Content LaTeX 2_ε

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1 Commands

1.1 Constants

1.1.1

Command	Inline	Display
\I	i	i
\E	e	e
\PI	π	π
\GoldenRatio	φ	φ
\EulerGamma	γ	γ
\Catalan	C	C
\Glaisher	Glaisher	Glaisher
\Khinchin	Khinchin	Khinchin

1.1.2 Symbols

\Infinity	∞	∞
\Indeterminant	¿	¿
\DirectedInfinity{z}	$z\,\infty$	$z\,\infty$
\DirInfty{z}	$z\,\infty$	$z\,\infty$
\ComplexInfinity	$\tilde{\infty}$	$\tilde{\infty}$
\CInfty	$\tilde{\infty}$	$\tilde{\infty}$

1.2

1.2.1 Exponential and Logarithmic Functions

Command	Inline	Display
`\Exp{5x}`	$\exp(5x)$	$\exp(5x)$
`\Style{ExpParen=b}`		
`\Exp{5x}`	$\exp[5x]$	$\exp[5x]$
`\Style{ExpParen=br}`		
`\Exp{5x}`	$\exp\{5x\}$	$\exp\{5x\}$
`\Log{5}`	$\ln 5$	$\ln 5$
`\Log[10]{5}`	$\log 5$	$\log 5$
`\Log[4]{5}`	$\log_4 5$	$\log_4 5$
`\Style{LogBaseESymb=log}`		
`\Log{5}`	$\log 5$	$\log 5$
`\Log[10]{5}`	$\log_{10} 5$	$\log_{10} 5$
`\Log[4]{5}`	$\log_4 5$	$\log_4 5$
`\Style{LogShowBase=always}`		
`\Log{5}`	$\log_e 5$	$\log_e 5$
`\Log[10]{5}`	$\log_{10} 5$	$\log_{10} 5$
`\Log[4]{5}`	$\log_4 5$	$\log_4 5$
`\Style{LogShowBase=at will}`		
`\Log{5}`	$\ln 5$	$\ln 5$
`\Log[10]{5}`	$\log 5$	$\log 5$
`\Log[4]{5}`	$\log_4 5$	$\log_4 5$
`\Style{LogParen=p}`		
`\Log[4]{5}`	$\log_4(5)$	$\log_4(5)$

1.2.2 Trigonometric Functions

`\Sin{x}`	$\sin(x)$	$\sin(x)$
`\Cos{x}`	$\cos(x)$	$\cos(x)$
`\Tan{x}`	$\tan(x)$	$\tan(x)$
`\Csc{x}`	$\csc(x)$	$\csc(x)$
`\Sec{x}`	$\sec(x)$	$\sec(x)$
`\Cot{x}`	$\cot(x)$	$\cot(x)$

1.2.3 Inverse Trigonometric Functions

`\Style{ArcTrig=inverse}` (default)

`\ArcSin{x}`	$\sin^{-1}(x)$	$\sin^{-1}(x)$
`\ArcCos{x}`	$\cos^{-1}(x)$	$\cos^{-1}(x)$
`\ArcTan{x}`	$\tan^{-1}(x)$	$\tan^{-1}(x)$

`\Style{ArcTrig=arc}`

`\ArcSin{x}`	$\arcsin(x)$	$\arcsin(x)$
`\ArcCos{x}`	$\arccos(x)$	$\arccos(x)$
`\ArcTan{x}`	$\arctan(x)$	$\arctan(x)$
`\ArcCsc{x}`	$\csc^{-1}(x)$	$\csc^{-1}(x)$
`\ArcSec{x}`	$\sec^{-1}(x)$	$\sec^{-1}(x)$
`\ArcCot{x}`	$\cot^{-1}(x)$	$\cot^{-1}(x)$

1.2.4 Hyberbolic Functions

`\Sinh{x}`	$\sinh(x)$	$\sinh(x)$
`\Cosh{x}`	$\cosh(x)$	$\cosh(x)$
`\Tanh{x}`	$\tanh(x)$	$\tanh(x)$
`\Csch{x}`	$\operatorname{csch}(x)$	$\operatorname{csch}(x)$
`\Sech{x}`	$\operatorname{sech}(x)$	$\operatorname{sech}(x)$
`\Coth{x}`	$\coth(x)$	$\coth(x)$

1.2.5 Inverse Hyberbolic Functions

`\ArcSinh{x}`	$\sinh^{-1}(x)$	$\sinh^{-1}(x)$
`\ArcCosh{x}`	$\cosh^{-1}(x)$	$\cosh^{-1}(x)$
`\ArcTanh{x}`	$\tanh^{-1}(x)$	$\tanh^{-1}(x)$
`\ArcCsch{x}`	$\operatorname{csch}^{-1}(x)$	$\operatorname{csch}^{-1}(x)$
`\ArcSech{x}`	$\operatorname{sech}^{-1}(x)$	$\operatorname{sech}^{-1}(x)$
`\ArcCoth{x}`	$\coth^{-1}(x)$	$\coth^{-1}(x)$

1.2.6 Product Logarithms

Command	Inline	Display
`\LambertW{z}`	$W(z)$	$W(z)$
`\ProductLog{z}`	$W(z)$	$W(z)$
`\LambertW{k,z}`	$W_k(z)$	$W_k(z)$
`\ProductLog{k,z}`	$W_k(z)$	$W_k(z)$

1.2.7 Max and Min

`\Max{1,2,3,4,5}`	$\max(1,2,3,4,5)$	$\max(1,2,3,4,5)$
`\Min{1,2,3,4,5}`	$\min(1,2,3,4,5)$	$\min(1,2,3,4,5)$

1.3 Bessel, Airy, and Struve Functions

1.3.1 Bessel

Bessel functions can be 'renamed' with the `\Style` tag. For example, `\Style{BesselYSymb=N}` yields $N_\nu(x)$

Command	Inline	Display
`\BesselJ{0}{x}`	$J_0(x)$	$J_0(x)$
`\BesselY{0}{x}`	$Y_0(x)$	$Y_0(x)$
`\BesselI{0}{x}`	$I_0(x)$	$I_0(x)$
`\BesselK{0}{x}`	$K_0(x)$	$K_0(x)$

1.3.2 Airy

`\AiryAi{x}`	$\mathrm{Ai}(x)$	$\mathrm{Ai}(x)$
`\AiryBi{x}`	$\mathrm{Bi}(x)$	$\mathrm{Bi}(x)$

1.3.3 Struve

`\StruveH{\nu}{x}`	$\mathbf{H}_\nu(x)$	$\mathbf{H}_\nu(x)$
`\StruveL{\nu}{x}`	$\mathbf{L}_\nu(x)$	$\mathbf{L}_\nu(x)$

1.4 Integer Functions

Command	Inline	Display
`\Floor{x}`	$\lfloor x \rfloor$	$\lfloor x \rfloor$
`\Ceiling{x}`	$\lceil x \rceil$	$\lceil x \rceil$
`\Round{x}`	$\lfloor x \rceil$	$\lfloor x \rceil$

