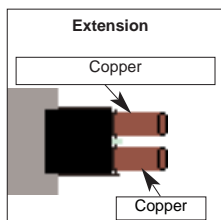




Technical Information Data Bulletin

Type B Thermocouple Platinum-Rhodium

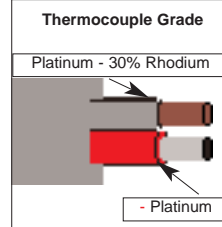
TEMPERATURE & PROCESS INSTRUMENTS - INC.



Temperature vs Millivolt Table Reference Junction 0°C

Temperature Range
Maximum Useful Temperature Range:
Thermocouple Grade: 32 to 3092°F
 -0 to 1700°C
Extension Grade: 32 to 212°F
 0 to 100°C

Maximum Thermocouple Grade
Temperature Range
 32 to 3308°F
 0 to 1820°C
Accuracy: Standard: 0.5% over 800°C
 Special: NA



Recommended Applications:

Oxidizing or Inert Environments. Do Not Insert in Metal Tubes, Beware of Contamination, High Temperature Applications. Uses Copper Wire for Extension Wire.

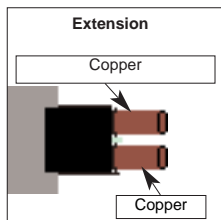
Temp	0	1	2	3	4	5	6	7	8	9
0	0.0000	-0.0002	-0.0005	-0.0007	-0.0009	-0.0011	-0.0013	-0.0014	-0.0016	-0.0017
10	-0.0019	-0.0020	-0.0021	-0.0022	-0.0023	-0.0024	-0.0024	-0.0025	-0.0025	-0.0026
20	-0.0026	-0.0026	-0.0026	-0.0026	-0.0025	-0.0025	-0.0024	-0.0024	-0.0023	-0.0022
30	-0.0021	-0.0020	-0.0019	-0.0018	-0.0016	-0.0015	-0.0013	-0.0011	-0.0009	-0.0007
40	-0.0005	-0.0003	0.0000	0.0002	0.0005	0.0008	0.0010	0.0013	0.0016	0.0020
50	0.0023	0.0026	0.0030	0.0033	0.0037	0.0041	0.0045	0.0049	0.0053	0.0058
60	0.0062	0.0067	0.0071	0.0076	0.0081	0.0086	0.0091	0.0096	0.0102	0.0107
70	0.0113	0.0118	0.0124	0.0130	0.0136	0.0142	0.0148	0.0155	0.0161	0.0168
80	0.0175	0.0181	0.0188	0.0195	0.0202	0.0210	0.0217	0.0225	0.0232	0.0240
90	0.0248	0.0256	0.0264	0.0272	0.0280	0.0288	0.0297	0.0306	0.0314	0.0323
100	0.0332	0.0341	0.0350	0.0360	0.0369	0.0378	0.0388	0.0398	0.0408	0.0418
110	0.0428	0.0438	0.0448	0.0459	0.0469	0.0480	0.0490	0.0501	0.0512	0.0523
120	0.0534	0.0546	0.0557	0.0569	0.0580	0.0592	0.0604	0.0616	0.0628	0.0640
130	0.0652	0.0665	0.0677	0.0690	0.0702	0.0715	0.0728	0.0741	0.0754	0.0768
140	0.0781	0.0794	0.0808	0.0822	0.0835	0.0849	0.0863	0.0878	0.0892	0.0906
150	0.0921	0.0935	0.0950	0.0965	0.0980	0.0995	0.1010	0.1025	0.1040	0.1056
160	0.1071	0.1087	0.1103	0.1119	0.1135	0.1151	0.1167	0.1183	0.1200	0.1216
170	0.1233	0.1250	0.1267	0.1284	0.1301	0.1318	0.1335	0.1353	0.1370	0.1388
180	0.1405	0.1423	0.1441	0.1459	0.1477	0.1496	0.1514	0.1533	0.1551	0.1570
190	0.1589	0.1608	0.1627	0.1646	0.1665	0.1684	0.1704	0.1723	0.1743	0.1763
200	0.1783	0.1803	0.1823	0.1843	0.1863	0.1884	0.1904	0.1925	0.1946	0.1966
210	0.1987	0.2008	0.2030	0.2051	0.2072	0.2094	0.2115	0.2137	0.2159	0.2181
220	0.2203	0.2225	0.2247	0.2270	0.2292	0.2315	0.2337	0.2360	0.2383	0.2406
230	0.2429	0.2452	0.2475	0.2499	0.2522	0.2546	0.2570	0.2593	0.2617	0.2641
