

To be able to see the difference between text and math mode I switch to a sans serif font. The math mode stays with serifs.

text mode:

1234 abc  
 1234.1234 abc  
 1,234.123,45 abc  
 12,345.123,45  
 1,234,567,890  
 1,234,567,890 mm  
 12,345.123,45 MPa $\sqrt{\text{m}}$   
 1,234,567,890.123,456,789,0, 1,234,567,890.123,456,789,0  
 $+123,456, +1,234,567, +12,345,678$   
 $-123,456, -1,234,567, -12,345,678$   
 $\pm 123,456, \pm 1,234,567, \pm 12,345,678$   
 $12,345,678.123,456,78 \times 10^{1234.1234}$   
 $12,345,678.123,456,78 \times 10^{+1234.1234}$   
 $12,345,678.123,456,78 \times 10^{1234}$   
 $10^{1234}$   
 $+10^{1234}$   
 $-10^{1234}$   
 $\pm 10^{1234}$   
 $\pm 10^{1234}$

math mode:

1234.1234  
 12,345.123,45  
 1,234,567,890%  
 1,234,567,890 mm  
 12,345.123,45 MPa $\sqrt{\text{m}}$   
 1,234,567,890.123,456,789,0, 1,234,567,890.123,456,789,0  
 $+123,456, +1,234,567, +12,345,678$   
 $-123,456, -1,234,567, -12,345,678$   
 $\pm 123,456, \pm 1,234,567, \pm 12,345,678$   
 $12,345,678.123,456,78 \times 10^{1234.1234}$   
 $12,345,678.123,456,78 \times 10^{+1234.1234}$   
 $12,345,678.123,456,78 \times 10^{1234}$   
 $10^{1234}$   
 $+10^{1234}$   
 $-10^{1234}$   
 $\pm 10^{1234}$   
 $\pm 10^{1234}$   
 1.0  
 0.1  
 0.1

$$1.0 \times 10^5$$

Round to 2 digits resp. 1 digit in exponents:

$$12,345,678.12 \times 10^{1234.1}$$

$$12,345,678.12 \times 10^{+1234.1}$$

$$12,345,678.12 \times 10^{1234.0}$$

Round to 0 digits:

$$12,345,678$$

$$12,345,678$$

$$12,345,678$$

$$12,345,678$$

Replace zero by —:

$$12,345,678.—$$

$$12,345,678.12$$

$$12,345,678.—$$

Don't add missing zero:

$$1.$$

$$.1$$

$$1. \times 10^5$$

English:

$$12,345,678.123,456,78 \times 10^{1234}$$

German:

$$12\,345\,678,123\,456\,78 \cdot 10^{1234}$$

Portuguese:

$$12\,345\,678,123\,456\,78 \cdot 10^{1234}$$

English:

$$12,345,678.123,456,78 \times 10^{1234}$$

$$\text{German (foreignlanguage): } 12\,345\,678,123\,456\,78 \cdot 10^{1234}$$

Padding:

$$12,345.123,4 \times 10^{1234}$$

$$0,012,345.123,4 \times 10^{1234}$$

$$12,345.123,4 \times 10^{1234}$$

$$0,012,345.123,4 \times 10^{1234}$$

$$x,x12,345.123,4 \times 10^{1234}$$

$$12,345.123,4 \times 10^{1234}$$

tabulars:

1.1	$\times 10^1$
12.12	$\times 10^{12}$
123.123	$\times 10^{123}$
1234.1234	$\times 10^{1234}$
12,345.123,45	$\times 10^{1234.1}$
123,456.123,45	

1.1	
12.12	
123.123	
1.1	$\times 10^{-1}$
12.12	$\times 10^{-12}$
123.123	$\times 10^{-123}$
1234.1234	$\times 10^{-1234}$
12,345.123,45	$\times 10^{-1234.1}$
12,345.123,45	$\times 10^{-12,345.1}$
123,456.123,45	
1.1	$\times 10^{-1}$
12.12	$\times 10^{-12}$
123.123	$\times 10^{-123}$
1234.1234	$\times 10^{-1234}$
12,345.123,45	$\times 10^{-1234.1}$
12,345.123,45	$\times 10^{-12,345.1}$
123,456.123,45	
1.1	
12.12	
123.123	
1234.1234	
1.1	$\times 10^{-1}$
12.12	$\times 10^{-12}$
123.123	$\times 10^{-123}$
1234.1234	$\times 10^{-1234}$
12,345.123,45	$\times 10^{-1234.1}$
12,345.123,45	$\times 10^{-12,345.1}$
123,456.123,45	
1.1	
12.12	
123.123	
1234.1234	
1.1	
12.12	
123.123	
1234.1234	
1,234.123,45	
<b>+12,343.000 <math>\times 10^{-3}</math></b>	
<b>1234.000</b>	
<b>+12,343.000 <math>\times 10^{-3}</math></b>	
<b>1234.000</b>	
<b>+12,343.000 <math>\times 10^{-3}</math></b>	
<b>1234.000</b>	



Mathe		Text	
Mathe		Text	
1.1	asdf	1.1	asdf
12.12		12.12	
123.123		123.123	
1234.1234		1234.1234	
1,234.123,45	asdf	1,234.123,45	asdf

$$\begin{pmatrix} 1.1 \\ 12.12 \\ 123.123 \\ 1234.1234 \\ 1,234.123,45 \end{pmatrix} = \begin{pmatrix} \textit{moin} & 1.1 \\ \textit{moin} & 12.12 \\ \textit{moin} & 123.123 \\ \textit{moin} & 1234.1234 \\ \textit{moin} & 1,234.123,45 \end{pmatrix} \quad (1)$$

1,234.123,45  
 1234  
 987       $123.3 \times 10^5 654$   
 987123,3e5654  
 987    123.3       $\times 10^5 654$   
       987      123,3e5654  
       987       $123.3 \times 10^5 654$   
 Test for empty cells:  

12.21	
56.65	34.43

13,413  
14,400.000,0 pt  
14,400.000,0 pt  
5060.9619 mm  
506.0303 cm  
14,346.167,0 bp  
199.2920 in  
16.6992 ft  
16.6992 foot  
5.0537 m  
0.0000 km  
12.1200  
123.1230  
1234.1234