

Rationals $r(n)=A120086(n)/A120087(n)$, Wolfdieter Lang

Expansion of generalized Debye function for $n=4$: $D(4,x)$ for $|x|<2\pi$.

$D(4,x):= (4/x^4)*\int_0^x(t^4/(\exp(t)-1),t,0,x)$.

$r(n):=[x^n](1 - 4*x/(2*(4+1)) + 2*\sum((B(2*k)/((k+2)*(2*k)!))*x^(2*k),0,..infinity))$, $|x|<2\pi$,
with the Bernoulli numbers $B(2*k):=A00367(k)/A002445(k)$.
See the Abramowitz-Stegun reference.

The rationals for $n= 0, \dots, 40$ are:

[1, -2/5, 1/18, 0, -1/1440, 0, 1/75600, 0, -1/3628800, 0, 1/167650560, 0,
-691/5230697472000, 0, 1/336259123200, 0, -3617/533531142144000000, 0,
43867/28100018194440192000, 0, -174611/4817145976189747200000, 0,
77683/91657150256046735360000, 0, -236364091/11856768957122205686169600000,
0, 657931/1396008903899788738560000000, 0,
-3392780147/303146125499646924155781120000000, 0,
1723168255201/6458217478991340581041657085952000000, 0,
-7709321041217/1207770541525653303467530675814400000000, 0,
151628697551/989898208544555060489074161745920000000, 0,
-26315271553053477373/713925872841910517552409860896601407488000000000, 0,
154210205991661/1734232889494519475835813427279193702400000000, 0,
-261082718496449122051/121432671605784619802657325253989928544501760000000000]

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