1.4.1

`\iPart{x}`	$\mathrm{int}(x)$	$\mathrm{int}(x)$
`\IntegerPart{x}`	$\mathrm{int}(x)$	$\mathrm{int}(x)$
`\fPart{x}`	$\mathrm{frac}(x)$	$\mathrm{frac}(x)$
`\FractionalPart{x}`	$\mathrm{frac}(x)$	$\mathrm{frac}(x)$

1.4.2

`\Style{ModDisplay=mod}` (default)

`\Mod{m}{n}`	$m \mod n$	$m \mod n$
`\Style{ModDisplay=bmod}`		
`\Mod{m}{n}`	$m \bmod n$	$m \bmod n$
`\Style{ModDisplay=pmod}`		
`\Mod{m}{n}`	$m \pmod n$	$m \pmod n$
`\Style{ModDisplay=pod}`		
`\Mod{m}{n}`	$m \ (n)$	$m \ (n)$
`\Quotient{m}{n}`	$\mathrm{quotient}(m,n)$	$\mathrm{quotient}(m,n)$
`\GCD{m, n}`	$\gcd(m,n)$	$\gcd(m,n)$
`\ExtendedGCD{m}{n}`	$\mathrm{egcd}(m,n)$	$\mathrm{egcd}(m,n)$
`\EGCD{m}{n}`	$\mathrm{egcd}(m,n)$	$\mathrm{egcd}(m,n)$
`\LCM{m, n}`	$\mathrm{lcm}(m,n)$	$\mathrm{lcm}(m,n)$

1.4.3

`\Fibonacci{\nu}`	F_ν	F_ν
`\Euler{m}`	E_m	E_m
`\Bernoulli{m}`	B_m	B_m
`\StirlingSOne{n}{m}`	$S_n^{(m)}$	$S_n^{(m)}$
`\StirlingSTwo{n}{m}`	$\mathcal{S}_n^{(m)}$	$\mathcal{S}_n^{(m)}$
`\PartitionsP{n}`	$p(n)$	$p(n)$
`\PartitionsQ{n}`	$q(n)$	$q(n)$

1.4.4

`\DiscreteDelta{n, m}`	$\delta(n,m)$	$\delta(n,m)$
`\KroneckerDelta{n,m}`	δ^{nm}	δ^{nm}
`\KroneckerDelta[d]{n,m}`	δ_{nm}	δ_{nm}
`\LeviCivita{i,j,k}`	ϵ^{ijk}	ϵ^{ijk}
`\LeviCivita[d]{i,j,k}`	ϵ_{ijk}	ϵ_{ijk}
`\Signature{i,j,k}`	ϵ^{ijk}	ϵ^{ijk}
`\Style{LeviCivitaIndicies=up}`		
`\LeviCivita[d]{i,j,k}`	ϵ^{ijk}	ϵ^{ijk}
`\Style{LeviCivitaIndicies=local}`		
`\LeviCivita[d]{i,j,k}`	ϵ_{ijk}	ϵ_{ijk}
`\Style{LeviCivitaUseComma=true}`		
`\LeviCivita[d]{i,j,k}`	$\epsilon_{i,j,k}$	$\epsilon_{i,j,k}$

1.5 Polynomials

Polynomials can be 'renamed' with the `\Style` command:

`\Style{` ⟨*Polynomial command* ⟩`Symb=`⟨*Symbol* ⟩`}`

As in `\Style{HermiteHSymb=h,LegendrePSymb=p}` `$\HermiteH{n}{x}$` `$\LegendreP{n,x}$` yielding: $h_n(x)$ $p_n(x)$

Command	Inline	Display
`\HermiteH{n}{x}`	$H_n(x)$	$H_n(x)$
`\LaugerreL{n,x}`	$L_n(x)$	$L_n(x)$
`\LegendreP{n,x}`	$P_n(x)$	$P_n(x)$
`\ChebyshevT{n}{x}`	$T_n(x)$	$T_n(x)$
`\ChebyshevU{n}{x}`	$U_n(x)$	$U_n(x)$
`\JacobiP{n}{a}{b}{x}`	$P_n^{(a,b)}(x)$	$P_n^{(a,b)}(x)$
`\AssocLegendreP{\ell}{m}{x}`	$P_\ell^m(x)$	$P_\ell^m(x)$
`\AssocLegendreQ{\ell}{m}{x}`	$Q_\ell^m(x)$	$Q_\ell^m(x)$
`\LaugerreL{n,\lambda,x}`	$L_n^\lambda(x)$	$L_n^\lambda(x)$
`\GegenbauerC{n}{\lambda}{x}`	$C_n^\lambda(x)$	$C_n^\lambda(x)$
`\SphericalHarmY{n}{m}{\theta}{\phi}`	$Y_n^m(\theta,\phi)$	$Y_n^m(\theta,\phi)$
`\CyclotomicC{n}{x}`	$C_n(x)$	$C_n(x)$
`\FibonacciF{n}{x}`	$F_n(x)$	$F_n(x)$
`\EulerE{n}{x}`	$E_n(x)$	$E_n(x)$
`\BernoulliB{n}{x}`	$B_n(x)$	$B_n(x)$

1.6 Gamma, Beta, and Error Functions

1.6.1 Factorials

Command	Inline	Display
`\Factorial{n}`	$n!$	$n!$
`\DblFactorial{n}`	$n!!$	$n!!$
`\Binomial{n}{k}`	$\binom{n}{k}$	$\binom{n}{k}$
`\Multinomial{1,2,3,4}`	$(10; 1, 2, 3, 4)$	$(10; 1, 2, 3, 4)$

`\Multinomial{n_1, n_2, \ldots, n_m}`

Inline: $(n_1 + n_2 + \ldots + n_m; n_1, n_2, \ldots, n_m)$

Display: $(n_1 + n_2 + \ldots + n_m; n_1, n_2, \ldots, n_m)$

1.6.2 Gamma Functions

`\GammaFunc{x}`	$\Gamma(x)$	$\Gamma(x)$
`\IncGamma{a}{x}`	$\Gamma(a,x)$	$\Gamma(a,x)$
`\GenIncGamma{a}{x}{y}`	$\Gamma(a,x,y)$	$\Gamma(a,x,y)$
`\RegIncGamma{a}{x}`	$Q(a,x)$	$Q(a,x)$
`\RegIncGammaInv{a}{x}`	$Q^{-1}(a,x)$	$Q^{-1}(a,x)$
`\GenRegIncGamma{a}{x}{y}`	$Q(a,x,y)$	$Q(a,x,y)$
`\GenRegIncGammaInv{a}{x}{y}`	$Q^{-1}(a,x,y)$	$Q^{-1}(a,x,y)$
`\Pochhammer{a}{n}`	$(a)_n$	$(a)_n$
`\LogGamma{x}`	$\log\Gamma(x)$	$\log\Gamma(x)$

