

# The unicode-math test suite

Will Robertson

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## Preamble

The following pieces of output are generated from the code shown. As well as being good minimal examples, these tests are useful to ensure that new bugs don't affect old behaviour. When the test suite is run, the new output is compared pixel by pixel with that shown here and warnings produced if the outputs are not identical.

### 1 Test 001a

```
\input{umtest-preamble}  
\usepackage[math-style=TeX]{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[ \text{LATINtext} \]  
\[ \text{latin} \]  
\[ \text{LATINmath} \]  
\[ \text{latin} \]  
\end{document}
```

*ABCDEFGHIJKLMNOPQRSTUVWXYZ*  
*abcdefghijklmnopqrstuvwxyz*  
*ABCDEFGHIJKLMNOPQRSTUVWXYZ*  
*abcdefghijklmnopqrstuvwxyz*

### 2 Test 001b

```
\input{umtest-preamble}  
\usepackage[math-style=ISO]{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[ \text{LATINtext} \]  
\[ \text{latin} \]  
\[ \text{LATINmath} \]  
\[ \text{latin} \]  
\end{document}
```

*ABCDEFGHIJKLMNOPQRSTUVWXYZ*  
*abcdefghijklmnopqrstuvwxyz*  
*ABCDEFGHIJKLMNOPQRSTUVWXYZ*  
*abcdefghijklmnopqrstuvwxyz*

### 3 Test 001c

```
\input{umtest-preamble}  
\usepackage[math-style=literal]{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[ \text{LATINtext} \]  
\[ \text{latin} \]  
\[ \text{LATINmath} \]  
\[ \text{latin} \]  
\end{document}
```

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
*abcdefghijklmnopqrstuvwxyz*  
ABCDEFGHIJKLMNOPQRSTUVWXYZ  
*abcdefghijklmnopqrstuvwxyz*

### 4 Test 001d

```
\input{umtest-preamble}  
\usepackage[math-style=French]{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[ \text{LATINtext} \]  
\[ \text{latin} \]  
\[ \text{LATINmath} \]  
\[ \text{latin} \]  
\end{document}
```

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
*abcdefghijklmnopqrstuvwxyz*  
ABCDEFGHIJKLMNOPQRSTUVWXYZ  
*abcdefghijklmnopqrstuvwxyz*

### 5 Test 002a

```
\input{umtest-preamble}  
\usepackage[math-style=TeX]{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[ \text{GREEKtext} \]  
\[ \text{greek} \]  
\[ \text{GREEKmath} \]  
\[ \text{greek} \]  
\end{document}
```

ΑΒΓΔΕΖΗΘΙΚΑΜΝΞΟΠΡΣΤΥΦΧΨΩ  
*αβγδεζηθικλμνξοπρρςστυφφχψω*  
ΑΒΓΔΕΖΗΘΙΚΑΜΝΞΟΠΡΣΤΥΦΧΨΩ  
*αβγδεζηθικλμνξοπρρςστυφφχψω*

## 6 Test 002b

```
\input{umtest-preamble}  
\usepackage[math-style=ISO]{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[\GREEKtext\  
\[\greektext\  
\[\GREEKmath\  
\[\greekmath\  
\end{document}
```

*ΑΒΓΔΕΖΗΘΘΙΚΛΜΝΞΟΠΡΣΤΥΦΧΨΩ*  
*αβγδεεζηθικκλμνξοπρρςστυφφχψω*  
*ΑΒΓΔΕΖΗΘΘΙΚΛΜΝΞΟΠΡΣΤΥΦΧΨΩ*  
*αβγδεεζηθικκλμνξοπρρςστυφφχψω*

## 7 Test 002c

```
\input{umtest-preamble}  
\usepackage[math-style=literal]{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[\GREEKtext\  
\[\greektext\  
\[\GREEKmath\  
\[\greekmath\  
\end{document}
```

*ΑΒΓΔΕΖΗΘΘΙΚΛΜΝΞΟΠΡΣΤΥΦΧΨΩ*  
*αβγδεεζηθικκλμνξοπρρςστυφφχψω*  
*ΑΒΓΔΕΖΗΘΘΙΚΛΜΝΞΟΠΡΣΤΥΦΧΨΩ*  
*αβγδεεζηθικκλμνξοπρρςστυφφχψω*