240	0.2666	0.2690	0.2714	0.2739	0.2763	0.2788	0.2813	0.2838	0.2863	0.2888
250	0.2913	0.2938	0.2964	0.2989	0.3015	0.3040	0.3066	0.3092	0.3118	0.3144
260	0.3171	0.3197	0.3223	0.3250	0.3277	0.3303	0.3330	0.3357	0.3384	0.3412
270	0.3439	0.3466	0.3494	0.3521	0.3549	0.3577	0.3605	0.3633	0.3661	0.3689
280	0.3718	0.3746	0.3775	0.3803	0.3832	0.3861	0.3890	0.3919	0.3948	0.3978
290	0.4007	0.4036	0.4066	0.4096	0.4126	0.4155	0.4185	0.4216	0.4246	0.4276
300	0.4307	0.4337	0.4368	0.4398	0.4429	0.4460	0.4491	0.4522	0.4554	0.4585
310	0.4616	0.4648	0.4680	0.4711	0.4743	0.4775	0.4807	0.4840	0.4872	0.4904
320	0.4937	0.4969	0.5002	0.5035	0.5068	0.5101	0.5134	0.5167	0.5200	0.5234
330	0.5267	0.5301	0.5335	0.5368	0.5402	0.5436	0.5470	0.5505	0.5539	0.5573
340	0.5608	0.5643	0.5677	0.5712	0.5747	0.5782	0.5817	0.5853	0.5888	0.5923
350	0.5959	0.5995	0.6030	0.6066	0.6102	0.6138	0.6174	0.6211	0.6247	0.6284
360	0.6320	0.6357	0.6394	0.6430	0.6467	0.6504	0.6542	0.6579	0.6616	0.6654
370	0.6691	0.6729	0.6767	0.6805	0.6843	0.6881	0.6919	0.6957	0.6996	0.7034
380	0.7073	0.7111	0.7150	0.7189	0.7228	0.7267	0.7306	0.7346	0.7385	0.7424
390	0.7464	0.7504	0.7544	0.7583	0.7623	0.7663	0.7704	0.7744	0.7784	0.7825
400	0.7865	0.7906	0.7947	0.7988	0.8029	0.8070	0.8111	0.8152	0.8194	0.8235
410	0.8277	0.8318	0.8360	0.8402	0.8444	0.8486	0.8528	0.8570	0.8613	0.8655
420	0.8698	0.8741	0.8783	0.8826	0.8869	0.8912	0.8955	0.8999	0.9042	0.9085
430	0.9129	0.9173	0.9216	0.9260	0.9304	0.9348	0.9392	0.9437	0.9481	0.9525
440	0.9570	0.9614	0.9659	0.9704	0.9749	0.9794	0.9839	0.9884	0.9930	0.9975
450	1.0020	1.0066	1.0112	1.0158	1.0203	1.0249	1.0296	1.0342	1.0388	1.0434
460	1.0481	1.0527	1.0574	1.0621	1.0668	1.0715	1.0762	1.0809	1.0856	1.0903
470	1.0951	1.0998	1.1046	1.1094	1.1142	1.1189	1.1238	1.1286	1.1334	1.1382
480	1.1431	1.1479	1.1528	1.1576	1.1625	1.1674	1.1723	1.1772	1.1821	1.1870



Technical Information Data Bulletin

Type B Thermocouple Platinum-Rhodium

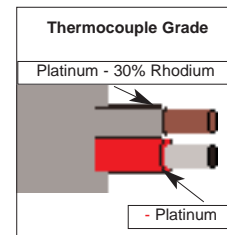
TEMPERATURE & PROCESS INSTRUMENTS - CONZ



Temperature vs Millivolt Table Reference Junction 0°C

Temperature Range
Maximum Useful Temperature Range:
Thermocouple Grade: 32 to 3092°F
-0 to 1700°C
Extension Grade: 32 to 212°F
0 to 100°C

Maximum Thermocouple Grade
Temperature Range
32 to 3308°F
0 to 1820°C
Accuracy: Standard: 0.5% over 800°C
Special: NA



Recommended Applications:

Oxidizing or Inert Environments. Do Not Insert in Metal Tubes, Beware of Contamination, High Temperature Applications.
Uses Copper Wire for Extension Wire.