1.6.3 Derivatives of Gamma Functions

`\DiGamma{x}`	$F(x)$	$F(x)$
`\PolyGamma{\nu}{x}`	$\psi^{(\nu)}(x)$	$\psi^{(\nu)}(x)$
`\HarmNum{x}`	H_x	H_x
`\HarmNum{x,r}`	$H_x^{(r)}$	$H_x^{(r)}$
`\Beta{a,b}`	$B(a,b)$	$B(a,b)$
`\IncBeta{z}{a}{b}`	$B_z(a,b)$	$B_z(a,b)$
`\GenIncBeta{x}{y}{a}{b}`	$B_{(x,y)}(a,b)$	$B_{(x,y)}(a,b)$
`\RegIncBeta{z}{a}{b}`	$I_z(a,b)$	$I_z(a,b)$
`\RegIncBetaInv{z}{a}{b}`	$I_z^{-1}(a,b)$	$I_z^{-1}(a,b)$
`\GenRegIncBeta{x}{y}{a}{b}`	$B_{(x,y)}(a,b)$	$B_{(x,y)}(a,b)$
`\GenRegIncBetaInv{x}{y}{a}{b}`	$I_{(x,y)}^{-1}(a,b)$	$I_{(x,y)}^{-1}(a,b)$

1.6.4 Error Functions

`\Erf{x}`	$\mathrm{erf}(x)$	$\mathrm{erf}(x)$
`\InvErf{x}`	$\mathrm{erf}^{-1}(x)$	$\mathrm{erf}^{-1}(x)$
`\GenErf{x}y`	$\mathrm{erf}(x,y)$	$\mathrm{erf}(x,y)$
`\GenErfInv{x}{y}`	$\mathrm{erf}^{-1}(x,y)$	$\mathrm{erf}^{-1}(x,y)$
`\Erfc{x}`	$\mathrm{erfc}(x)$	$\mathrm{erfc}(x)$
`\ErfcInv{x}`	$\mathrm{erfc}^{-1}(x)$	$\mathrm{erfc}^{-1}(x)$
`\Erfi{x}`	$\mathrm{erfi}(x)$	$\mathrm{erfi}(x)$

1.6.5 Fresnel Integrals

`\FresnelS{x}`	$S(x)$	$S(x)$
`\FresnelC{x}`	$C(x)$	$C(x)$

1.6.6 Exponential Integrals

`\ExpIntE{\nu}{x}`	$E_\nu(x)$	$E_\nu(x)$
`\ExpIntEi{x}`	$\mathrm{Ei}(x)$	$\mathrm{Ei}(x)$
`\LogInt{x}`	$\mathrm{li}(x)$	$\mathrm{li}(x)$
`\SinInt{x}`	$\mathrm{Si}(x)$	$\mathrm{Si}(x)$
`\CosInt{x}`	$\mathrm{Ci}(x)$	$\mathrm{Ci}(x)$
`\SinhInt{x}`	$\mathrm{Shi}(x)$	$\mathrm{Shi}(x)$
`\CoshInt{x}`	$\mathrm{Chi}(x)$	$\mathrm{Chi}(x)$

1.7 Hypergeometric Functions

1.7.1 Hypergeometric Function

```
\Hypergeometric{0}{0}{}{}{x}
```
$$ {}_0F_0(;;x) \quad {}_0F_0(;;x) $$

```
\Hypergeometric{0}{1}{}{b}{x}
```
$$ {}_0F_1(;b;x) \quad {}_0F_1(;b;x) $$

```
\Hypergeometric{1}{1}{a}{b}{x}
```
$$ {}_1F_1(a;b;x) \quad {}_1F_1(a;b;x) $$

```
\Hypergeometric{1}{1}{1}{1}{x}
```
$$ {}_1F_1(1;1;x) \quad {}_1F_1(1;1;x) $$

```
\Hypergeometric{3}{5}{a}{b}{x}
```
$$ {}_3F_5(a_1,a_2,a_3;b_1,b_2,b_3,b_4,b_5;x) \quad {}_3F_5(a_1,a_2,a_3;b_1,b_2,b_3,b_4,b_5;x) $$

```
\Hypergeometric{3}{5}{1,2,3}{1,2,3,4,5}{x}
```
$$ {}_3F_5(1,2,3;1,2,3,4,5;x) \quad {}_3F_5(1,2,3;1,2,3,4,5;x) $$

```
\Hypergeometric{p}{5}{a}{b}{x}
```
$$ {}_pF_5(a_1,\ldots,a_p;b_1,b_2,b_3,b_4,b_5;x) \quad {}_pF_5(a_1,\ldots,a_p;b_1,b_2,b_3,b_4,b_5;x) $$

```
\Hypergeometric{p}{3}{a}{1,2,3}{x}
```
$$ {}_pF_3(a_1,\ldots,a_p;1,2,3;x) \ {}_pF_3(a_1,\ldots,a_p;1,2,3;x) $$

```
\Hypergeometric{p}{q}{a}{b}{x}
```
$$ {}_pF_q(a_1,\ldots,a_p;b_1,\ldots,b_q;x) \quad {}_pF_q(a_1,\ldots,a_p;b_1,\ldots,b_q;x) $$

1.7.2 Regularized Hypergeometric Function

```
\RegHypergeometric{0}{0}{}{}{x}
```

$${}_0\tilde{F}_0(;;x) \quad {}_0\tilde{F}_0(;;x)$$

```
\RegHypergeometric{0}{1}{}{b}{x}
```

$${}_0\tilde{F}_1(;b;x) \quad {}_0\tilde{F}_1(;b;x)$$

```
\RegHypergeometric{3}{5}{a}{b}{x}
```

$${}_3\tilde{F}_5(a_1,a_2,a_3;b_1,b_2,b_3,b_4,b_5;x) \quad {}_3\tilde{F}_5(a_1,a_2,a_3;b_1,b_2,b_3,b_4,b_5;x)$$

```
\RegHypergeometric{3}{5}{1,2,3}{1,2,3,4,5}{x}
```

$${}_3\tilde{F}_5(1,2,3;1,2,3,4,5;x) \quad {}_3\tilde{F}_5(1,2,3;1,2,3,4,5;x)$$

```
\RegHypergeometric{p}{5}{a}{b}{x}
```

$${}_p\tilde{F}_5(a_1,\ldots,a_p;b_1,b_2,b_3,b_4,b_5;x) \quad {}_p\tilde{F}_5(a_1,\ldots,a_p;b_1,b_2,b_3,b_4,b_5;x)$$

```
\RegHypergeometric{p}{3}{a}{1,2,3}{x}
```

$${}_p\tilde{F}_3(a_1,\ldots,a_p;1,2,3;x) \quad {}_p\tilde{F}_3(a_1,\ldots,a_p;1,2,3;x)$$

```
\RegHypergeometric{p}{q}{a}{b}{x}
```

$${}_p\tilde{F}_q(a_1,\ldots,a_p;b_1,\ldots,b_q;x) \quad {}_p\tilde{F}_q(a_1,\ldots,a_p;b_1,\ldots,b_q;x)$$

