2 + \sqrt{3}}}}}}}$

Main obstacle: the discrete nature of fonts



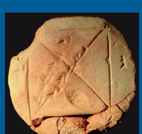
$3 \cdot 2^7 \cdot \sqrt{2-\sqrt{2+\sqrt{2+\sqrt{2+\sqrt{2+\sqrt{2+\sqrt{2+\sqrt{3}}}}}}}}$

Main obstacle: the discrete nature of fonts



$3 \cdot 2^8 \cdot \sqrt{2-\sqrt{2+\sqrt{2+\sqrt{2+\sqrt{2+\sqrt{2+\sqrt{2+\sqrt{2+\sqrt{3}}}}}}}}}$

Paradoxically, due to its outmodeness and being discreteness-oriented, as long as fonts endure to be discrete, TEX's algorithm of the typesetting of math formulas seems indomitable



Thank you!