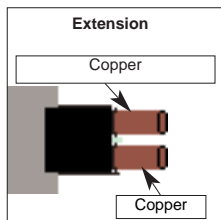
Temp	0	1	2	3	4	5	6	7	8	9
490	1.1920	1.1969	1.2019	1.2068	1.2118	1.2168	1.2218	1.2268	1.2318	1.2368
500	1.2419	1.2469	1.2519	1.2570	1.2621	1.2671	1.2722	1.2773	1.2824	1.2876
510	1.2927	1.2978	1.3030	1.3081	1.3133	1.3184	1.3236	1.3288	1.3340	1.3392
520	1.3444	1.3497	1.3549	1.3602	1.3654	1.3707	1.3760	1.3812	1.3865	1.3918
530	1.3972	1.4025	1.4078	1.4131	1.4185	1.4239	1.4292	1.4346	1.4400	1.4454
540	1.4508	1.4562	1.4616	1.4671	1.4725	1.4780	1.4834	1.4889	1.4944	1.4999
550	1.5054	1.5109	1.5164	1.5219	1.5274	1.5330	1.5385	1.5441	1.5497	1.5552
560	1.5608	1.5664	1.5720	1.5777	1.5833	1.5889	1.5946	1.6002	1.6059	1.6116
570	1.6172	1.6229	1.6286	1.6343	1.6401	1.6458	1.6515	1.6573	1.6630	1.6688
580	1.6745	1.6803	1.6861	1.6919	1.6977	1.7035	1.7094	1.7152	1.7210	1.7269
590	1.7328	1.7386	1.7445	1.7504	1.7563	1.7622	1.7681	1.7740	1.7800	1.7859
600	1.7919	1.7978	1.8038	1.8098	1.8158	1.8218	1.8278	1.8338	1.8398	1.8458
610	1.8519	1.8579	1.8640	1.8701	1.8761	1.8822	1.8883	1.8944	1.9005	1.9066
620	1.9128	1.9189	1.9251	1.9312	1.9374	1.9436	1.9497	1.9559	1.9621	1.9683
630	1.9746	1.9808	1.9870	1.9933	1.9995	2.0058	2.0120	2.0183	2.0246	2.0309
640	2.0372	2.0435	2.0498	2.0561	2.0625	2.0688	2.0752	2.0815	2.0879	2.0943
650	2.1007	2.1070	2.1134	2.1199	2.1263	2.1327	2.1391	2.1456	2.1520	2.1585
660	2.1650	2.1714	2.1779	2.1844	2.1909	2.1974	2.2039	2.2105	2.2170	2.2236
670	2.2301	2.2367	2.2432	2.2498	2.2564	2.2630	2.2696	2.2762	2.2828	2.2895
680	2.2961	2.3027	2.3094	2.3161	2.3227	2.3294	2.3361	2.3428	2.3495	2.3562
690	2.3629	2.3697	2.3764	2.3832	2.3899	2.3967	2.4035	2.4102	2.4170	2.4238
700	2.4306	2.4374	2.4443	2.4511	2.4579	2.4648	2.4717	2.4785	2.4854	2.4923
710	2.4992	2.5061	2.5130	2.5199	2.5268	2.5338	2.5407	2.5476	2.5546	2.5616
720	2.5685	2.5755	2.5825	2.5895	2.5965	2.6036	2.6106	2.6176	2.6247	2.6317