1.7.3 Meijer G-Function

```
\MeijerG[a,b]{n}{p}{m}{q}{x}
```

$$G_{p,q}^{m,n}\left(x\,\middle|\,\begin{matrix}a_1,\ldots,a_n,a_{n+1},\ldots,a_p\\ b_1,\ldots,b_m,b_{m+1},\ldots,b_q\end{matrix}\right) \quad G_{p,q}^{m,n}\left(x\,\middle|\,\begin{matrix}a_1,\ldots,a_n,a_{n+1},\ldots,a_p\\ b_1,\ldots,b_m,b_{m+1},\ldots,b_q\end{matrix}\right)$$

```
\MeijerG{1,2,3,4}{5,6}{3,6,9}{12,15,18,21,24}{x}
```

$$G_{6,8}^{3,4}\left(x\left|\begin{matrix}1,2,3,4,5,6\\3,6,9,12,15,18,21,24\end{matrix}\right.\right) \quad G_{6,8}^{3,4}\left(x\left|\begin{matrix}1,2,3,4,5,6\\3,6,9,12,15,18,21,24\end{matrix}\right.\right)$$

```
\MeijerG[a,b]{4}{6}{3}{8}{x}
```

$$G_{6,8}^{3,4}\left(x\left|\begin{matrix}a_1,a_2,a_3,a_4,a_5,a_6\\b_1,b_2,b_3,b_4,b_5,b_6,b_7,b_8\end{matrix}\right.\right) \quad G_{6,8}^{3,4}\left(x\left|\begin{matrix}a_1,a_2,a_3,a_4,a_5,a_6\\b_1,b_2,b_3,b_4,b_5,b_6,b_7,b_8\end{matrix}\right.\right)$$

```
\MeijerG[a,b]{4}{p}{3}{8}{x}
```

$$G_{p,8}^{3,4}\left(x\left|\begin{matrix}a_1,a_2,a_3,a_4,a_5,\ldots,a_p\\b_1,b_2,b_3,b_4,b_5,b_6,b_7,b_8\end{matrix}\right.\right) \quad G_{p,8}^{3,4}\left(x\left|\begin{matrix}a_1,a_2,a_3,a_4,a_5,\ldots,a_p\\b_1,b_2,b_3,b_4,b_5,b_6,b_7,b_8\end{matrix}\right.\right)$$

```
\MeijerG[a,b]{n}{p}{3}{8}{x}
```

$$G_{p,8}^{3,n}\left(x\left|\begin{matrix}a_1,\ldots,a_n,a_{n+1},\ldots,a_p\\b_1,b_2,b_3,b_4,b_5,b_6,b_7,b_8\end{matrix}\right.\right) \quad G_{p,8}^{3,n}\left(x\left|\begin{matrix}a_1,\ldots,a_n,a_{n+1},\ldots,a_p\\b_1,b_2,b_3,b_4,b_5,b_6,b_7,b_8\end{matrix}\right.\right)$$

```
\MeijerG[a]{4}{6}{3,6,9}{12,15,18,21,24}{x}
```

$$G_{6,8}^{3,4}\left(x\left|\begin{matrix}a_1,a_2,a_3,a_4,a_5,a_6\\3,6,9,12,15,18,21,24\end{matrix}\right.\right) \quad G_{6,8}^{3,4}\left(x\left|\begin{matrix}a_1,a_2,a_3,a_4,a_5,a_6\\3,6,9,12,15,18,21,24\end{matrix}\right.\right)$$

```
\MeijerG[a]{4}{p}{3,6,9}{12,15,18,21,24}{x}
```

$$G_{p,8}^{3,4}\left(x\left|\begin{matrix}a_1,a_2,a_3,a_4,a_5,\ldots,a_p\\3,6,9,12,15,18,21,24\end{matrix}\right.\right) \quad G_{p,8}^{3,4}\left(x\left|\begin{matrix}a_1,a_2,a_3,a_4,a_5,\ldots,a_p\\3,6,9,12,15,18,21,24\end{matrix}\right.\right)$$

```
\MeijerG[a]{n}{6}{3,6,9}{12,15,18,21,24}{x}
```

$$G_{6,8}^{3,n}\left(x\left|\begin{matrix}a_1,\ldots,a_n,a_{n+1},\ldots,a_6\\3,6,9,12,15,18,21,24\end{matrix}\right.\right) \quad G_{6,8}^{3,n}\left(x\left|\begin{matrix}a_1,\ldots,a_n,a_{n+1},\ldots,a_6\\3,6,9,12,15,18,21,24\end{matrix}\right.\right)$$

```
\MeijerG[a]{n}{p}{3,6,9}{12,15,18,21,24}{x}
```

$$G_{p,8}^{3,n}\left(x\left|\begin{matrix}a_1,\ldots,a_n,a_{n+1},\ldots,a_p\\3,6,9,12,15,18,21,24\end{matrix}\right.\right) \quad G_{p,8}^{3,n}\left(x\left|\begin{matrix}a_1,\ldots,a_n,a_{n+1},\ldots,a_p\\3,6,9,12,15,18,21,24\end{matrix}\right.\right)$$

```
\MeijerG[,b]{1,2,3,4}{5,6}{3}{8}{x}
```

$$G_{6,8}^{3,4}\left(x \,\middle|\, \begin{matrix} 1,2,3,4,5,6 \\ b_1,b_2,b_3,b_4,b_5,b_6,b_7,b_8 \end{matrix}\right) \quad G_{6,8}^{3,4}\left(x \,\middle|\, \begin{matrix} 1,2,3,4,5,6 \\ b_1,b_2,b_3,b_4,b_5,b_6,b_7,b_8 \end{matrix}\right)$$

```
\MeijerG[,b]{1,2,3,4}{5,6}{3}{q}{x}
```

$$G_{6,q}^{3,4}\left(x \,\middle|\, \begin{matrix} 1,2,3,4,5,6 \\ b_1,b_2,b_3,b_4,\ldots,b_q \end{matrix}\right) \quad G_{6,q}^{3,4}\left(x \,\middle|\, \begin{matrix} 1,2,3,4,5,6 \\ b_1,b_2,b_3,b_4,\ldots,b_q \end{matrix}\right)$$

```
\MeijerG[,b]{1,2,3,4}{5,6}{m}{q}{x}
```

$$G_{6,q}^{m,4}\left(x \,\middle|\, \begin{matrix} 1,2,3,4,5,6 \\ b_1,\ldots,b_m,b_{m+1},\ldots,b_q \end{matrix}\right) \quad G_{6,q}^{m,4}\left(x \,\middle|\, \begin{matrix} 1,2,3,4,5,6 \\ b_1,\ldots,b_m,b_{m+1},\ldots,b_q \end{matrix}\right)$$

```
\MeijerG[a,b]{n}{p}{m}{q}{x, r}
```

$$G_{p,q}^{m,n}\left(x, r \,\middle|\, \begin{matrix} a_1,\ldots,a_n,a_{n+1},\ldots,a_p \\ b_1,\ldots,b_m,b_{m+1},\ldots,b_q \end{matrix}\right) \quad G_{p,q}^{m,n}\left(x, r \,\middle|\, \begin{matrix} a_1,\ldots,a_n,a_{n+1},\ldots,a_p \\ b_1,\ldots,b_m,b_{m+1},\ldots,b_q \end{matrix}\right)$$

