adf

$$(x+1)^0=1$$
$$(x+1)^1=1+\int_0^x dt$$
$$(x+1)^2=1+2\int_0^x dt+\int_0^x\int_0^x du\,dt$$
$$(x+1)^3=1+3\int_0^x dt+3\int_0^x\int_0^x du\,dt+\int_0^x\int_0^x\int_0^x dv\,du\,dt$$

af

$$(x+1)^{\$0}=1$$
$$(x+1)^{\$1}=1+\int_0^x dt$$
$$(x+1)^{\$2}=1+2\int_0^x dt+\int_0^x\int_0^{x-t} du\,dt$$
$$(x+1)^{\$3}=1+3\int_0^x dt+3\int_0^x\int_0^{x-t} du\,dt+\int_0^x\int_0^{x-t}\int_0^{x-t-u} dv\,du\,dt$$

af

$$(x+1)^{!0}=1$$
$$(x+1)^{!1}=1+\sum_{t=1}^{x} 1$$
$$(x+1)^{!2}=1+2\sum_{t=1}^{x} 1+\sum_{t=1}^{x}\sum_{u=1}^{x-t} 1$$
$$(x+1)^{!3}=1+3\sum_{t=1}^{x} 1+3\sum_{t=1}^{x}\sum_{u=1}^{x-t} 1+\sum_{t=1}^{x}\sum_{u=1}^{x-t}\sum_{v=1}^{x-t-u} 1$$

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adf

$$x^0=1$$
$$x^1=1+\int_1^x dt$$
$$x^2=1+2\int_1^x dt+\int_1^x\int_1^x du\,dt$$
$$x^3=1+3\int_1^x dt+3\int_1^x\int_1^x du\,dt+\int_1^x\int_1^x\int_1^x dv\,du\,dt$$

af

$$x^{@0}=1$$
$$x^{@1}=1+\int_1^x dt$$
$$x^{@2}=1+2\int_1^x dt+\int_1^x\int_1^{\frac{x}{t}} du\,dt$$
$$x^{@3}=1+3\int_1^x dt+3\int_1^x\int_1^{\frac{x}{t}} du\,dt+\int_1^x\int_1^{\frac{x}{t}}\int_1^{\frac{x}{tu}} dv\,du\,dt$$

af

$$x^{\#0}=1$$
$$x^{\#1}=1+\sum_{t=2}^{x} 1$$
$$x^{\#2}=1+2\sum_{t=2}^{x} 1+\sum_{t=2}^{x}\sum_{u=2}^{\lfloor\frac{x}{t}\rfloor} 1$$
$$x^{\#3}=1+3\sum_{t=2}^{x} 1+3\sum_{t=2}^{x}\sum_{u=2}^{\lfloor\frac{x}{t}\rfloor} 1+\sum_{t=2}^{x}\sum_{u=2}^{\lfloor\frac{x}{t}\rfloor}\sum_{v=2}^{\lfloor\frac{x}{t\cdot u}\rfloor} 1$$

adf

$$x^0 = 1$$

$$x^1 = \int_0^x dt$$

$$x^2 = \int_0^x \int_0^x du\, dt$$

$$x^3 = \int_0^x \int_0^x \int_0^x dv\, du\, dt$$

af

$$x^k = \int_0^x x^{k-1}\, dt$$

af

$$x^{\$0} = 1$$

$$x^{\$1} = \int_0^x dt$$

$$x^{\$2} = \ldots$$

$$x^{\$3} = \ldots$$

af

$$(x+1)^{!0} = 1$$

$$(x+1)^{!1} = \sum_{t=0}^{x} 1$$

$$(x+1)^{!2} = \sum_{t=0}^{x} \sum_{u=0}^{x-t} 1$$

$$(x+1)^{!3} = \sum_{t=0}^{x} \sum_{u=0}^{x-t} \sum_{v=0}^{x-t-u} 1$$

af

$$(x+1)^{!k} = \sum_{t=0}^{x} (x+1-t)^{!(k-1)}$$

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af

$$x^{@0} = 1$$

$$x^{@1} = \int_0^x dt$$

$$x^{@2} = \dots$$

$$x^{@3} = \dots$$

af

$$x^{\#0} = 1$$

$$x^{\#1} = \sum_{t=1}^{x} 1$$

$$x^{\#2} = \sum_{t=1}^{x} \sum_{u=1}^{\lfloor \frac{x}{t} \rfloor} 1$$

$$x^{\#3} = \sum_{t=1}^{x} \sum_{u=1}^{\lfloor \frac{x}{t} \rfloor} \sum_{v=1}^{\lfloor \frac{x}{t \cdot u} \rfloor} 1$$