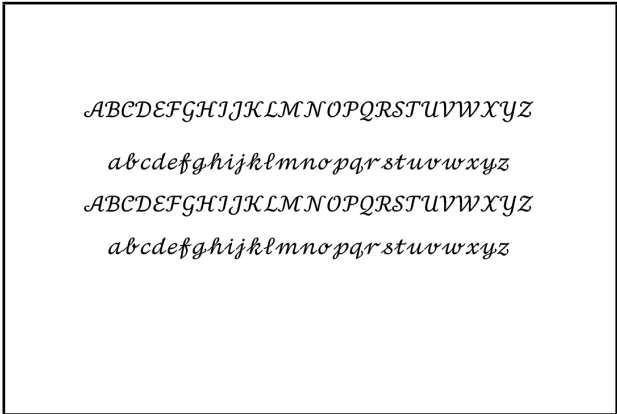
## 8 Test 002d

```
\input{umtest-preamble}  
\usepackage[math-style=French]{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[\GREEKtext\  
\[\greektext\  
\[\GREEKmath\  
\[\greekmath\  
\end{document}
```

*ΑΒΓΔΕΖΗΘΘΙΚΛΜΝΞΟΠΡΣΤΥΦΧΨΩ*  
*αβγδεεζηθικκλμνξοπρρςστυφφχψω*  
*ΑΒΓΔΕΖΗΘΘΙΚΛΜΝΞΟΠΡΣΤΥΦΧΨΩ*  
*αβγδεεζηθικκλμνξοπρρςστυφφχψω*

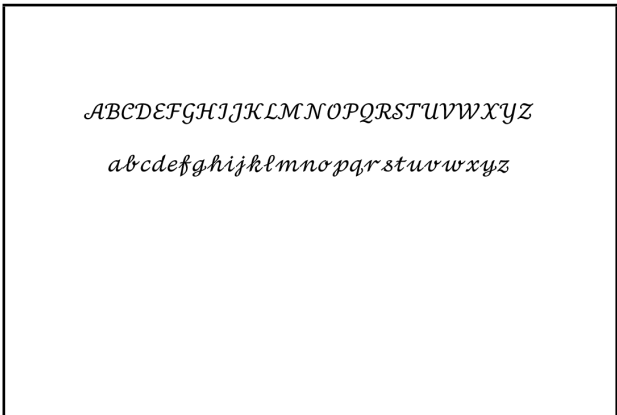
## 9 Test 010a

```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont{Cambria Math}
\begin{document}
\[\mathscr{\text{LATINtext}}\]
\[\mathscr{\text{latintext}}\]
\[\mathscr{\text{LATINmath}}\]
\[\mathscr{\text{latinmath}}\]
\end{document}
```



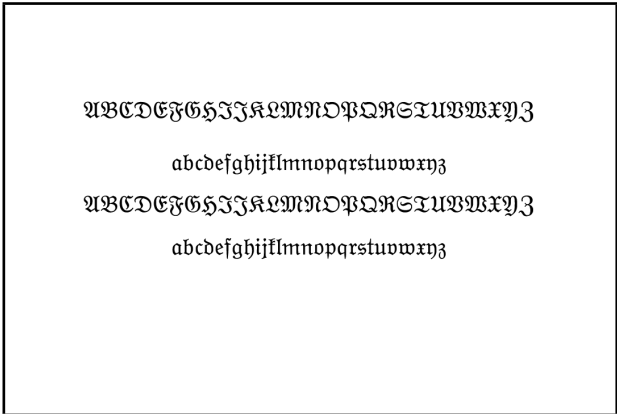
## 10 Test 010b

```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont{Cambria Math}
\begin{document}
\[\text{LATINmathscr}\]
\[\text{latinmathscr}\]
\[\text{reservedmathscr}\]
\end{document}
```



## 11 Test 010c

```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont{Cambria Math}
\begin{document}
\[\mathfrak{\text{LATINtext}}\]
\[\mathfrak{\text{latintext}}\]
\[\mathfrak{\text{LATINmath}}\]
\[\mathfrak{\text{latinmath}}\]
\end{document}
```



## 12 Test 010d

```
\input{umtest-preamble}  
\usepackage{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[\LATINmathfrak{\}  
\[\latinmathfrak{\}  
\[\reservedmathfrak{\}  
\end{document}
```

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz

## 13 Test 011a

```
\input{umtest-preamble}  
\usepackage{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[\mathup{\LATINtext}\]  
\[\mathup{\latintext}\]  
\[\mathup{\LATINmath}\]  
\[\mathup{\latinmath}\]  
\end{document}
```