1.7.4 Appell Hypergeometric Function F_1

```
\AppellFOne{a}{b_1, b_2}{c}{x, y}
```

$$F_1(a; b_1, b_2; c; x, y) \quad F_1(a; b_1, b_2; c; x, y)$$

1.7.5 Tricomi Confluent Hypergeometric Function

Command	Inline	Display
`\HypergeometricU{a}{b}{x}`	$U(a,b,x)$	$U(a,b,x)$

1.7.6 Angular Momentum Functions

```
\ClebschGordon{j_1,m_1}{j_2,m_2}{j,m}
```

$$\langle j_1, j_2; m_1, m_2 \,|j_1, j_2; j, m\rangle \quad \langle j_1, j_2; m_1, m_2 \,|j_1, j_2; j, m\rangle$$

```
\SixJSymbol{j_1,j_2,j_3}{j_4,j_5,j_6}
```

$$\begin{Bmatrix} j_1 & j_2 & j_3 \\ j_4 & j_5 & j_6 \end{Bmatrix} \quad \begin{Bmatrix} j_1 & j_2 & j_3 \\ j_4 & j_5 & j_6 \end{Bmatrix}$$

```
\ThreeJSymbol{j_1,m_1}{j_2,m_2}{j_3,m_3}
```

$$\begin{pmatrix} j_1 & j_2 & j_3 \\ m_1 & m_2 & m_3 \end{pmatrix} \quad \begin{pmatrix} j_1 & j_2 & j_3 \\ m_1 & m_2 & m_3 \end{pmatrix}$$

1.8 Elliptic Integrals

1.8.1 Complete Elliptic Integrals

Command	Inline	Display
`\EllipticK{x}`	$K(x)$	$K(x)$
`\EllipticE{x}`	$E(x)$	$E(x)$
`\EllipticPi{n,m}`	$\Pi(n \,\vert\, m)$	$\Pi(n \,\vert\, m)$

1.8.2 Incomplete Elliptic Integrals

Command	Inline	Display
`\IncEllipticF{x}{m}`	$F(x \,\vert\, m)$	$F(x \,\vert\, m)$
`\IncEllipticE{x}{m}`	$E(x \,\vert\, m)$	$E(x \,\vert\, m)$
`\IncEllipticPi{n}{x}{m}`	$\Pi(n;\, x \,\vert\, m)$	$\Pi(n;\, x \,\vert\, m)$
`\JacobiZeta{x}{m}`	$Z(x \,\vert\, m)$	$Z(x \,\vert\, m)$

1.9 Elliptic Functions

1.9.1 Jacobi Theta Functions

Command	Inline	Display
`\EllipticTheta{1}{x}{q}`	$\vartheta_1(x, q)$	$\vartheta_1(x, q)$
`\JacobiTheta{1}{x}{q}`	$\vartheta_1(x, q)$	$\vartheta_1(x, q)$

1.9.2 Neville Theta Functions

Command	Inline	Display
`\NevilleThetaC{x}{m}`	$\vartheta_c(x \,\vert\, m)$	$\vartheta_c(x \,\vert\, m)$
`\NevilleThetaD{x}{m}`	$\vartheta_d(x \,\vert\, m)$	$\vartheta_d(x \,\vert\, m)$
`\NevilleThetaN{x}{m}`	$\vartheta_n(x \,\vert\, m)$	$\vartheta_n(x \,\vert\, m)$
`\NevilleThetaS{x}{m}`	$\vartheta_s(x \,\vert\, m)$	$\vartheta_s(x \,\vert\, m)$

1.9.3 Weierstrass Functions

`\WeierstrassP{z}{g_2,g_3}`

$\wp(z;g_2,g_3)$ $\wp(z;g_2,g_3)$

`\WeierstrassPInv{z}{g_2,g_3}`

$\wp^{-1}(z;g_2,g_3)$ $\wp^{-1}(z;g_2,g_3)$

`\WeierstrassPGenInv{z_1}{z_2}{g_2}{g_3}`

$\wp^{-1}(z_1,z_2;g_2,g_3)$ $\wp^{-1}(z_1,z_2;g_2,g_3)$

`\WeierstrassSigma{z}{g_2,g_3}`

$\sigma(z;g_2,g_3)$ $\sigma(z;g_2,g_3)$

`\AssocWeierstrassSigma{n}{z}{g_2}{g_3}`
`\WeiSigma{n,z}{g_2,g_3}`

$\sigma_n(z;g_2,g_3)$ $\sigma_n(z;g_2,g_3)$

`\WeierstrassZeta{z}{g_2,g_3}`

$\zeta(z;g_2,g_3)$ $\zeta(z;g_2,g_3)$

`\WeierstrassHalfPeriods{g_2,g_3}`

$\{\omega_1(g_2,g_3),\omega_3(g_2,g_3)\}$ $\{\omega_1(g_2,g_3),\omega_3(g_2,g_3)\}$

`\WeierstrassInvariants{\omega_1,\omega_3}`

$\{g_2(\omega_1,\omega_3),g_3(\omega_1,\omega_3)\}$ $\{g_2(\omega_1,\omega_3),g_3(\omega_1,\omega_3)\}$

`\Style{WeierstrassPHalfPeriodValuesDisplay=sf}` (Default)
`\WeierstrassPHalfPeriodValues{g_2,g_3}`

$\{e_1,e_2,e_3\}$ $\{e_1,e_2,e_3\}$

`\Style{WeierstrassPHalfPeriodValuesDisplay=ff}`
`\WeierstrassPHalfPeriodValues{g_2,g_3}`

$\{e_1(g_2,g_3),e_2(g_2,g_3),e_3(g_2,g_3)\}$ $\{e_1(g_2,g_3),e_2(g_2,g_3),e_3(g_2,g_3)\}$

`\Style{WeierstrassZetaHalfPeriodValuesDisplay=sf}` (Default)

`\WeierstrassZetaHalfPeriodValues{g_2,g_3}`

$\{\eta_1, \eta_2, \eta_3\}$ $\{\eta_1, \eta_2, \eta_3\}$

`\Style{WeierstrassZetaHalfPeriodValuesDisplay=ff}`

`\WeierstrassZetaHalfPeriodValues{g_2,g_3}`

$\{\eta_1(g_2, g_3), \eta_2(g_2, g_3), \eta_3(g_2, g_3)\}$ $\{\eta_1(g_2, g_3), \eta_2(g_2, g_3), \eta_3(g_2, g_3)\}$