af

$$x^{\#k} = \sum_{t=1}^{\lfloor x \rfloor} \left(\frac{x}{t}\right)^{\#(k-1)}$$

adf

$$x^0 = 1$$

$$x^1 = \int_0^x dt$$

$$x^2 = \int_0^x \int_0^x du\,dt$$

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af

$$x^k = \int_0^x x^{k-1}\,dt$$

af

$$x^{\$0} = 1$$

$$x^{\$1} = \int_0^x dt$$

$$x^{\$2} = \int_0^x \int_0^{x-t} du\,dt$$

$$x^{\$3} = \int_0^x \int_0^{x-t} \int_0^{x-t-u} dv\,du\,dt$$

af

$$x^{\$k} = \int_0^x (x-t)^{k-1}\,dt$$

af

$$x^{!0} = 1$$

$$x^{!1} = \sum_{t=1}^{x} 1$$

$$x^{!2} = \sum_{t=1}^{x} \sum_{u=1}^{x-t} 1$$

$$x^{!3} = \sum_{t=1}^{x} \sum_{u=1}^{x-t} \sum_{v=1}^{x-t-u} 1$$

af

$$x^{!k} = \sum_{t=1}^{x} (x-t)^{k-1}$$

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adf

$$(x-1)^0=1$$

$$(x-1)^1=\int_1^x dt$$

$$(x-1)^2=\int_1^x \int_1^x du\,dt$$

$$(x-1)^3=\int_1^x \int_1^x \int_1^x dv\,du\,dt$$

af

$$(x-1)^k=\int_1^x (x-1)^{k-1}\,dt$$

af

$$(x-1)^{@0}=1$$

$$(x-1)^{@1}=\int_1^x dt$$

$$(x-1)^{@2}=\int_1^x \int_1^{\frac{x}{t}} du\,dt$$

$$(x-1)^{@3}=\int_1^x \int_1^{\frac{x}{t}} \int_1^{\frac{x}{tu}} dv\,du\,dt$$

af

$$(x-1)^{@k}=\int_1^x \left(\frac{x}{t}-1\right)^{@(k-1)} dt$$

af

$$(x-1)^{\#0}=1$$

$$(x-1)^{\#1}=\sum_{t=2}^{x} 1$$

$$(x-1)^{\#2}=\sum_{t=2}^{x} \sum_{u=2}^{\lfloor\frac{x}{t}\rfloor} 1$$

$$(x-1)^{\#3}=\sum_{t=2}^{x} \sum_{u=2}^{\lfloor\frac{x}{t}\rfloor} \sum_{v=2}^{\lfloor\frac{x}{t\cdot u}\rfloor} 1$$

af

$$(x-1)^{\#1}=\sum_{t=2}^{\lfloor x\rfloor}\left(\frac{x}{t}-1\right)^{\#(k-1)}$$

If -1 < x < 1,

$$(x+1)^z = 1 + \binom{z}{1}\int_0^x dt + \binom{z}{2}\int_0^x\int_0^x du\,dt + \binom{z}{2}\int_0^x\int_0^x\int_0^x dv\,du\,dt + \ldots$$

af

$$(x+1)^{\$z} = 1 + \binom{z}{1}\int_0^x dt + \binom{z}{2}\int_0^x\int_0^{x-t} du\,dt + \binom{z}{2}\int_0^x\int_0^{x-t}\int_0^{x-t-u} dv\,du\,dt + \ldots$$

af

$$(x+1)^{!z} = 1 + \binom{z}{1}\sum_{t=1}^{x} 1 + \binom{z}{2}\sum_{t=1}^{x}\sum_{u=1}^{x-t} 1 + \binom{z}{2}\sum_{t=1}^{x}\sum_{u=1}^{x-t}\sum_{v=1}^{x-t-u} 1 + \ldots$$