730	2.6388	2.6458	2.6529	2.6600	2.6671	2.6742	2.6813	2.6884	2.6956	2.7027
740	2.7098	2.7170	2.7241	2.7313	2.7385	2.7457	2.7529	2.7601	2.7673	2.7745
750	2.7817	2.7890	2.7962	2.8035	2.8107	2.8180	2.8253	2.8326	2.8399	2.8472
760	2.8545	2.8618	2.8691	2.8764	2.8838	2.8911	2.8985	2.9059	2.9132	2.9206
770	2.9280	2.9354	2.9428	2.9503	2.9577	2.9651	2.9726	2.9800	2.9875	2.9949
780	3.0024	3.0099	3.0174	3.0249	3.0324	3.0399	3.0474	3.0550	3.0625	3.0700
790	3.0776	3.0852	3.0927	3.1003	3.1079	3.1155	3.1231	3.1307	3.1383	3.1460
800	3.1536	3.1613	3.1689	3.1766	3.1842	3.1919	3.1996	3.2073	3.2150	3.2227
810	3.2304	3.2382	3.2459	3.2536	3.2614	3.2691	3.2769	3.2847	3.2925	3.3002
820	3.3080	3.3158	3.3237	3.3315	3.3393	3.3471	3.3550	3.3628	3.3707	3.3786
830	3.3865	3.3943	3.4022	3.4101	3.4180	3.4259	3.4339	3.4418	3.4497	3.4577
840	3.4656	3.4736	3.4816	3.4896	3.4975	3.5055	3.5135	3.5215	3.5296	3.5376
850	3.5456	3.5537	3.5617	3.5698	3.5778	3.5859	3.5940	3.6021	3.6102	3.6183
860	3.6264	3.6345	3.6426	3.6507	3.6589	3.6670	3.6752	3.6833	3.6915	3.6997
870	3.7079	3.7161	3.7243	3.7325	3.7407	3.7489	3.7572	3.7654	3.7736	3.7819
880	3.7902	3.7984	3.8067	3.8150	3.8233	3.8316	3.8399	3.8482	3.8565	3.8648
890	3.8732	3.8815	3.8899	3.8982	3.9066	3.9150	3.9234	3.9317	3.9401	3.9485
900	3.9570	3.9654	3.9738	3.9822	3.9907	3.9991	4.0076	4.0160	4.0245	4.0330
910	4.0415	4.0500	4.0585	4.0670	4.0755	4.0840	4.0925	4.1011	4.1096	4.1182
920	4.1267	4.1353	4.1439	4.1524	4.1610	4.1696	4.1782	4.1868	4.1954	4.2041
930	4.2127	4.2213	4.2300	4.2386	4.2473	4.2559	4.2646	4.2733	4.2820	4.2907
940	4.2994	4.3081	4.3168	4.3255	4.3343	4.3430	4.3517	4.3605	4.3693	4.3780
950	4.3868	4.3956	4.4044	4.4132	4.4220	4.4308	4.4396	4.4484	4.4572	4.4661
960	4.4749	4.4838	4.4926	4.5015	4.5104	4.5192	4.5281	4.5370	4.5459	4.5548
970	4.5637	4.5727	4.5816	4.5905	4.5995	4.6084	4.6174	4.6263	4.6353	4.6443