1.9.4 Jacobi Functions

Command	Inline	Display
`\JacobiAmplitude{z}{m}`	$\mathrm{am}(z \mid m)$	$\mathrm{am}(z \mid m)$
`\JacobiCD{z}{m}`	$\mathrm{cd}(z \mid m)$	$\mathrm{cd}(z \mid m)$
`\JacobiCDInv{z}{m}`	$\mathrm{cd}^{-1}(z \mid m)$	$\mathrm{cd}^{-1}(z \mid m)$
`\JacobiCN{z}{m}`	$\mathrm{cn}(z \mid m)$	$\mathrm{cn}(z \mid m)$
`\JacobiCNInv{z}{m}`	$\mathrm{cn}^{-1}(z \mid m)$	$\mathrm{cn}^{-1}(z \mid m)$
`\JacobiCS{z}{m}`	$\mathrm{cs}(z \mid m)$	$\mathrm{cs}(z \mid m)$
`\JacobiCSInv{z}{m}`	$\mathrm{cs}^{-1}(z \mid m)$	$\mathrm{cs}^{-1}(z \mid m)$
`\JacobiDC{z}{m}`	$\mathrm{dc}(z \mid m)$	$\mathrm{dc}(z \mid m)$
`\JacobiDCInv{z}{m}`	$\mathrm{dc}^{-1}(z \mid m)$	$\mathrm{dc}^{-1}(z \mid m)$
`\JacobiDN{z}{m}`	$\mathrm{dn}(z \mid m)$	$\mathrm{dn}(z \mid m)$
`\JacobiDNInv{z}{m}`	$\mathrm{dn}^{-1}(z \mid m)$	$\mathrm{dn}^{-1}(z \mid m)$
`\JacobiDS{z}{m}`	$\mathrm{ds}(z \mid m)$	$\mathrm{ds}(z \mid m)$
`\JacobiDSInv{z}{m}`	$\mathrm{ds}^{-1}(z \mid m)$	$\mathrm{ds}^{-1}(z \mid m)$
`\JacobiNC{z}{m}`	$\mathrm{nc}(z \mid m)$	$\mathrm{nc}(z \mid m)$
`\JacobiNCInv{z}{m}`	$\mathrm{nc}^{-1}(z \mid m)$	$\mathrm{nc}^{-1}(z \mid m)$
`\JacobiND{z}{m}`	$\mathrm{nd}(z \mid m)$	$\mathrm{nd}(z \mid m)$
`\JacobiNDInv{z}{m}`	$\mathrm{nd}^{-1}(z \mid m)$	$\mathrm{nd}^{-1}(z \mid m)$
`\JacobiNS{z}{m}`	$\mathrm{ns}(z \mid m)$	$\mathrm{ns}(z \mid m)$
`\JacobiNSInv{z}{m}`	$\mathrm{ns}^{-1}(z \mid m)$	$\mathrm{ns}^{-1}(z \mid m)$
`\JacobiSC{z}{m}`	$\mathrm{sc}(z \mid m)$	$\mathrm{sc}(z \mid m)$
`\JacobiSCInv{z}{m}`	$\mathrm{sc}^{-1}(z \mid m)$	$\mathrm{sc}^{-1}(z \mid m)$
`\JacobiSD{z}{m}`	$\mathrm{sd}(z \mid m)$	$\mathrm{sd}(z \mid m)$
`\JacobiSDInv{z}{m}`	$\mathrm{sd}^{-1}(z \mid m)$	$\mathrm{sd}^{-1}(z \mid m)$
`\JacobiSN{z}{m}`	$\mathrm{sn}(z \mid m)$	$\mathrm{sn}(z \mid m)$
`\JacobiSNInv{z}{m}`	$\mathrm{sn}^{-1}(z \mid m)$	$\mathrm{sn}^{-1}(z \mid m)$

1.9.5 Modular Functions

Command	Inline	Display
`\DedekindEta{z}`	$\eta(z)$	$\eta(z)$
`\KleinInvariantJ{z}`	$J(z)$	$J(z)$
`\ModularLambda{z}`	$\lambda(z)$	$\lambda(z)$
`\EllipticNomeQ{z}`	$q(z)$	$q(z)$
`\EllipticNomeQInv{z}`	$q^{-1}(z)$	$q^{-1}(z)$

1.9.6 Arithmetic Geometric Mean

Command	Inline	Display
`\ArithGeoMean{a}{b}`	$\mathrm{agm}(a, b)$	$\mathrm{agm}(a, b)$

1.9.7 Elliptic Exp and Log

Command	Inline	Display
`\EllipticExp{x}{a,b}`	$\mathrm{eexp}(x; a, b)$	$\mathrm{eexp}(x; a, b)$
`\EllipticLog{x,y}{a,b}`	$\mathrm{elog}(x, y; a, b)$	$\mathrm{elog}(x, y; a, b)$

1.10 Zeta Functions and Polylogarithms

1.10.1 Zeta Functions

Command	Inline	Display
`\RiemannZeta{s}`	$\zeta(s)$	$\zeta(s)$
`\Zeta{s}`	$\zeta(s)$	$\zeta(s)$
`\HurwitzZeta{s}{a}`	$\zeta(s,a)$	$\zeta(s,a)$
`\Zeta{s,a}`	$\zeta(s,a)$	$\zeta(s,a)$
`\RiemannSiegelTheta{x}`	$\vartheta(x)$	$\vartheta(x)$
`\RiemannSiegelZ{x}`	$Z(x)$	$Z(x)$
`\StieltjesGamma{n}`	γ_n	γ_n
`\LerchPhi{z}{s}{a}`	$\Phi(z,s,a)$	$\Phi(z,s,a)$
`\NielsenPolyLog{\nu}{p}{z}`	$S^p_\nu(z)$	$S^p_\nu(z)$
`\PolyLog{\nu,p,z}`	$S^p_\nu(z)$	$S^p_\nu(z)$
`\PolyLog{\nu,z}`	$\mathrm{Li}_\nu(z)$	$\mathrm{Li}_\nu(z)$
`\DiLog{z}`	$\mathrm{Li}_2(z)$	$\mathrm{Li}_2(z)$

1.11 Mathieu Functions and Characteristics

1.11.1 Mathieu Functions

Command	Inline	Display
`\MathieuC{a}{q}{z}`	$\mathrm{Ce}(a,q,z)$	$\mathrm{Ce}(a,q,z)$
`\MathieuS{a}{q}{z}`	$\mathrm{Se}(a,q,z)$	$\mathrm{Se}(a,q,z)$