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz

## 14 Test 011b

```
\input{umtest-preamble}  
\usepackage{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[\mathup{\GREEKtext}\]  
\[\mathup{\greektext}\]  
\[\mathup{\GREEKmath}\]  
\[\mathup{\greekmath}\]  
\end{document}
```

ABΓΔΕΖΗΘΙΚΛΜΝΞΟΠΡΣΤΥΦΧΨΩ  
αβγδεζηθικλμνξοπρρςστυφχψω  
ABΓΔΕΖΗΘΙΚΛΜΝΞΟΠΡΣΤΥΦΧΨΩ  
αβγδεζηθικλμνξοπρρςστυφχψω

## 15 Test 012a

```
\input{umtest-preamble}  
\usepackage{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[\mathit{\LATINText}\]  
\[\mathit{\latintext}\]  
\[\mathit{\LATINmath}\]  
\[\mathit{\latinmath}\]  
\end{document}
```

*ABCDEFGHIJKLMNOPQRSTUVWXYZ*  
*abcdefghijklmnopqrstuvwxyz*  
*ABCDEFGHIJKLMNOPQRSTUVWXYZ*  
*abcdefghijklmnopqrstuvwxyz*

## 16 Test 012b

```
\input{umtest-preamble}  
\usepackage{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[\mathit{\GREEKtext}\]  
\[\mathit{\greektext}\]  
\[\mathit{\GREEKmath}\]  
\[\mathit{\greekmath}\]  
\end{document}
```

*ΑΒΓΔΕΖΗΘΙΚΛΜΝΞΟΠΡΣΤΥΦΧΨΩ*  
*αβγδεζηθικλμνξοπρρςστυφχψω*  
*ΑΒΓΔΕΖΗΘΙΚΛΜΝΞΟΠΡΣΤΥΦΧΨΩ*  
*αβγδεζηθικλμνξοπρρςστυφχψω*

## 17 Test 013a

```
\input{umtest-preamble}  
\usepackage{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[\mathbb{\LATINText}\]  
\[\mathbb{\latintext}\]  
\[\mathbb{\LATINmath}\]  
\[\mathbb{\latinmath}\]  
\end{document}
```

*ABCDEFGHIJKLMNOPQRSTUVWXYZ*  
*abcdefghijklmnopqrstuvwxyz*  
*ABCDEFGHIJKLMNOPQRSTUVWXYZ*  
*abcdefghijklmnopqrstuvwxyz*

# 18 Test 013b

```
\input{umtest-preamble}  
\usepackage{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[\mathbb{0123456789}\]  
\[\numbersmathbb\]  
\end{document}
```

0123456789

0123456789

# 19 Test 013c

```
\input{umtest-preamble}  
\usepackage{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[\LATINmathbb\]  
\[\latinmathbb\]  
\[\reservedmathbb\]  
\end{document}
```

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

# 20 Test 014a

```
\input{umtest-preamble}  
\usepackage{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[\mathsfup{\LATINtext}\]  
\[\mathsfup{\latintext}\]  
\[\mathsfup{\LATINmath}\]  
\[\mathsfup{\latinmath}\]  
\end{document}
```

ABCDEFGHIJKLMNOPQRSTUVWXYZ

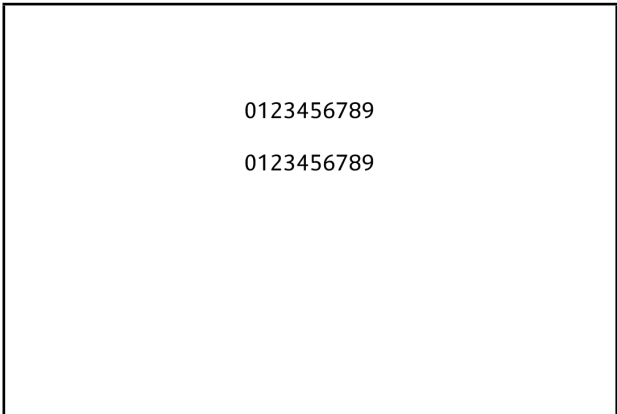
abcdefghijklmnopqrstuvwxyz

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

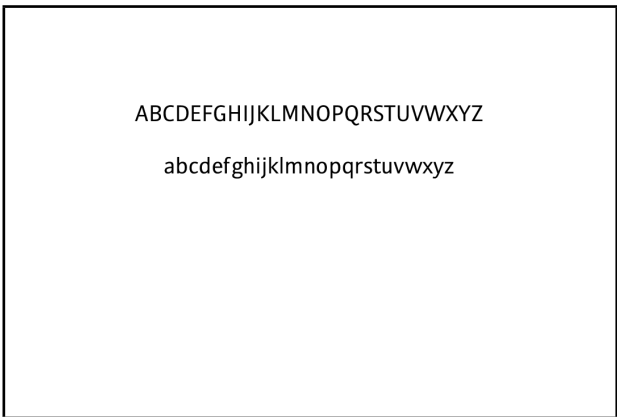
## 21 Test 014b

```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont{Cambria Math}
\begin{document}
\[\mathsfup{0123456789}\]
\[\mathsfup{0123456789}\]
\end{document}
```