Technical Information Data Bulletin

Type B Thermocouple Platinum-Rhodium

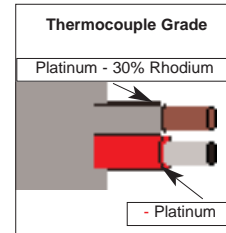
TEMPERATURE & PROCESS INSTRUMENTS - CON-



Temperature vs Millivolt Table Reference Junction 0°C

Temperature Range
Maximum Useful Temperature Range:
Thermocouple Grade: 32 to 3092°F
 -0 to 1700°C
Extension Grade: 32 to 212°F
 0 to 100°C

Maximum Thermocouple Grade
Temperature Range
 32 to 3308°F
 0 to 1820°C
Accuracy: Standard: 0.5% over 800°C
 Special: NA



Recommended Applications:

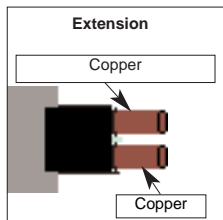
Oxidizing or Inert Environments. Do Not Insert in Metal Tubes, Beware of Contamination, High Temperature Applications. Uses Copper Wire for Extension Wire.

Temp	0	1	2	3	4	5	6	7	8	9
980	4.6532	4.6622	4.6712	4.6802	4.6892	4.6983	4.7073	4.7163	4.7254	4.7344
990	4.7435	4.7525	4.7616	4.7706	4.7797	4.7888	4.7979	4.8070	4.8161	4.8252
1000	4.8343	4.8435	4.8526	4.8617	4.8709	4.8800	4.8892	4.8984	4.9075	4.9167
1010	4.9259	4.9351	4.9443	4.9535	4.9627	4.9719	4.9812	4.9904	4.9996	5.0089
1020	5.0181	5.0274	5.0367	5.0460	5.0552	5.0645	5.0738	5.0831	5.0924	5.1017
1030	5.1111	5.1204	5.1297	5.1391	5.1484	5.1578	5.1671	5.1765	5.1859	5.1952
1040	5.2046	5.2140	5.2234	5.2328	5.2422	5.2516	5.2611	5.2705	5.2799	5.2894
1050	5.2988	5.3083	5.3178	5.3272	5.3367	5.3462	5.3557	5.3652	5.3747	5.3842
1060	5.3937	5.4032	5.4128	5.4223	5.4318	5.4414	5.4509	5.4605	5.4701	5.4796
1070	5.4892	5.4988	5.5084	5.5180	5.5276	5.5372	5.5468	5.5564	5.5661	5.5757
1080	5.5854	5.5950	5.6047	5.6143	5.6240	5.6337	5.6433	5.6530	5.6627	5.6724
1090	5.6821	5.6918	5.7016	5.7113	5.7210	5.7307	5.7405	5.7502	5.7600	5.7698
1100	5.7795	5.7893	5.7991	5.8089	5.8187	5.8285	5.8383	5.8481	5.8579	5.8677
1110	5.8775	5.8874	5.8972	5.9071	5.9169	5.9268	5.9366	5.9465	5.9564	5.9663
1120	5.9762	5.9861	5.9960	6.0059	6.0158	6.0257	6.0356	6.0456	6.0555	6.0654
1130	6.0754	6.0854	6.0953	6.1053	6.1153	6.1252	6.1352	6.1452	6.1552	6.1652
1140	6.1752	6.1852	6.1953	6.2053	6.2153	6.2254	6.2354	6.2455	6.2555	6.2656
1150	6.2757	6.2857	6.2958	6.3059	6.3160	6.3261	6.3362	6.3463	6.3564	6.3665
1160	6.3767	6.3868	6.3969	6.4071	6.4172	6.4274	6.4376	6.4477	6.4579	6.4681