1.11.2 Mathieu Characteristics

Command	Inline	Display
`\MathieuCharacteristicA{r}{q}`	$a_r(q)$	$a_r(q)$
`\MathieuCharisticA{r}{q}`	$a_r(q)$	$a_r(q)$
`\MathieuCharacteristicB{r}{q}`	$b_r(q)$	$b_r(q)$
`\MathieuCharisticB{r}{q}`	$b_r(q)$	$b_r(q)$
`\MathieuCharacteristicExponent{a}{q}`	$r(a,q)$	$r(a,q)$
`\MathieuCharisticExp{a}{q}`	$r(a,q)$	$r(a,q)$

1.12 Complex Components

Command	Inline	Display
`\Abs{z}`	$\lvert z\rvert$	$\lvert z\rvert$
`\Arg{z}`	$\arg(z)$	$\arg(z)$
`\Conj{z}`	z^*	z^*
`\Style{Conjugate=bar}\Conj{z}`	$\bar{z}$	$\bar{z}$
`\Style{Conjugate=overline}\Conj{z}`	$\overline{z}$	$\overline{z}$
`\Real{z}`	$\operatorname{Re} z$	$\operatorname{Re} z$
`\Imag{z}`	$\operatorname{Im} z$	$\operatorname{Im} z$
`\Sign{z}`	$\operatorname{sgn}(z)$	$\operatorname{sgn}(z)$

1.13 Number Theory Functions

Command	Inline	Display
`\FactorInteger{n}`	$\operatorname{factors}(n)$	$\operatorname{factors}(n)$
`\Factors{n}`	$\operatorname{factors}(n)$	$\operatorname{factors}(n)$
`\Divisors{n}`	$\operatorname{divisors}(n)$	$\operatorname{divisors}(n)$
`\Prime{n}`	$\operatorname{prime}(n)$	$\operatorname{prime}(n)$
`\PrimePi{x}`	$\pi(x)$	$\pi(x)$
`\DivisorSigma{k}{n}`	$\sigma_k(n)$	$\sigma_k(n)$
`\EulerPhi{n}`	$\varphi(n)$	$\varphi(n)$
`\MoebiusMu{n}`	$\mu(n)$	$\mu(n)$
`\JacobiSymbol{n}{m}`	$\left(\frac{n}{m}\right)$	$\left(\frac{n}{m}\right)$
`\CarmichaelLambda{n}`	$\lambda(n)$	$\lambda(n)$

`\DigitCount{n}{b}`

Inline: $\{s_b^{(1)}(n)\,,s_b^{(2)}(n)\,,\ldots,s_b^{(b)-1}(n)\,,s_b^{(0)}(n)\}$

Display: $\{s_b^{(1)}(n)\,,s_b^{(2)}(n)\,,\ldots,s_b^{(b)-1}(n)\,,s_b^{(0)}(n)\}$

`\DigitCount{n}{6}`

Inline: $\{s_6^{1}(n)\,,s_6^{2}(n)\,,s_6^{3}(n)\,,s_6^{4}(n)\,,s_6^{5}(n)\,,s_6^{(0)}(n)\}$

Display: $\{s_6^{1}(n)\,,s_6^{2}(n)\,,s_6^{3}(n)\,,s_6^{4}(n)\,,s_6^{5}(n)\,,s_6^{(0)}(n)\}$

1.14 Generalized Functions

Command	Inline	Display
`\DiracDelta{x}`	$\delta(x)$	$\delta(x)$
`\DiracDelta{x_1, x_2}`	$\delta(x_1,x_2)$	$\delta(x_1,x_2)$
`\HeavisideStep{x}`	$\theta(x)$	$\theta(x)$
`\HeavisideStep{x, y}`	$\theta(x,y)$	$\theta(x,y)$
`\UnitStep{x}`	$\theta(x)$	$\theta(x)$
`\UnitStep{x,y}`	$\theta(x,y)$	$\theta(x,y)$

1.15 Calculus Functions

1.15.1 Derivatives

`\Style{DDisplayFunc=inset,DShorten=true}` (Default)

`\D{f}{x}`	$\frac{df}{dx}$	$\dfrac{df}{dx}$
`\D[n]{f}{x}`	$\frac{d^n f}{dx^n}$	$\dfrac{d^n f}{dx^n}$

```
\Style{DDisplayFunc=outset,DShorten=false}
```

`\D{f}{x}`	$\frac{d}{dx}f$	$\dfrac{d}{dx}f$
`\D[n]{f}{x}`	$\frac{d^n}{dx^n}f$	$\dfrac{d^n}{dx^n}f$
`\D{f}{x,y,z}`	$\frac{d}{dx}\frac{d}{dy}\frac{d}{dz}f$	$\dfrac{d}{dx}\dfrac{d}{dy}\dfrac{d}{dz}f$
`\D[2,n,3]{f}{x,y,z}`	$\frac{d^2}{dx^2}\frac{d^n}{dy^n}\frac{d^3}{dz^3}f$	$\dfrac{d^2}{dx^2}\dfrac{d^n}{dy^n}\dfrac{d^3}{dz^3}f$
`\D[1,n,3]{f}{x,y,z}`	$\frac{d}{dx}\frac{d^n}{dy^n}\frac{d^3}{dz^3}f$	$\dfrac{d}{dx}\dfrac{d^n}{dy^n}\dfrac{d^3}{dz^3}f$

```
\Style{DDisplayFunc=outset,DShorten=true}
```

`\D{f}{x}`	$\frac{d}{dx}f$	$\dfrac{d}{dx}f$
`\D[n]{f}{x}`	$\frac{d^n}{dx^n}f$	$\dfrac{d^n}{dx^n}f$
`\D{f}{x,y,z}`	$\frac{d^3}{dx\,dy\,dz}f$	$\dfrac{d^3}{dx\,dy\,dz}f$
`\D[2,n,3]{f}{x,y,z}`	$\frac{d^{2+n+3}}{dx^2\,dy^n\,dz^3}f$	$\dfrac{d^{2+n+3}}{dx^2\,dy^n\,dz^3}f$
`\D[1,n,3]{f}{x,y,z}`	$\frac{d^{1+n+3}}{dx\,dy^n\,dz^3}f$	$\dfrac{d^{1+n+3}}{dx\,dy^n\,dz^3}f$

```
\Style{DDisplayFunc=inset,DShorten=true}
```

`\D{f}{x}`	$\frac{df}{dx}$	$\dfrac{df}{dx}$
`\D[n]{f}{x}`	$\frac{d^n f}{dx^n}$	$\dfrac{d^n f}{dx^n}$
`\D{f}{x,y,z}`	$\frac{d^3 f}{dx\,dy\,dz}$	$\dfrac{d^3 f}{dx\,dy\,dz}$
`\D[2,n,3]{f}{x,y,z}`	$\frac{d^{2+n+3} f}{dx^2\,dy^n\,dz^3}$	$\dfrac{d^{2+n+3} f}{dx^2\,dy^n\,dz^3}$
`\D[1,n,3]{f}{x,y,z}`	$\frac{d^{1+n+3} f}{dx\,dy^n\,dz^3}$	$\dfrac{d^{1+n+3} f}{dx\,dy^n\,dz^3}$