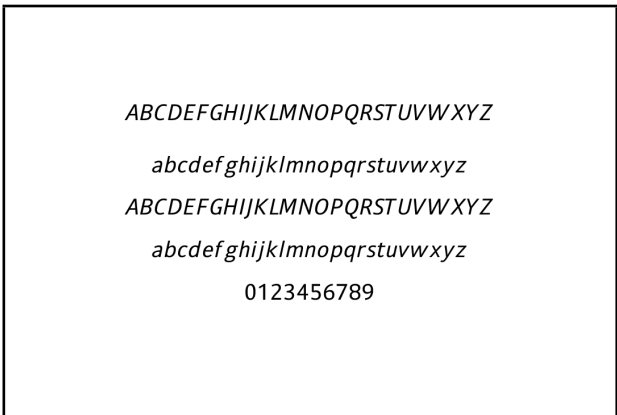
## 22 Test 014c

```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont{Cambria Math}
\begin{document}
\[\mathsfup{ABCDEFGHIJKLMNOPQRSTUVWXYZ}\]
\[\mathsfup{abcdefghijklmnopqrstuvwxyz}\]
\end{document}
```



## 23 Test 015a

```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont{Cambria Math}
\begin{document}
\[\mathsfup{ABCDEFGHIJKLMNOPQRSTUVWXYZ}\]
\[\mathsfup{abcdefghijklmnopqrstuvwxyz}\]
\[\mathsfup{ABCDEFGHIJKLMNOPQRSTUVWXYZ}\]
\[\mathsfup{abcdefghijklmnopqrstuvwxyz}\]
\[\mathsfup{0123456789}\]
\end{document}
```





## 24 Test 015b

```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont{Cambria Math}
\begin{document}
\[\backslash\mathrm{LATINmathsf}\backslash]
\[\backslash\mathrm{latinmathsf}\backslash]
\end{document}
```

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz

## 25 Test 016a

```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont{Asana Math}
\begin{document}
\[ \mathhtt{\backslash LATINtext} \backslash ]
\[ \mathhtt{\backslash latintext} \backslash ]
\[ \mathhtt{\backslash LATINmath} \backslash ]
\[ \mathhtt{\backslash latinmath} \backslash ]
\end{document}
```

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz

## 26 Test 016b

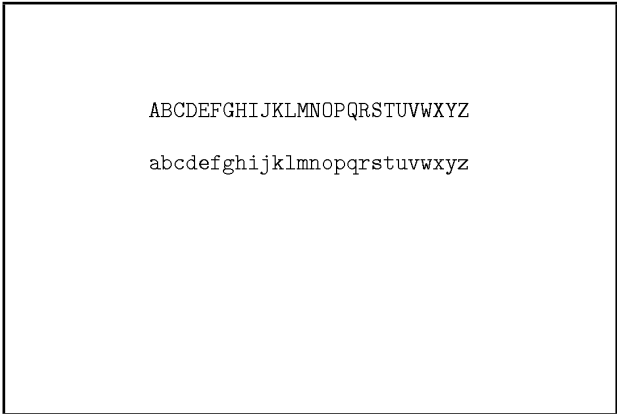
```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont{Asana Math}
\begin{document}
\[ \mathhtt{\text{0123456789}} \]
\[ \text{\texttt{numbersmath\texttt{}}} \]
\end{document}
```