If 0 < x < 2,

$$x^z = 1 + \binom{z}{1}\int_1^x dt + \binom{z}{2}\int_1^x\int_1^x du\,dt + \binom{z}{2}\int_1^x\int_1^x\int_1^x dv\,du\,dt + \ldots$$

af

$$x^{@z} = 1 + \binom{z}{1}\int_1^x dt + \binom{z}{2}\int_1^x\int_1^{\frac{x}{t}} du\,dt + \binom{z}{2}\int_1^x\int_1^{\frac{x}{t}}\int_1^{\frac{x}{tu}} dv\,du\,dt + \ldots$$

af

$$x^{\#z} = 1 + \binom{z}{1}\sum_{t=2}^{x} 1 + \binom{z}{2}\sum_{t=2}^{x}\sum_{u=2}^{\lfloor\frac{x}{t}\rfloor} 1 + \binom{z}{2}\sum_{t=2}^{x}\sum_{u=2}^{\lfloor\frac{x}{t}\rfloor}\sum_{v=2}^{\lfloor\frac{x}{t\cdot u}\rfloor} 1 + \ldots$$

If 0 < x < 2,

$$x^z = \sum_{k=0}^{\infty} \binom{z}{k} (x-1)^k$$

af

$$x^{@z} = \sum_{k=0}^{\infty} \binom{z}{k} (x-1)^{@k}$$

af

$$x^{\#z} = \sum_{k=0}^{\infty} \binom{z}{k} (x-1)^{\#k}$$

If -1 < x < 1,

$$\log(x+1) = \int_0^x dt - \frac{1}{2}\int_0^x \int_0^x du\, dt + \frac{1}{3}\int_0^x \int_0^x \int_0^x dv\, du\, dt - \frac{1}{4} \ldots$$

af

$$\$ \log(x+1) = \int_0^x dt - \frac{1}{2}\int_0^x \int_0^{x-t} du\, dt + \frac{1}{3}\int_0^x \int_0^{x-t} \int_0^{x-t-u} dv\, du\, dt - \frac{1}{4} \ldots$$

af

$$! \log(x+1) = \sum_{t=1}^{x} 1 - \frac{1}{2}\sum_{t=1}^{x} \sum_{u=1}^{x-t} 1 + \frac{1}{3}\sum_{t=1}^{x} \sum_{u=1}^{x-t} \sum_{v=1}^{x-t-u} 1 - \frac{1}{4} \ldots$$

If 0 < x < 2,

$$\log x = \int_1^x dt - \frac{1}{2}\int_1^x \int_1^x du\, dt + \frac{1}{3}\int_1^x \int_1^x \int_1^x dv\, du\, dt - \ldots$$

af

$$@ \log x = \int_1^x dt - \frac{1}{2}\int_1^x \int_1^{\frac{x}{t}} du\, dt + \frac{1}{3}\int_1^x \int_1^{\frac{x}{t}} \int_1^{\frac{x}{tu}} dv\, du\, dt - \ldots$$

af

$$\# \log x = \sum_{t=2}^{x} 1 - \frac{1}{2}\sum_{t=2}^{x} \sum_{u=2}^{\lfloor \frac{x}{t} \rfloor} 1 + \frac{1}{3}\sum_{t=2}^{x} \sum_{u=2}^{\lfloor \frac{x}{t} \rfloor} \sum_{v=2}^{\lfloor \frac{x}{t \cdot u} \rfloor} 1 - \ldots$$

