

Sum of reciprocals of known Mersenne primes' exponents

See <https://mersenneforum.org/showthread.php?t=27078>

n	M#	p	Mexponent	1/p	sum 1/p	1/n
1		2			0.5	0.5
2		3		0.333333333333333	0.833333333333333	0.5
3		5		0.2	1.03333333333333	0.333333333333333
4		7		0.142857142857143	1.1761904761905	0.25
5		13		0.0769230769231	1.2531135531136	0.2
6		17		0.0588235294118	1.3119370825253	0.166666667
7		19		0.0526315789474	1.3645686614727	0.142857143
8		31		0.0322580645161	1.3968267259888	0.125
9		61		0.016393442623	1.4132201686118	0.111111111
10		89		0.0112359550562	1.424456123668	0.1
11		107		0.0093457943925	1.4338019180605	0.090909091
12		127		0.007874015748	1.4416759338085	0.083333333
13		521		0.0019193857965	1.4435953196051	0.076923077
14		607		0.001647446458	1.445242766063	0.071428571
15		1279		0.0007818608288	1.4460246268918	0.066666667
16		2203		0.0004539264639	1.4464785533557	0.0625
17		2281		0.0004384042087	1.4469169575644	0.058823529
18		3217		0.0003108486167	1.4472278061811	0.055555556
19		4253		0.0002351281448	1.447462934326	0.052631579
20		4423		0.0002260908885	1.4476890252145	0.05
21		9689		0.0001032098256	1.4477922350401	0.047619048
22		9941		0.0001005935017	1.4478928285417	0.045454545
23		11213		8.918219923E-05	1.447982010741	0.043478261
24		19937		5.015799769E-05	1.4480321687387	0.041666667
25		21701		4.608082577E-05	1.4480782495644	0.04
26		23209		4.308673359E-05	1.448121336298	0.038461538
27		44497		2.247342517E-05	1.4481438097232	0.037037037
28		86243		1.159514395E-05	1.4481554048672	0.035714286
29		110503		9.049528067E-06	1.4481644543952	0.034482759
30		132049		7.572946406E-06	1.4481720273416	0.033333333
31		216091		4.627680005E-06	1.4481766550216	0.032258065
32		756839		1.321284976E-06	1.4481779763066	0.03125
33		859433		1.163557834E-06	1.4481791398645	0.03030303

34	1257787	7.950471741E-07	1.4481799349116	0.029411765
35	1398269	7.151699709E-07	1.4481806500816	0.028571429
36	2976221	3.35996554E-07	1.4481809860782	0.027777778
37	3021377	3.309749164E-07	1.4481813170531	0.027027027
38	6972593	1.434186679E-07	1.4481814604717	0.026315789
39	13466917	7.425604539E-08	1.4481815347278	0.025641026
40	20996011	4.762809469E-08	1.4481815823559	0.025
41	24036583	4.160325118E-08	1.4481816239591	0.024390244
42	25964951	3.851345608E-08	1.4481816624726	0.023809524
43	30402457	3.289207843E-08	1.4481816953647	0.023255814
44	32582657	3.069117414E-08	1.4481817260558	0.022727273
45	37156667	2.691307054E-08	1.4481817529689	0.022222222
46	42643801	2.345006722E-08	1.448181776419	0.02173913
47	43112609	2.319507038E-08	1.448181799614	0.021276596
48	57885161	1.727558467E-08	1.4481818168896	0.020833333
49	74207281	1.347576662E-08	1.4481818303654	0.020408163
50	77232917	1.294784709E-08	1.4481818433132	0.02
51	82589933	1.210801321E-08	1.4481818554213	0.019607843
52	?	<10 ⁻⁸		0.019230769

Assuming the conjecture about the distribution of Mersenne primes holds up to 10⁹, future discoveries up to 10⁹ would add <10⁻⁷ to the sum, ~10⁻⁸.

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