0123456789

0123456789

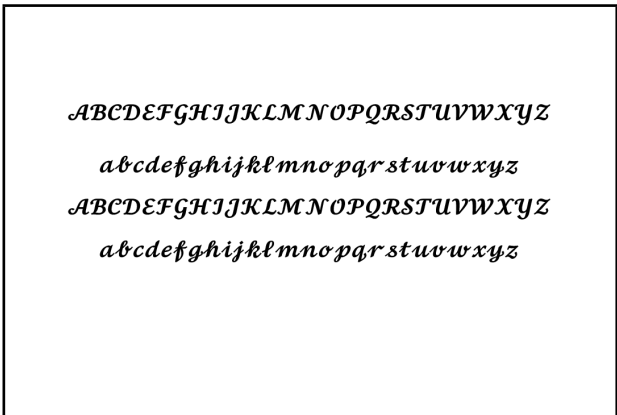
## 27 Test 016c

```
\input{umtest-preamble}  
\usepackage{unicode-math}  
\setmathfont{Asana Math}  
\begin{document}  
\[ \mathbb{A} \]  
\[ \mathbb{a} \]  
\end{document}
```



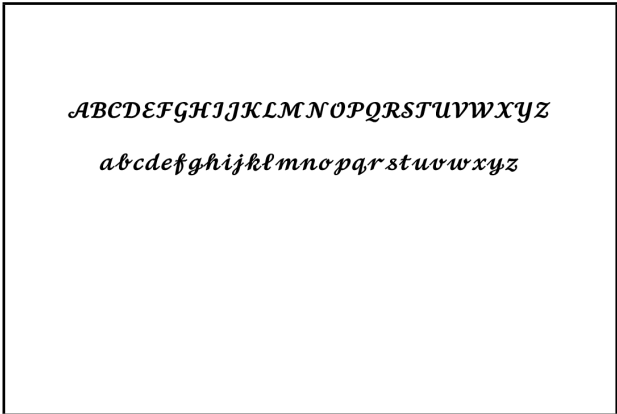
## 28 Test 017a

```
\input{umtest-preamble}  
\usepackage{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[ \mathbf{A} \]  
\[ \mathbf{a} \]  
\[ \mathbb{A} \]  
\[ \mathbb{a} \]  
\end{document}
```



## 29 Test 017b

```
\input{umtest-preamble}  
\usepackage{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[ \mathbb{A} \]  
\[ \mathbb{a} \]  
\end{document}
```



### 30 Test 017c

```
\input{umtest-preamble}  
\usepackage{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[\mathbbfrak{\text{LATINtext}}\]  
\[\mathbbfrak{\text{latintext}}\]  
\[\mathbbfrak{\text{LATINmath}}\]  
\[\mathbbfrak{\text{latinmath}}\]  
\end{document}
```

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz

### 31 Test 017d

```
\input{umtest-preamble}  
\usepackage{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[\mathbbfrak{\text{LATINmath}}\]  
\[\mathbbfrak{\text{latinmath}}\]  
\end{document}
```

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz

### 32 Test 018a

```
\input{umtest-preamble}  
\usepackage{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[\mathbfup{\text{LATINtext}}\]  
\[\mathbfup{\text{latintext}}\]  
\[\mathbfup{\text{LATINmath}}\]  
\[\mathbfup{\text{latinmath}}\]  
\[\mathbfup{0123456789}\]  
\end{document}
```

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
0123456789

### 33 Test 018b

```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont{Cambria Math}
\begin{document}
\[\mathbfup{\GREEKtext}\]
\[\mathbfup{\greektext}\]
\[\mathbfup{\GREEKmath}\]
\[\mathbfup{\greekmath}\]
\end{document}
```

ΑΒΓΔΕΖΗΘΘΙΚΑΜΝΞΟΠΡΣΤΥΦΧΨΩ  
αβγδεεζηθθικκλμνξοπωρρςστυφφχψω  
ΑΒΓΔΕΖΗΘΘΙΚΑΜΝΞΟΠΡΣΤΥΦΧΨΩ  
αβγδεεζηθθικκλμνξοπωρρςστυφφχψω

### 34 Test 019a

```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont{Cambria Math}
\begin{document}
\[\mathbf{it}{\LATINtext}\]
\[\mathbf{it}{\latintext}\]
\[\mathbf{it}{\LATINmath}\]
\[\mathbf{it}{\latinmath}\]
\[\mathbf{it}{0123456789}\]
\end{document}
```

ΑΒΓΔΕΖΗΘΙΚΛΜΝΟΠΡΣΤΥΨΧΖ  
*abcdefghijklmnopqrstuvwxyz*  
ΑΒΓΔΕΖΗΘΙΚΛΜΝΟΠΡΣΤΥΨΧΖ  
*abcdefghijklmnopqrstuvwxyz*  
0123456789

### 35 Test 019b

```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont{Cambria Math}
\begin{document}
\[\mathbf{it}{\GREEKtext}\]
\[\mathbf{it}{\greektext}\]
\[\mathbf{it}{\GREEKmath}\]
\[\mathbf{it}{\greekmath}\]
\end{document}
```

