

This document is a sampler of the kind of MathML produced by LaTeXXML, primarily for testing for sufficient MathML support. It is *not* a comprehensive test, nor a torture test.

The `m:semantics`, `m:annotation`, and `m:annotation-xml` elements will be exercised if you generate both presentation and content during post-processing using the `--pmml --cmml` options.

## 1 Token Elements

Token elements `m:mi`, `m:mo` and `m:mn`, with various attributes `@mathvariant`, `@mathsize` and `@class`.

$$A, \quad A, \quad A, \quad A, \quad \mathbf{A}, \quad A, \quad A, \quad (1)$$

$$\mathcal{A}, \quad \mathscr{A}, \quad \mathbb{A}, \quad \mathfrak{A} \quad (2)$$

$$x, \quad x, \quad X, \quad X, \quad X, \quad X, \quad X, \quad X \quad (3)$$

And some color, `@mathcolor`, `@mathbackground`:

$$\textcolor{red}{X}, \quad \textcolor{blue}{X}, \quad \textcolor{green}{X}, \quad \textcolor{red}{X} \quad (4)$$

Playing with `@minsize`, `@maxsize`, `@stretchy`:

$$(a|b), \quad (a \mid b), \quad (a \big| b), \quad (a \Big| b), \quad (a \Big| b) \quad (5)$$

$$(a^b|x), \quad (a^{b^c}|x), \quad (a^{b^{c^d}}|x) \quad (6)$$

$$\text{Hello} + y - 1.2345 \quad (7)$$

Some spacing `m:mspace`.

$$xy, \quad x \ y, \quad x \ y \quad (8)$$

Not used: `m:mglyph`, `m:ms`.

## 2 General Layout Schemata

Various layout schemata `m:mrow`, `m:mfrac` (with various `@linethickness`), and `m:mstyle`:

$$\frac{a}{b}, \quad \frac{a}{b}, \quad \frac{a}{b} \quad (9)$$

$$\left(\frac{a}{b}\right)\frac{a}{b}, \quad \frac{a}{b}, \quad \frac{a}{b}, \quad \frac{a}{b} \quad (10)$$

$$\left(\frac{a}{b}\right), \quad \left(\frac{a^2}{b^2}\right), \quad \left(\frac{\int_a^b f(x)dx}{\int_a^b g(x)dx}\right) \quad (11)$$

Roots `m:msqrt` and `m:mroot`, as well as enclosures `m:menclose`:

$$\sqrt{x}, \quad \sqrt[3]{x}, \quad \sqrt[3]{x}, \quad \boxed{x^2}, \quad \not/? \quad (12)$$

More spacing examples with `m:mpadded`:

$$a + b, \quad a + b, \quad a + b, \quad a + b, \quad (13)$$

$$X = f(x) + g(x) + h(x) \quad (14)$$

$$= f(x) + \quad + h(x) \quad (15)$$

$$(16)$$

Not used: `m:mfenced`, `m:mphantom`; used only for errors: `m:merror`.

### 3 Script and Limit Schemata

A variety of sub- and super-scripts (`m:msub`, `m:msup`, `m:msubsup`), under- and over-scripts (`m:munder`, `m:mover`, `m:munderover`), some as accents, and pre-scripts (`m:multiscripts`, `m:mprescripts`).

$$a^b, \quad a^{b^c}, \quad a^{b^{c^d}}, \quad a_b, \quad a_{b_c}, \quad a_{b_{c_d}}, \quad a_c^b \quad (17)$$

$$\sum_b, \quad \sum_b, \quad \sum_c^b \quad (18)$$

$$X = \sum_{1 \leq i \leq j \leq n} X_{ij}, \quad X = \sum_{1 \leq i \leq j \leq n} X_{ij}, \quad X = \sum_{1 \leq i \leq j \leq n} X_{ij}, \quad X = \sum_{1 \leq i \leq j \leq n} X_{ij} \quad (19)$$

$$a \overset{\text{def}}{\rightarrow} b, \quad a \underset{\text{def}}{\rightarrow} b, \quad a \overrightarrow{\text{def}} b, \quad a \underline{\text{def}} b \quad (20)$$

$$\overline{abc}^s, \quad \overleftarrow{abc}^s, \quad \overrightarrow{abc}^s, \quad \overbrace{abc}^s, \quad \underline{abc}_s, \quad \underbrace{abc}_s \quad (21)$$

$${}_pF_q, \quad {}_a\sum_d^b \quad (22)$$

## 4 Tabular Math

Some basic tabular math (`m:mtable`, `m:mtr`, `m:mtd`); many combinations of row and column spacing and spans (`@rowspacing`, `@columnspacing`, `@columnspan`, `@rowspan`) are not currently tested.

$$\begin{array}{cc} -1 & 3 \\ 2 & -4 \end{array}, \quad \begin{array}{cc} -1 & 3 \\ 2 & -4 \end{array}, \quad \left\| \begin{array}{cc} -1 & 3 \\ 2 & -4 \end{array} \right\|, \quad \left\| \begin{array}{cc} -1 & 3 \\ 2 & -4 \end{array} \right\| \quad (23)$$

Not used: `m:mabeledtr`, `m:maligngroup`, `m:malignmark`.

## 5 Elementary Math

Not currently used: `m:mstack`, `m:mldiv`, `m:msgroup`, `m:msrow`, `m:mscarries`, `m:mscarry`, `m:msline`.