1170	6.4783	6.4884	6.4986	6.5088	6.5191	6.5293	6.5395	6.5497	6.5599	6.5702
1180	6.5804	6.5907	6.6009	6.6112	6.6214	6.6317	6.6420	6.6523	6.6626	6.6728
1190	6.6831	6.6934	6.7038	6.7141	6.7244	6.7347	6.7451	6.7554	6.7657	6.7761
1200	6.7864	6.7968	6.8072	6.8175	6.8279	6.8383	6.8487	6.8591	6.8695	6.8799
1210	6.8903	6.9007	6.9111	6.9215	6.9320	6.9424	6.9528	6.9633	6.9737	6.9842
1220	6.9946	7.0051	7.0156	7.0261	7.0366	7.0470	7.0575	7.0680	7.0785	7.0890
1230	7.0996	7.1101	7.1206	7.1311	7.1417	7.1522	7.1628	7.1733	7.1839	7.1944
1240	7.2050	7.2156	7.2262	7.2367	7.2473	7.2579	7.2685	7.2791	7.2897	7.3003
1250	7.3110	7.3216	7.3322	7.3429	7.3535	7.3641	7.3748	7.3854	7.3961	7.4068
1260	7.4174	7.4281	7.4388	7.4495	7.4602	7.4709	7.4816	7.4923	7.5030	7.5137
1270	7.5244	7.5351	7.5459	7.5566	7.5673	7.5781	7.5888	7.5996	7.6103	7.6211
1280	7.6319	7.6426	7.6534	7.6642	7.6750	7.6858	7.6966	7.7074	7.7182	7.7290
1290	7.7398	7.7506	7.7615	7.7723	7.7831	7.7940	7.8048	7.8157	7.8265	7.8374
1300	7.8482	7.8591	7.8700	7.8809	7.8917	7.9026	7.9135	7.9244	7.9353	7.9462
1310	7.9571	7.9680	7.9790	7.9899	8.0008	8.0117	8.0227	8.0336	8.0446	8.0555
1320	8.0665	8.0774	8.0884	8.0994	8.1103	8.1213	8.1323	8.1433	8.1543	8.1653
1330	8.1763	8.1873	8.1983	8.2093	8.2203	8.2313	8.2423	8.2534	8.2644	8.2754
1340	8.2865	8.2975	8.3086	8.3196	8.3307	8.3417	8.3528	8.3639	8.3749	8.3860
1350	8.3971	8.4082	8.4193	8.4304	8.4415	8.4526	8.4637	8.4748	8.4859	8.4970
1360	8.5082	8.5193	8.5304	8.5415	8.5527	8.5638	8.5750	8.5861	8.5973	8.6084
1370	8.6196	8.6308	8.6419	8.6531	8.6643	8.6755	8.6867	8.6978	8.7090	8.7202
1380	8.7314	8.7426	8.7539	8.7651	8.7763	8.7875	8.7987	8.8099	8.8212	8.8324
1390	8.8436	8.8549	8.8661	8.8774	8.8886	8.8999	8.9112	8.9224	8.9337	8.9449
1400	8.9562	8.9675	8.9788	8.9901	9.0014	9.0126	9.0239	9.0352	9.0465	9.0578
1410	9.0691	9.0805	9.0918	9.1031	9.1144	9.1257	9.1371	9.1484	9.1597	9.1711
1420	9.1824	9.1938	9.2051	9.2165	9.2278	9.2392	9.2505	9.2619	9.2733	9.2846
1430	9.2960	9.3074	9.3188	9.3301	9.3415	9.3529	9.3643	9.3757	9.3871	9.3985
1440	9.4099	9.4213	9.4327	9.4441	9.4555	9.4670	9.4784	9.4898	9.5012	9.5127
1450	9.5241	9.5355	9.5470	9.5584	9.5699	9.5813	9.5928	9.6042	9.6157	9.6271



