

#s 5 - 8, 9, 12											
<p>5-8 Calculate the first eight terms of the sequence of partial sums correct to four decimal places. Does it appear that the series is convergent or divergent?</p>											
<p>5. $\sum_{n=1}^{\infty} \frac{1}{n^3}$</p>				<p>6. $\sum_{n=1}^{\infty} \frac{1}{\ln(n+1)}$</p>							
n	a_n	S_n		n	a_n	S_n					
1		1		1	1.442695	1.442695					
2	0.125	1.125	Is approaching 1.2	2	0.910239	2.352934					
3	0.037037	1.16203704	Convergent	3	0.721348	3.074282					
4	0.015625	1.17766204		4	0.621335	3.695617	Diverges, by all appearances				
5	0.008	1.18566204		5	0.558111	4.253727					
6	0.00463	1.19029167		6	0.513898	4.767626					
7	0.002915	1.19320712		7	0.480898	5.248524					
8	0.001953	1.19516024		8	0.45512	5.703644					
9	0.001372	1.19653199		9	0.434294	6.137938					
10	0.001	1.19753199		10	0.417032	6.554971					
11	0.000751	1.1982833		11	0.40243	6.9574					
12	0.000579	1.198862		12	0.389871	7.347271					
13	0.000455	1.19931717		13	0.378923						
14	0.000364			14	0.369269						
15	0.000296			15	0.360674						
16	0.000244			16	0.352956						
17	0.000204			17	0.345976						
18	0.000171			18	0.339623						
19	0.000146			19	0.333808						
20	0.000125			20	0.328459						
21	0.000108			21	0.323515						
22	9.39E-05			22	0.318929						
23	8.22E-05			23	0.314658						
24	7.23E-05			24	0.310667	11.42473					

15	-3.9E-10	-2			15	0.033233	16.25579				
16	7.86E-11	-2			16	0.023263	16.27905				
17	-1.6E-11	-2			17	0.016284	16.29534				
18	3.15E-12	-2			18	0.011399	16.30674				
19	-6.3E-13	-2			19	0.007979	16.31472				
20	1.26E-13	-2			20	0.005585	16.3203				
21	-2.5E-14	-2			21	0.00391	16.32421				
22	5.03E-15	-2			22	0.002737	16.32695				
23	-1E-15	-2			23	0.001916	16.32886				
24	2.01E-16	-2			24	0.001341	16.3302				
					25	0.000939	16.33114				
					26	0.000657	16.3318				
					27	0.00046	16.33226				
					28	0.000322	16.33258				
					29	0.000225	16.33281				
					30	0.000158	16.33297				
					31	0.00011	16.33308				
					32	7.73E-05	16.33315				
					33	5.41E-05	16.33321				
					34	3.79E-05	16.33324				
					35	2.65E-05	16.33327				
					36	1.86E-05	16.33329				
					37	1.3E-05	16.3333				
					38	9.1E-06	16.33331				
					39	6.37E-06	16.33332				
					40	4.46E-06	16.33332				
					41	3.12E-06	16.33333				
					42	2.18E-06	16.33333				
					43	1.53E-06	16.33333				
					44	1.07E-06	16.33333				
					45	7.49E-07	16.33333				
					46	5.24E-07	16.33333				
					47	3.67E-07	16.33333				
					48	2.57E-07	16.33333				

						49	1.8E-07	16.33333				
						50	1.26E-07	16.33333				
						51	8.81E-08	16.33333				