1.15.2 Partial Derivatives

`\Style{DDisplayFunc=inset,DShorten=true}` (Default)

`\pderiv{f}{x}`	$\frac{\partial f}{\partial x}$	$\dfrac{\partial f}{\partial x}$
`\pderiv[n]{f}{x}`	$\frac{\partial^n f}{\partial x^n}$	$\dfrac{\partial^n f}{\partial x^n}$

```
\Style{DDisplayFunc=outset,DShorten=false}
```

`\pderiv{f}{x}`	$\frac{\partial}{\partial x} f$	$\dfrac{\partial}{\partial x} f$
`\pderiv[n]{f}{x}`	$\frac{\partial^n}{\partial x^n} f$	$\dfrac{\partial^n}{\partial x^n} f$
`\pderiv{f}{x,y,z}`	$\frac{\partial}{\partial x}\frac{\partial}{\partial y}\frac{\partial}{\partial z} f$	$\dfrac{\partial}{\partial x}\dfrac{\partial}{\partial y}\dfrac{\partial}{\partial z} f$
`\pderiv[2,n,3]{f}{x,y,z}`	$\frac{\partial^2}{\partial x^2}\frac{\partial^n}{\partial y^n}\frac{\partial^3}{\partial z^3} f$	$\dfrac{\partial^2}{\partial x^2}\dfrac{\partial^n}{\partial y^n}\dfrac{\partial^3}{\partial z^3} f$
`\pderiv[1,n,3]{f}{x,y,z}`	$\frac{\partial}{\partial x}\frac{\partial^n}{\partial y^n}\frac{\partial^3}{\partial z^3} f$	$\dfrac{\partial}{\partial x}\dfrac{\partial^n}{\partial y^n}\dfrac{\partial^3}{\partial z^3} f$

```
\Style{DDisplayFunc=outset,DShorten=true}
```

`\pderiv{f}{x}`	$\frac{\partial}{\partial x} f$	$\dfrac{\partial}{\partial x} f$
`\pderiv[n]{f}{x}`	$\frac{\partial^n}{\partial x^n} f$	$\dfrac{\partial^n}{\partial x^n} f$
`\pderiv{f}{x,y,z}`	$\frac{\partial^3}{\partial x\,\partial y\,\partial z} f$	$\dfrac{\partial^3}{\partial x\,\partial y\,\partial z} f$
`\pderiv[2,n,3]{f}{x,y,z}`	$\frac{\partial^{2+n+3}}{\partial x^2\,\partial y^n\,\partial z^3} f$	$\dfrac{\partial^{2+n+3}}{\partial x^2\,\partial y^n\,\partial z^3} f$
`\pderiv[1,n,3]{f}{x,y,z}`	$\frac{\partial^{1+n+3}}{\partial x\,\partial y^n\,\partial z^3} f$	$\dfrac{\partial^{1+n+3}}{\partial x\,\partial y^n\,\partial z^3} f$

```
\Style{DDisplayFunc=inset,DShorten=true}
```

`\pderiv{f}{x}`	$\frac{\partial f}{\partial x}$	$\dfrac{\partial f}{\partial x}$
`\pderiv[n]{f}{x}`	$\frac{\partial^n f}{\partial x^n}$	$\dfrac{\partial^n f}{\partial x^n}$
`\pderiv{f}{x,y,z}`	$\frac{\partial^3 f}{\partial x\,\partial y\,\partial z}$	$\dfrac{\partial^3 f}{\partial x\,\partial y\,\partial z}$
`\pderiv[2,n,3]{f}{x,y,z}`	$\frac{\partial^{2+n+3} f}{\partial x^2\,\partial y^n\,\partial z^3}$	$\dfrac{\partial^{2+n+3} f}{\partial x^2\,\partial y^n\,\partial z^3}$
`\pderiv[1,n,3]{f}{x,y,z}`	$\frac{\partial^{1+n+3} f}{\partial x\,\partial y^n\,\partial z^3}$	$\dfrac{\partial^{1+n+3} f}{\partial x\,\partial y^n\,\partial z^3}$

1.15.3 Integrals

Command	Inline	Display
`\Integrate{f}{x}`	$\int f\,dx$	$\displaystyle\int f\,dx$
`\Int{f(x)}{x}`	$\int f(x)\,dx$	$\displaystyle\int f(x)\,dx$
`\Int{f}{S,C}`	$\int_C f\,dS$	$\displaystyle\int_C f\,dS$
`\Int{f(x)}{x,a,b}`	$\int_a^b f(x)\,dx$	$\displaystyle\int_a^b f(x)\,dx$
`\Int{f(x)}{x,0,b}`	$\int_0^b f(x)\,dx$	$\displaystyle\int_0^b f(x)\,dx$
`\Int{\Int{f(x)}{x,0,y}}{y,0,z}`	$\int_0^z \int_0^y f(x)\,dx\,dy$	$\displaystyle\int_0^z\int_0^y f(x)\,dx\,dy$

1.15.4 Sums and Products

Command	Inline	Display
`\Sum{a(k)}{k}`	$\sum_k a(k)$	$\displaystyle\sum_k a(k)$
`\Sum{a(k)}{k,1,n}`	$\sum_{k=1}^{n} a(k)$	$\displaystyle\sum_{k=1}^{n} a(k)$
`\Prod{a(k)}{k}`	$\prod_k a(k)$	$\displaystyle\prod_k a(k)$
`\Prod{a(k)}{k,1,n}`	$\prod_{k=1}^{n} a(k)$	$\displaystyle\prod_{k=1}^{n} a(k)$

1.15.5 Matrices

Command	Inline	Display
`\IdentityMatrix`	$\mathbb{1}$	$\mathbb{1}$
`\Style{IdentityMatrixParen=p}` (Default)		
`\IdentityMatrix[2]`	$\begin{pmatrix}1&0\\0&1\end{pmatrix}$	$\begin{pmatrix}1&0\\0&1\end{pmatrix}$
`\Style{IdentityMatrixParen=b}`		
`\IdentityMatrix[2]`	$\begin{bmatrix}1&0\\0&1\end{bmatrix}$	$\begin{bmatrix}1&0\\0&1\end{bmatrix}$
`\Style{IdentityMatrixParen=br}`		
`\IdentityMatrix[2]`	$\begin{Bmatrix}1&0\\0&1\end{Bmatrix}$	$\begin{Bmatrix}1&0\\0&1\end{Bmatrix}$
`\Style{IdentityMatrixParen=none}`		
`\IdentityMatrix[2]`	$\begin{matrix}1&0\\0&1\end{matrix}$	$\begin{matrix}1&0\\0&1\end{matrix}$

`\IdentityMatrix[20]` yields

$$\begin{pmatrix}
1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1
\end{pmatrix}$$

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