ΑΒΓΔΕΖΗΘΘΙΚΑΜΝΞΟΠΡΣΤΥΦΧΨΩ  
αβγδεεζηθθικκλμνξοπωρρςστυφφχψω  
ΑΒΓΔΕΖΗΘΘΙΚΑΜΝΞΟΠΡΣΤΥΦΧΨΩ  
αβγδεεζηθθικκλμνξοπωρρςστυφφχψω

### 36 Test 020a

```
\input{umtest-preamble}  
\usepackage{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[\mathbfsfit{\LATINText}\]  
\[\mathbfsfit{\latintext}\]  
\[\mathbfsfit{\LATINmath}\]  
\[\mathbfsfit{\latinmath}\]  
\[\mathbfsfit{0123456789}\]  
\end{document}
```

*ABCDEFGHIJKLMNOPQRSTUVWXYZ*  
*abcdefghijklmnopqrstuvwxyz*  
*ABCDEFGHIJKLMNOPQRSTUVWXYZ*  
*abcdefghijklmnopqrstuvwxyz*  
**0123456789**

### 37 Test 020b

```
\input{umtest-preamble}  
\usepackage{unicode-math}  
\setmathfont{STIXGeneral-Bold}  
\begin{document}  
\[\mathbfsfup{\GREEKtext}\]  
\[\mathbfsfup{\greektext}\]  
\[\mathbfsfup{\GREEKmath}\]  
\[\mathbfsfup{\greekmath}\]  
\end{document}
```

**ΑΒΓΔΕΖΗΘΘΙΚΛΜΝΞΟΠΡΣΤΥΦΧΨΩ**  
**αβγδεζηθδικκλμνξοπρρςστυφχψω**  
**ΑΒΓΔΕΖΗΘΘΙΚΛΜΝΞΟΠΡΣΤΥΦΧΨΩ**  
**αβγδεζηθδικκλμνξοπρρςστυφχψω**

### 38 Test 021a

```
\input{umtest-preamble}  
\usepackage{unicode-math}  
\setmathfont{Cambria Math}  
\begin{document}  
\[\mathbfsfit{\LATINText}\]  
\[\mathbfsfit{\latintext}\]  
\[\mathbfsfit{\LATINmath}\]  
\[\mathbfsfit{\latinmath}\]  
\[\mathbfsfit{0123456789}\]  
\end{document}
```

*ABCDEFGHIJKLMNOPQRSTUVWXYZ*  
*abcdefghijklmnopqrstuvwxyz*  
*ABCDEFGHIJKLMNOPQRSTUVWXYZ*  
*abcdefghijklmnopqrstuvwxyz*  
**0123456789**

<code>\ambl</code>	$AB\Gamma\Delta EZH\Theta\Theta IK\Lambda MN\Xi O$
<code>\amde-math</code>	$\alpha\beta\gamma\delta\epsilon\zeta\eta\theta\iota\kappa\chi\lambda\mu\nu\zeta\omicron\pi\rho$
<code>\amGeneral-BoldItalic</code>	$\alpha\beta\gamma\delta\epsilon\zeta\eta\theta\iota\kappa\chi\lambda\mu\nu\zeta\omicron\pi\rho$
<code>\amEEKtext\}</code>	$AB\Gamma\Delta EZH\Theta\Theta IK\Lambda MN\Xi O$
<code>\amEEKtext\}</code>	$\alpha\beta\gamma\delta\epsilon\zeta\eta\theta\iota\kappa\chi\lambda\mu\nu\zeta\omicron\pi\rho$
<code>\amEEKmath\}</code>	
<code>\amEEKmath\}</code>	

<code>\rm\bf\mathit{ABΓΔΕΖΗΘΘΙΚΛΜΝΞΟΠΡ}</code>	<i><b>ABΓΔΕΖΗΘΘΙΚΛΜΝΞΟΠΡ</b></i>
<code>\rm\bf\mathit{αβγδεεζηθθικκλμνξοπωρ}</code>	<i><b>αβγδεεζηθθικκλμνξοπωρ</b></i>
<code>\rm\bf\mathit{ABΓΔΕΖΗΘΘΙΚΛΜΝΞΟΠΡ}</code>	<i><b>ABΓΔΕΖΗΘΘΙΚΛΜΝΞΟΠΡ</b></i>
<code>\rm\bf\mathit{αβγδεεζηθθικκλμνξοπωρ}</code>	<i><b>αβγδεεζηθθικκλμνξοπωρ</b></i>

