

A Peek at the Bernoulli Numbers B_{2k}

k	$ B_{2k} $	$(2\pi)^{2k} B_{2k} / (2k)!$
1	1/6	3.289 868
2	1/30	2.164 646
3	1/42	2.034 686
4	1/30	2.008 155
5	5/66	2.001 989
6	691/2,730	2.000 492
7	7/6	2.000 123
8	3,617/510	2.000 031
9	43,867/798	2.000 008
10	174,611/330	2.000 002
11	854,513/138	2.000 000
12	236,364,091/2,730	2.000 000
13	8,553,103/6	2.000 000
14	23,749,461,029/870	2.000 000
15	8,615,841,276,005/14,322	2.000 000
16	7,709,321,041,217/510	2.000 000
17	2,577,687,858,367/6	2.000 000

on $E_k = (1 + 1/4 + 1/9 + \dots + 1/k^2) + \text{EM shenanigans}$

<u>k = 10:</u>	sum - 1.549767731167	error - -.095166335682
	sum+half+gral - 1.644809053481	-.000125013368
	1 1.644934272614	.000000205766
	2 1.644934065640	-.000000001208
	3 1.644934066862	.000000000014
	4 EM 1.644934066848	-.000000000000

<u>k = 5:</u>	sum - 1.463611111111	error - -.181322955737
	sum+half+gral - 1.644166666667	-.000767400182
	1 1.644938271605	.000004204757
	2 1.644933984911	-.000000081937
	3 1.644934069964	.000000003116
	4 1.644934066657	-.000000000192
	5 1.644934066865	.000000000017
	6 1.644934066846	-.000000000002
	7 EM 1.644934066848	.000000000000

Yet also compare such error columns for k = 1,2,3,4:

	<u>k = 1:</u>	<u>k = 2:</u>	<u>k = 3:</u>	<u>k = 4:</u>
	-.644934066848	-.394934066848	-.283822955737	-.221322955737
	-.019934066848	-.006045177959	-.002572955737	-.001322955737
1 EM	.000899266485	.000127661547	.000031210930	.000010377596
2	-.000142400182	-.000009512664	-.000001341154	-.000000289070
3	.000043611723	.000001374178	.000000112064	.000000015691
4	-.000021492443	-.000000319331	-.000000015092	-.000000001375
5	.000015498560	.000000108323	.000000002970	.000000000176
6	-.000015399090	-.000000050437	-.000000000802	-.000000000031
7	.000020204751	.000000030870	.000000000285	.000000000007
8	-.000033904112	-.000000024048	-.000000000128	-.000000000002
9	.000070945089	.000000023249	.000000000072	.000000000000
10	-.000181361011	-.000000027335	-.000000000049	-.000000000000
11	.000556797595	.000000038439	.000000000039	.000000000000
12	-.002023495020	-.000000063747	-.000000000038	-.000000000000
13	.008597435522	.000000123192	.000000000042	.000000000000
14	-.042249482159	-.0000000274565	-.000000000053	.000000000000
15	.237883442001	.000000699381	.000000000077	.000000000000
16	-.1521887322862	-.000002019840	-.000000000128	.000000000000
17	10.981544410520	.000006567035	.000000000236	.000000000000