



APPENDICES

TABLE 1(a)
Compound Interest

Annual Compounding

No. of Periods <i>n</i>	$(1 + i)^n$		
	10% per Annum <i>i</i> = 0.10	14% per Annum <i>i</i> = 0.14	18% per Annum <i>i</i> = 0.18
1	1.1	1.14	1.18
2	1.21	1.2996	1.3924
3	1.331	1.48154	1.64303
4	1.4641	1.68896	1.93878
5	1.61051	1.92541	2.28776
6	1.77156	2.19497	2.69955
7	1.94872	2.50227	3.18547
8	2.14359	2.85258	3.75886
9	2.35795	3.25194	4.43546
10	2.59374	3.70722	5.23384
11	2.85312	4.22622	6.17593
12	3.13843	4.8179	7.28759
13	3.45227	5.4924	8.59936
14	3.7975	6.26,133	10.1472
15	4.17725	7.13792	11.9738
16	4.59497	8.13723	14.129
17	5.05447	9.27644	16.6723
18	5.55992	10.5751	19.6733
19	6.11591	12.0557	23.2144
20	6.7275	12.7435	27.393

TABLE 1(b)
Present Value of Re. 1

Annual Compounding

No. of Periods <i>n</i>	$(1 + i)^{-n}$		
	10% per Annum	14% per Annum	18% per Annum
1	.909091	.877193	.847458
2	.826446	.769468	.718184
3	.751315	.674972	.608631
4	.683014	.592081	.515789
5	.620921	.519369	.437109
6	.564474	.455587	.370432
7	.513158	.399638	.313925
8	.466507	.35056	.266038
9	.424098	.307508	.225456
10	.385543	.269744	.191064
11	.350494	.236618	.161919
12	.318631	.20756	.137219
13	.289664	.18207	.116288
14	.263331	.15971	.0985489
15	.239392	.140097	.083516
16	.217629	.122892	.0707763
17	.197845	.1078	.0599799
18	.179859	.0945614	.0508304
19	.163508	.0829486	.0430766
20	.148644	0.72762	.0365056



TABLE 2(a)
Present Value of an Annuity

Annual Compounding

No. of Periods <i>n</i>	10% per Annum		14% per Annum		18% per Annum	
	$P(n, i)$	$1/P(n, i)$	$P(n, i)$	$1/P(n, i)$	$P(n, i)$	$1/P(n, i)$
1	.909091	1.1	.877192	1.14	.847458	1.18
2	1.73554	.576191	1.64666	.60729	1.56564	.638716
3	2.48685	.402115	2.32163	.430732	2.17427	.459924
4	3.16987	.315471	2.91371	.343205	2.69006	.371739
5	3.79079	.263798	3.43308	.291284	3.12717	.319778
6	4.35526	.229607	3.88867	.257158	3.4976	.28591
7	4.86842	.205406	4.2883	.233193	3.81153	.262362
8	5.33493	.187444	4.63886	.21557	4.07757	.245244
9	5.75902	.173641	4.94637	.202169	4.30302	.232395
10	6.14457	.162745	5.21611	.191714	4.49409	.222515
11	6.49506	.153963	5.45273	.183394	4.65601	.214776
12	6.81369	.146763	5.66029	.176669	4.79323	.208628
13	7.10336	.140779	5.84236	.171164	4.90951	.203686
14	7.36669	.135746	6.00207	.166609	5.00806	.199678
15	7.60608	.131474	6.14217	.162809	5.09158	.196403
16	7.82371	.127817	6.26506	.159615	5.16236	.19371
17	8.02155	.124664	6.37286	.156915	5.22233	.191485
18	8.20141	.12193	6.46742	.154621	5.27316	.189639
19	8.36492	.119547	6.55037	.152663	5.31624	.188103
20	8.51356	.11746	6.62313	.150986	5.35275	.18682

TABLE 2(b)
Amount of an Annuity

Annual Computing

No. of Periods <i>n</i>	10% per Annum		14% per Annum		18% per Annum	
	$A(n, i)$	$1/A(n, i)$	$A(n, i)$	$1/A(n, i)$	$A(n, i)$	$1/A(n, i)$
1	1.000000	.999999994	1.00000001	999999993	1	.999999996
2	2.100000	.476190473	2.14000001	.467289717	2.18000001	.458715595
3	3.310000	.302114802	3.43960003	.290731478	3.57240001	.27992386
4	4.641000	.215470802	4.92114404	.203204782	5.21543202	.19173867
5	6.105100	.16379748	6.61010421	.151283545	7.15420979	.139777841
6	7.71561006	.129607379	8.53551881	.117157495	9.44196755	.105910129
7	9.48717108	.105405499	10.7304915	.0931923765	12.1415217	.082361999
8	11.4358882	.0874440168	13.2327603	.0755700232	15.3269956	.0652443586
9	13.579477	.0736405385	16.0853467	.0621683833	19.0858549	.0523948237
10	15.9374248	.0627453949	19.3372953	.0517135403	23.5213088	.0425146411
11	18.5311672	.0539631415	23.0445166	.043394271	28.7551443	.034776386
12	21.384284	.0467633146	27.270749	.0366693265	34.9310704	.0286278087
13	24.5227124	.0407785234	32.0886539	.0311636631	42.218663	.0236862072
14	27.9749837	.0357462229	37.5810655	.0266091445	50.8180224	0.196780582
15	31.772482	.0314737765	43.8424147	.0228089627	60.9652664	.0164027824
16	35.9497303	.0278166204	50.9803528	.0196153998	72.9390144	.0137100838
17	40.5447033	.0246641341	59.1176022	.0169154357	87.0680371	.011485271
18	45.5991737	.021930222	68.3940666	.0146211514	103.740284	.00963945696
19	51.1590911	.019546868	78.969236	.0126631591	123.413535	.00810283897
20	57.274999	.0174596250	91.0249291	.0109860014	146.627971	.00681998115