<pre> \begin{document} \begin{math} \text{aria Math} \end{math} \end{document} </pre>	$\left(\left(\left(\left(\left(x^2\right)^2\right)^2\right)^2\right)^2\right)$
<pre> \left( \left( \left( \left( x \right)^2 \right) \right) \right)^2 \right) </pre>	

<pre> \amalg \end{math} \begin{math} \big(((((x^2)^2)^2)^2) </pre>	$\big(((((x^2)^2)^2)^2)$
--	--------------------------

<pre> \begin{document} \begin{math} \left(\left(\left(\left(x^2\right)^2\right)^2\right)^2\right)^2 \end{math} \end{document} </pre>	$\left(\left(\left(\left(x^2\right)^2\right)^2\right)^2\right)^2$
--	---

<pre> \sample} \de-math} \ria_Math\ </pre>	$\left[\left[\left[\left[x^2\right]^2\right]^2\right)^2\right]^2$
--	---

## 42 Test 100c

[illegible]

$$\left\{\left\{\left\{\left\{\left\{\left\{x^2\right\}^2\right\}^2\right\}^2\right\}^2\right\}^2\right\}$$

## 43 Test 100d

```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont{Cambria Math}
\begin{document}
\[ \left| \left| \left| \left| \left| \left| x \right|^2 \right|^2 \right|^2 \right|^2 \right|^2 \right|^2 \\
\left| \left| \left| \left| \left| \left| y \right|^2 \right|^2 \right|^2 \right|^2 \right|^2 \right|^2 \\
\end{array}
```

$$\left| \left| \left| \left| \left| \left| x^2 \right|^2 \right|^2 \right|^2 \right|^2 \right|^2 \right|^2$$

$$\left| \left| \left| \left| \left| \left| x^2 \right|^2 \right|^2 \right|^2 \right|^2 \right|^2 \right|^2$$

## 44 Test 100e

```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont{Cambria Math}
\begin{document}
\[ \left[ \left[ \left[ \left[ \left[ \left[ x \right. \right. \right. \right. \right. \right. \right.
\right]^2 \right]^2 \right]^2 \right]^2 \right]^2 \right]^2
\]
\[ \left\Vert \left\Vert \left\Vert \left\Vert \left\Vert \left\Vert x \right. \right. \right. \right. \right. \right. \right.
\right\Vert^2 \right\Vert^2 \right\Vert^2 \right\Vert^2 \right\Vert^2 \right\Vert^2
\end{document}
```

[illegible]

[illegible]

## 45 Test 150a

```
\input{umtest-preamble}
\usepackage{amsmath,unicode-math}
\setmathfont{Cambria Math}
\begin{document}
\centerline{$\int\!\!\!\int\!\!\!\int$}
\[ \int\!\!\!\int\!\!\!\int \]
\end{document}
```

$$\begin{array}{cc} \int & \int \cdots \int \\ \int & \int \cdots \int \end{array}$$

## 46 Test 151a

```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont{Cambria Math}
\begin{document}
\[ \hat i \quad \hat x \quad \hat M \quad \hat N ]
\[ \widehat i \quad \widehat x \quad \widehat M \quad \widehat N ]
\[ \tilde i \quad \tilde x \quad \tilde M \quad \tilde N ]
\[ \widetilde i \quad \widetilde x \quad \widetilde M \quad \widetilde N ]
\end{document}
```

$\hat{i}$	$\hat{x}$	$\hat{M}$	$\widehat{x+y}$
$\hat{l}$	$\hat{x}$	$\hat{M}$	$\widehat{x+y}$
$\tilde{l}$	$\tilde{x}$	$\tilde{M}$	$\widetilde{x+y}$
$\tilde{l}$	$\tilde{x}$	$\tilde{M}$	$\widetilde{x+y}$

## 47 Test 200a

```
\input{umtest-preamble}
\usepackage{amsmath,unicode-math}
\setmathfont{Cambria Math}
\begin{document}
  [${x\prime\prime\prime}$]
  [${x\prime\prime\prime\prime\prime\prime}$]
  [${x'}$]
  [${x'''}$]
  [${x''''''}$]
  [${x^2}$]
  [${x^{222}}$]
  [${x^{22}''^2\prime^2}$]
\end{document}
```

$$[x'''] \quad [x'''''] \quad [x'] \quad [x'''] \quad [x'''''] \quad [x'] \quad [x'''] \quad [x''''']$$