adf

$$\log(x+1)=\sum_{k=1}^{\infty}\frac{(-1)^{k+1}}{k}x^{k}$$

af

$$@\log(x+1)=\sum_{k=1}^{\infty}\frac{(-1)^{k+1}}{k}x^{@k}$$

af

$$\#\log(x+1)=\sum_{k=1}^{\infty}\frac{(-1)^{k+1}}{k}x^{\#k}$$

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adf

$$\log x=\sum_{k=1}^{\infty}\frac{(-1)^{k+1}}{k}(x-1)^{k}$$

af

$$@\log x=\sum_{k=1}^{\infty}\frac{(-1)^{k+1}}{k}(x-1)^{@k}$$

af

$$\#\log x=\sum_{k=1}^{\infty}\frac{(-1)^{k+1}}{k}(x-1)^{\#k}$$

adf

$$\log(x+1)=\int_1^{x+1}\frac{1}{t}dt$$

$$(\log(x+1))^2=\int_1^{x+1}\int_1^{x+1}\frac{1}{t}\cdot\frac{1}{u}du\,dt$$

$$(\log(x+1))^3=\int_1^{x+1}\int_1^{x+1}\int_1^{x+1}\frac{1}{t}\cdot\frac{1}{u}\cdot\frac{1}{v}dv\,du\,dt$$

af

$$\$\log(x+1)=\int_0^{x}\frac{1}{t}-\frac{e^{-t}}{t}dt$$

$$(\$\log(x+1))^{\$2}=\int_0^{x}\int_0^{x-t}(\frac{1}{t}-\frac{e^{-t}}{t})\cdot(\frac{1}{u}-\frac{e^{-u}}{u})du\,dt$$

$$(\$\log(x+1))^{\$3}=\int_0^{x}\int_0^{x-t}\int_0^{x-t-u}(\frac{1}{t}-\frac{e^{-t}}{t})\cdot(\frac{1}{u}-\frac{e^{-u}}{u})\cdot(\frac{1}{v}-\frac{e^{-v}}{v})dv\,du\,dt$$

af

$$!\log(x+1)=\sum_{t=1}^{x}\frac{1}{t}$$

$$(!\log(x+1))^{!2}=\sum_{t=1}^{x}\sum_{u=1}^{x-t}\frac{1}{t}\cdot\frac{1}{u}$$

$$(!\log(x+1))^{!3}=\sum_{t=1}^{x}\sum_{u=1}^{x-t}\sum_{v=1}^{x-t-u}\frac{1}{t}\cdot\frac{1}{u}\cdot\frac{1}{v}$$

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adf

$$\log x=\int_1^{x}\frac{1}{t}dt$$

$$(\log x)^2=\int_1^{x}\int_1^{x}\frac{1}{t}\cdot\frac{1}{u}du\,dt$$

$$(\log x)^3=\int_1^{x}\int_1^{x}\int_1^{x}\frac{1}{t}\cdot\frac{1}{u}\cdot\frac{1}{v}dv\,du\,dt$$

af

$$(\log x)^{k}=\int_{1}^{x}\frac{1}{t}\cdot(\log x)^{k-1}\,dt$$

af

$$@\log x=\int_{1}^{x}\frac{1}{\log t}-\frac{1}{t\log t}\,dt$$

$$(@\log x)^{@2}=\int_{1}^{x}\int_{1}^{\frac{x}{t}}\left(\frac{1}{\log t}-\frac{1}{t\log t}\right)\cdot\left(\frac{1}{\log u}-\frac{1}{u\log u}\right)du\,dt$$

$$(@\log x)^{@3}=\int_{1}^{x}\int_{1}^{\frac{x}{t}}\int_{1}^{\frac{x}{t\cdot u}}\left(\frac{1}{\log t}-\frac{1}{t\log t}\right)\cdot\left(\frac{1}{\log u}-\frac{1}{u\log u}\right)\cdot\left(\frac{1}{\log v}-\frac{1}{v\log v}\right)dv\,du\,dt$$

af

$$\#\log x=\sum_{t=2}^{x}\kappa(t)$$

$$(\#\log x)^{\#2}=\sum_{t=2}^{x}\sum_{u=2}^{\lfloor\frac{x}{t}\rfloor}\kappa(t)\cdot\kappa(u)$$

$$(\#\log x)^{\#3}=\sum_{t=2}^{x}\sum_{u=2}^{\lfloor\frac{x}{t}\rfloor}\sum_{v=2}^{\lfloor\frac{x}{t\cdot u}\rfloor}\kappa(t)\cdot\kappa(u)\cdot\kappa(v)$$