TABLE 3
Future Value and Present Value

i = rate of interest per period, n = number of periods

$$i = \frac{1}{4} \%$$

$$i = \frac{1}{2} \%$$

$$i = \frac{3}{4} \%$$

n	$(1 + i)^n$	$(1 + i)^{-n}$	$(1 + i)^n$	$(1 + i)^{-n}$	$(1 + i)^n$	$(1 + i)^{-n}$
1	1.0025 0000	0.9975 0623	1.0050 0000	0.9950 2488	1.0075 0000	0.9925 5583
2	1.0050 0625	0.9950 1869	1.0100 2500	0.9900 7450	1.0150 5625	0.9851 6708
3	1.0075 1877	0.9925 3734	1.0150 7513	0.9851 4876	1.0226 6917	0.9778 3333
4	1.0100 3756	0.9900 6219	1.0201 5050	0.9802 4752	1.0303 3919	0.9705 5417
5	1.0125 6266	0.9875 9321	1.0252 5125	0.9753 7067	1.0380 6673	0.9633 2920
6	1.0150 9406	0.9851 3038	1.0303 7751	0.9705 1808	1.0458 5224	0.9561 5802
7	1.0176 3180	0.9826 7370	1.0355 2940	0.9656 8963	1.0536 9613	0.9490 4022
8	1.0201 7588	0.9802 2314	1.0407 0704	0.9608 8520	1.0615 9885	0.9419 7540
9	1.0227 2632	0.9777 7869	1.0459 1058	0.9561 0468	1.0695 6084	0.9349 6318
10	1.0252 8313	0.9753 4034	1.0511 4013	0.9513 4794	1.0775 8255	0.9280 0315
11	1.0278 4634	0.9729 0807	1.0563 9583	0.9466 1487	1.0856 6441	0.9210 9494
12	1.0304 1596	0.9704 8187	1.0616 7781	0.9419 0534	1.0938 0690	0.9142 3815
13	1.0329 9200	0.9680 6171	1.0669 8620	0.9372 1924	1.1020 1045	0.9074 3241
14	1.0355 7448	0.9656 4759	1.0723 2113	0.9325 5646	1.1102 7553	0.9006 7733
15	1.0381 6341	0.9632 3949	1.0776 8274	0.9279 1688	1.1186 0259	0.8939 7254
16	1.0407 5882	0.9608 3740	1.0830 7115	0.9233 0037	1.1269 9211	0.8873 1766
17	1.0433 6072	0.9584 4130	1.0884 8651	0.9187 0684	1.1354 4455	0.8807 1231
18	1.0459 6912	0.9560 5117	1.0939 2894	0.9141 3616	1.1439 6039	0.8741 5614
19	1.0485 8404	0.9536 6700	1.0993 9858	0.9095 8822	1.1525 4009	0.8676 4878
20	1.0512 0550	0.9512 8878	1.1048 9558	0.9050 6290	1.1611 8414	0.8611 8985
21	1.0538 3352	0.9489 1649	1.1104 2006	0.9005 6010	1.1698 9302	0.8547 7901
22	1.0564 6810	0.9465 5011	1.1159 7216	0.8960 7971	1.1786 6722	0.8484 1589
23	1.0591 0927	0.9441 8964	1.1215 5202	0.8916 2160	1.1875 0723	0.8421 0014
24	1.0617 5704	0.9418 3505	1.1271 5978	0.8871 8567	1.1964 1353	0.8358 3140
25	1.0644 1144	0.9394 8634	1.1327 9558	0.8827 7181	1.2053 8663	0.8296 0933
26	1.0670 7247	0.9371 4348	1.1384 5955	0.8783 7991	1.2144 2703	0.8234 3358
27	1.0697 4015	0.9348 0646	1.1441 5185	0.8740 0986	1.2235 3523	0.8173 0380
28	1.0724 1450	0.9324 7527	1.1498 7261	0.8696 6155	1.2327 1175	0.8112 1966
29	1.0750 9553	0.9301 4990	1.1556 2197	0.8653 3488	1.2419 5709	0.8051 8080
30	1.0777 8327	0.9278 3032	1.1614 0008	0.8610 2973	1.2512 7176	0.7991 8690
31	1.0804 7773	0.9255 1653	1.1672 0708	0.8567 4600	1.2606 5630	0.7932 3762
32	1.0831 7892	0.9232 0851	1.1730 4312	0.8524 8358	1.2701 1122	0.7873 3262
33	1.0858 8687	0.9209 0624	1.1789 0833	0.8482 4237	1.2796 3706	0.7814 7158
34	1.0886 0159	0.9186 0972	1.1848 0288	0.8440 2226	1.2892 3434	0.7756 5418
35	1.0913 2309	0.9163 1892	1.1907 2689	0.8398 2314	1.2989 0359	0.7698 8008
36	1.0940 5140	0.9140 3384	1.1966 8052	0.8356 4492	1.3086 4537	0.7641 4896
37	1.0967 8653	0.9117 5445	1.2026 6393	0.8314 8748	1.3184 6021	0.7584 6051
38	1.0995 2850	0.9094 8075	1.2086 7725	0.8273 5073	1.3283 4866	0.7528 1440
39	1.1022 7732	0.9072 1272	1.2147 2063	0.8232 3455	1.3383 1128	0.7472 1032
40	1.1050 3301	0.9049 5034	1.2207 9424	0.8191 3886	1.3483 4861	0.7416 4796
41	1.1077 9559	0.9026 9361	1.2268 9821	0.8150 6354	1.3584 6123	0.7361 2701
42	1.1105 6508	0.9004 4250	1.2330 3270	0.8110 0850	1.3686 4969	0.7306 4716
43	1.1133 4149	0.8981 9701	1.2391 9786	0.8069 7363	1.3789 1456	0.7252 0809
44	1.1161 2485	0.8959 5712	1.2453 9385	0.8029 5884	1.3892 5642	0.7198 0952
45	1.1189 1516	0.8937 2281	1.2516 2082	0.7989 6402	1.3996 7584	0.7144 5114
46	1.1217 1245	0.8914 9407	1.2578 7892	0.7949 8907	1.4101 7341	0.7091 3264
47	1.1245 1673	0.8892 7090	1.2641 6832	0.7910 3390	1.4207 4971	0.7038 5374
48	1.1273 2802	0.8870 5326	1.2704 8916	0.7870 9841	1.4314 0533	0.6986 1414
49	1.1301 4634	0.8848 4116	1.2768 4161	0.7831 8250	1.4421 4087	0.6934 1353
50	1.1329 7171	0.8826 3457	1.2832 2581	0.7792 8607	1.4529 5693	0.6882 5165