## 48 Test 201a

```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont{Cambria Math}
\begin{document}
\[ \sqrt{\sin^2 x + \cos^2 x} = 1 \quad \sqrt{1 + \sqrt{1 + \sqrt{1 + \sqrt{1 + x}}}} \]
\end{document}
```

$$\sqrt{\sin^2 x + \cos^2 x} = 1$$

$$\sqrt{1 + \sqrt{1 + \sqrt{1 + \sqrt{1 + x}}}}$$

## 49 Test 202a

```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont{Cambria Math}
\begin{document}
\[ a \colon b \quad a : b \quad a : b \quad a \qquad a^{2236} b \]
\end{document}
```

$$a \colon b \quad a : b \quad a : b$$

## 50 Test 202b

```
\input{umtest-preamble}
\usepackage[colon=literal]{unicode-math}
\setmathfont{Cambria Math}
\begin{document}
\[ a \colon b \quad a : b \quad a : b \quad a \qquad a^{2236} b \]
\end{document}
```

$$a \colon b \quad a : b \quad a : b$$

51 Test 203a

```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont{Cambria Math}
\begin{document}
\[a-b\]
\[a\minus b\]
\end{document}
```

$a-b$

$a-b$

52 Test 204a

```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont{Cambria Math}
\setlength\parskip{12pt}
\begin{document}
 $\mathcal{X}_{012}$   $\mathcal{X}_{123}$   $\mathcal{X}_{234}$   $\mathcal{X}_{345}$   $\mathcal{X}_{456}$   $\mathcal{X}_{567}$   $\mathcal{X}_{678}$   $\mathcal{X}_{789}$   $\mathcal{X}_{89+}$ 
 $\mathcal{X}_{9+-}$   $\mathcal{X}_{+-}$   $\mathcal{X}_{-}$   $\mathcal{X}_{(=)}$   $\mathcal{X}_{(=)}$   $\mathcal{X}_{(=)}$   $\mathcal{X}_{(=)}$   $\mathcal{X}_{(=)}$   $\mathcal{X}_{(=)}$   $\mathcal{X}_{(=)}$ 
 $\mathcal{X}^{0i+}n2$   $\mathcal{X}^{i+}n2$   $\mathcal{X}^{n2}$   $\mathcal{X}^{2i+}n$ 
 $\mathcal{X}_{34}^{2i+}n$ 
\end{document}
```

$\mathcal{X}_{012}$   $\mathcal{X}_{123}$   $\mathcal{X}_{234}$   $\mathcal{X}_{345}$   $\mathcal{X}_{456}$   $\mathcal{X}_{567}$   $\mathcal{X}_{678}$   $\mathcal{X}_{789}$   $\mathcal{X}_{89+}$

$\mathcal{X}_{9+-}$   $\mathcal{X}_{+-}$   $\mathcal{X}_{-}$   $\mathcal{X}_{(=)}$   $\mathcal{X}_{(=)}$   $\mathcal{X}_{(=)}$   $\mathcal{X}_{(=)}$   $\mathcal{X}_{(=)}$   $\mathcal{X}_{(=)}$   $\mathcal{X}_{(=)}$

$\mathcal{X}^{0i+}n2$   $\mathcal{X}^{i+}n2$   $\mathcal{X}^{n2}$   $\mathcal{X}^{2i+}n$

$\mathcal{X}_{34}^{2i+}n$

53 Test 205a

```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont{Cambria Math}
\begin{document}
\[\iiint_V\]
\removenolimits\iiint
\[\iiint_V\]
\addnolimits\iiint
\[\iiint_V\]
\end{document}
```

$\iiint_V$

$\iiint_V$

$\iiint_V$

## 54 Test 500a

```
\input{umtest-preamble}
\usepackage{unicode-math}
\setmathfont[Colour=000000]{Cambria Math}
\setmathfont[Range={\mathop}, Colour=FF0000]{Cambria Math}
\setmathfont[Range={\equal}, Colour=009900]{Cambria Math}
\setmathfont[Range={\mathopen,\mathclose},
              Colour=0000FF]{Cambria Math}
\setlength\parskip{12pt}
\begin{document}
\[
F(s)=\mathscr{L}\left\{f(t)\right\}=
\int_0^\infty \mathop{e}\nolimits^{-st}f(t)\,dt
\]
\end{document}
```

$$F(s) = \mathcal{L}\{f(t)\} = \int_0^\infty e^{-st} f(t) dt$$