All examples in this test should be successfully parsed by LaTeXML's grammar, and are meant as regression tests.

1 sanity check

1. $1 + 1 = 2$

2 Factor

2.0.1 Empty Balanced

1. $()$

2. $[]$

3. $\{\}$

4. $\langle\rangle$

5. $\lfloor\rfloor$

6. $\lceil\rceil$

2.0.2 Single Factor production and Monomials

1. $\times x$

2. $|x$

3. $\sin$

4. $\arcsin$

5. $\neg$

6. $\frac{1}{2}x$

7. a

8. 12^3

9. $\int$

10. $\int x$

11. $\int x\,dx$

12. $\sum$

13. $\sum x$

14. $\{x \mid x > 0\}$

15. $||x||$

16. $|a|$

17. $\langle\phi|$

18. $|\psi\rangle$

19. $\langle\phi|\psi\rangle$

20. xyz

21. $\sqrt{x}\sqrt{y}$

22. $()[]\{\}[]()$

23. $2|ab|$

24. $||x||a||y||$

2.0.3 Arrays

1. standalone cases

$$\begin{cases} cca & b \\ c & d \end{cases}$$

2. standalone array

$$\begin{array}{cc} a & b \\ c & d \end{array}$$

3. lbrace array

$$\{\begin{array}{cc} a & b \\ c & d \end{array}$$

4. rbrace array

$$\begin{array}{cc} a & b \\ c & d \end{array}\}$$

3 Advanced Scripted

1. Na^+

2. ψ''

3. $\int_0^\infty x^2 dx$

4. $\int_\infty^{(0+)} t\, dt$

5. $\int_\infty^{(1+,0+,1,0)} t\, dt$

6. $\sum_{i=0}^{50} x^i$

7.

$$\sum_{\substack{0 \le i \le m \\ 0 < j < n}} P(i,j)$$

8.

$$\sum_{i=1}^{p}\sum_{j=1}^{q}\sum_{k=1}^{r} a_{ij}b_{jk}c_{ki}$$

4 Advanced Fenced

1. $\langle a, b \rangle$

2. $\langle ab \rangle$

3. $\langle a \rangle$

5 Polynomial and multi-relations

1. $ab + cd - ef + gh$

2. $|A\rangle = |B\rangle + |C\rangle$

3. $1 \le l < j \le n$

4. $1 < x < 10, 2 < y < 20, 3 < z < 30$

5. $a, b \ \alpha + \frac{1}{\alpha}$

6 Modifier Expressions

1. > 0

2. (> 0)

3. $x(> 0)$

4. $h(\in C)$

5. $x : \text{Integer}$

6. $f : \text{Integer} \Rightarrow \text{Real}$

7 Edge/Artefact Cases

1.

8 Token Expressions

These are examples using the currently employed terminals in MathGrammar, to enumerate expressions that should remain grammatical if the grammar is modified.

1. $()$

2. $x < x = x < x$

3. $\frac{1}{2} + \frac{1}{2} < \begin{matrix} a & b \\ c & d \end{matrix}$

4. $\arcsin \pi + \neg x = \{ \begin{matrix} a & b \\ c & d \end{matrix}$