	Beweis Leibniz'sche Produktregel
	an h like mak
	$\frac{d^n}{dx^n}(u \cdot v) = \sum_{k=0}^{n} \frac{n!}{k!(n-k)!} \frac{d^k u}{dx^k} \cdot \frac{d^{n-k}}{dx^{n-k}}$
	ax k=o ax dx
	Induktionsanfang: n=0
	$\frac{d^{(0)}}{dx^{(0)}}(u \cdot v) = u \cdot v = \begin{pmatrix} 0 \\ 0 \end{pmatrix} \frac{d^{(0)}}{dx^{(0)}} \cdot \frac{d^{(0)}}{dx^{(0)}}$
	dx(0) (dx(0) dx(0)
	Induktionsvoraussetzung: @ gelle für festes n
	Induktionsschrift: n -> n+1
	$\frac{d^{(n+x)}}{dx^{(n+1)}}(u\cdot v) = \frac{d}{dx}\left(\frac{dx^{(n)}}{dx^{(n)}}(u\cdot v)\right)$
	IV d (m (m) dk (m-k)
	$= \frac{d}{dx} \left(\sum_{k=0}^{n} {n \choose k} \frac{d^{k}u}{dx^{k}} \cdot \frac{d^{(n-k)}v}{dx^{(n-k)}} \right)$
	$= \sum_{k=0}^{n} \binom{n}{k} \left[\frac{d^{(k+1)}u}{dx^{(k+1)}} \cdot \frac{d^{(n-k)}v}{dx^{(n-k)}} + \frac{d^{(k)}u}{dx^{(k)}} \cdot \frac{d^{(n+4-k)}v}{dx^{(n+4-k)}} \right]$
	k=0 dx dx(n+4-k)
never Index:	n+1 d'u d'n+1-k')
(k=k'-1)	$= \sum_{k'=1}^{n+1} \frac{d^{k'}u}{dx^{k'}} \cdot \frac{d^{(n+1-k')}}{dx^{(n+1-k')}} \cdot \frac{n!}{(k'-1)!(n+1-k')!}$
	$+ \sum_{k=0}^{n} \binom{n}{k} \frac{d^{(k)}u}{dx^{(k)}} \cdot \frac{d^{(n+1-k)}v}{dx^{(n+1-k)}}$
	+ > (ie) a u . (ned-le)
An	k=o ax ax
An passung des Grenzen	$=\sum_{k'=0}^{n+1}\binom{n}{k'-1}\frac{dk'u}{dx^{k'}}\cdot\frac{d(n+1-k')}{dx^{(n+1-k')}}$ $=\sum_{k'=0}^{n+1}\binom{n}{k'-1}\frac{dk'u}{dx^{(n+1-k)}}\cdot\frac{dx^{(n+1-k)}}{dx^{(n+1-k)}}$
8	k'=0 dx k' dx(n+x-k') k+0 (k dx(k) dx(n+x-k)
	$da \binom{n}{n+1} = 0 = \binom{n}{-1}$
Zusammer-	7+1 k (n+1-k) [13
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	$= \sum_{k=0}^{n+1} \frac{d^{k}u}{dx^{k}} \cdot \frac{d^{(n+n-k)}}{dx^{(n+n-k)}} \cdot \frac{n!}{k!} \left[\frac{k!}{(n-k+n)!} + \frac{n-k+n}{(n-k+n)!} \right]$
	$k=0$ $d \times k$ $d \times (n+x-k)$ $k! \left((n-k+x)! \left(n-k+x\right)!\right]$
	$= \sum_{k} \binom{n+1}{k} \frac{d^k u}{d} \cdot \frac{d^{(n+1-k)}}{d}$
	k=o olx olx