Type B Thermocouple Platinum-Rhodium

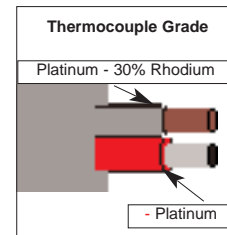
TEMPERATURE & PROCESS INSTRUMENTS - CON-



Temperature vs Millivolt Table Reference Junction 0°C

Temperature Range
Maximum Useful Temperature Range:
Thermocouple Grade: 32 to 3092°F
 -0 to 1700°C
Extension Grade: 32 to 212°F
 0 to 100°C

Maximum Thermocouple Grade
Temperature Range
 32 to 3308°F
 0 to 1820°C
Accuracy: Standard: 0.5% over 800°C
 Special: NA



Recommended Applications:

Oxidizing or Inert Environments. Do Not Insert in Metal Tubes, Beware of Contamination, High Temperature Applications. Uses Copper Wire for Extension Wire.

Temp	0	1	2	3	4	5	6	7	8	9
1460	9.6386	9.6500	9.6615	9.6730	9.6844	9.6959	9.7074	9.7189	9.7304	9.7418
1470	9.7533	9.7648	9.7763	9.7878	9.7993	9.8108	9.8223	9.8338	9.8453	9.8568
1480	9.8683	9.8799	9.8914	9.9029	9.9144	9.9259	9.9375	9.9490	9.9605	9.9721
1490	9.9836	9.9951	10.0067	10.0182	10.0297	10.0413	10.0528	10.0644	10.0759	10.0875
1500	10.0991	10.1106	10.1222	10.1337	10.1453	10.1569	10.1685	10.1800	10.1916	10.2032
1510	10.2148	10.2263	10.2379	10.2495	10.2611	10.2727	10.2843	10.2959	10.3074	10.3190
1520	10.3306	10.3422	10.3538	10.3654	10.3770	10.3887	10.4003	10.4119	10.4235	10.4351
1530	10.4467	10.4583	10.4699	10.4816	10.4932	10.5048	10.5164	10.5281	10.5397	10.5513
1540	10.5629	10.5746	10.5862	10.5978	10.6095	10.6211	10.6328	10.6444	10.6560	10.6677
1550	10.6793	10.6910	10.7026	10.7143	10.7259	10.7376	10.7492	10.7609	10.7725	10.7842
1560	10.7959	10.8075	10.8192	10.8308	10.8425	10.8542	10.8658	10.8775	10.8892	10.9008
1570	10.9125	10.9242	10.9358	10.9475	10.9592	10.9709	10.9825	10.9942	11.0059	11.0176
1580	11.0293	11.0409	11.0526	11.0643	11.0760	11.0877	11.0993	11.1110	11.1227	11.1344
1590	11.1461	11.1578	11.1695	11.1812	11.1928	11.2045	11.2162	11.2279	11.2396	11.2513
1600	11.2630	11.2747	11.2864	11.2981	11.3098	11.3215	11.3332	11.3449	11.3566	11.3683
1610	11.3800	11.3917	11.4034	11.4151	11.4268	11.4385	11.4502	11.4619	11.4736	11.4853
1620	11.4970	11.5087	11.5204	11.5321	11.5438	11.5555	11.5672	11.5789	11.5906	11.6023
1630	11.6140	11.6257	11.6374	11.6491	11.6608	11.6725	11.6842	11.6959	11.7076	11.7193
1640	11.7311	11.7428	11.7545	11.7662	11.7779	11.7896	11.8013	11.8130	11.8247	11.8364
1650	11.8481	11.8598	11.8715	11.8832	11.8949	11.9066	11.9183	11.9300	11.9417	11.9534
1660	11.9651	11.9768	11.9885	12.0002	12.0119	12.0236	12.0353	12.0470	12.0587	12.0704
1670	12.0821	12.0938	12.1054	12.1171	12.1288	12.1405	12.1522	12.1639	12.1756	12.1873
1680	12.1990	12.2107	12.2223	12.2340	12.2457	12.2574	12.2691	12.2808	12.2924	12.3041
1690	12.3158	12.3275	12.3392	12.3508	12.3625	12.3742	12.3859	12.3975	12.4092	12.4209
1700	12.4325	12.4442	12.4559	12.4675	12.4792	12.4909	12.5025	12.5142	12.5259	12.5375
1710	12.5492	12.5608	12.5725	12.5841	12.5958	12.6075	12.6191	12.6308	12.6424	12.6540
1720	12.6657	12.6773	12.6890	12.7006	12.7123	12.7239	12.7355	12.7472	12.7588	12.7704
1730	12.7821	12.7937	12.8053	12.8169	12.8286	12.8402	12.8518	12.8634	12.8750	12.8867
1740	12.8983	12.9099	12.9215	12.9331	12.9447	12.9563	12.9679	12.9795	12.9911	13.0027
1750	13.0143	13.0259	13.0375	13.0491	13.0607	13.0723	13.0838	13.0954	13.1070	13.1186
1760	13.1302	13.1417	13.1533	13.1649	13.1764	13.1880	13.1996	13.2111	13.2227	13.2342
1770	13.2458	13.2574	13.2689	13.2805	13.2920	13.3035	13.3151	13.3266	13.3382	13.3497
1780	13.3612	13.3727	13.3843	13.3958	13.4073	13.4188	13.4304	13.4419	13.4534	13.4649
1790	13.4764	13.4879	13.4994	13.5109	13.5224	13.5339	13.5454	13.5569	13.5683	13.5798
1800	13.5913	13.6028	13.6143	13.6257	13.6372	13.6487	13.6601	13.6716	13.6830	13.6945
1810	13.7059	13.7174	13.7288	13.7403	13.7517	13.7631	13.7746	13.7860	13.7974	13.8089
1820	13.8203									