 $i = 1\%$ $i = 1\frac{1}{4}\%$ $i = 1\frac{1}{2}\%$

n	$(1 + i)^n$	$(1 + i)^{-n}$	$(1 + i)^n$	$(1 + i)^{-n}$	$(1 + i)^n$	$(1 + i)^{-n}$
1	1.0100 0000	0.9900 9901	1.0125 0000	0.9876 5432	1.0150 0000	0.9852 2167
2	1.0201 0000	0.9802 9605	1.0251 5625	0.9754 6106	1.0302 2500	0.9706 6175
3	1.0303 0100	0.9705 9015	1.0379 7070	0.9634 1833	1.0456 7838	0.9563 1699
4	1.0406 0401	0.9609 8034	1.0509 4534	0.9515 2428	1.0613 6355	0.9421 8423
5	1.0510 1005	0.9514 6569	1.0640 8215	0.9397 7706	1.0772 8400	0.9282 6033
6	1.0615 2015	0.9420 4524	1.0773 8318	0.9281 7488	1.0934 4326	0.9145 4219
7	1.0721 3535	0.9327 1805	1.0908 5047	0.9167 1593	1.1098 4491	0.9010 2679
8	1.0828 5671	0.9234 8322	1.1044 8610	0.9053 9845	1.1264 9259	0.8877 1112
9	1.0936 8527	0.9143 3982	1.1182 9218	0.8942 2069	1.1433 8998	0.8745 9224
10	1.1046 2213	0.9052 8695	1.1322 7083	0.8831 8093	1.1605 4083	0.8616 6723
11	1.1156 6835	0.8963 2372	1.1464 2422	0.8722 7746	1.1779 4894	0.8489 3323
12	1.1268 2503	0.8874 4923	1.1607 5452	0.8615 0860	1.1956 1817	0.8363 8742
13	1.1380 9328	0.8786 6260	1.1752 6395	0.8508 7269	1.2135 5244	0.8240 2702
14	1.1494 7421	0.8699 6297	1.1899 5475	0.8403 6809	1.2317 5573	0.8118 4928
15	1.1609 6896	0.8613 4947	1.2048 2918	0.8299 9318	1.2502 3207	0.7998 5150
16	1.1725 7864	0.8528 2126	1.2198 8955	0.8197 4635	1.2689 8555	0.7880 3104
17	1.1843 0443	0.8443 7749	1.2351 3817	0.8096 2602	1.2880 2033	0.7763 8526
18	1.1961 4748	0.8360 1731	1.2505 7739	0.7996 3064	1.3073 4064	0.7649 1159
19	1.2081 0895	0.8277 3992	1.2662 0961	0.7897 5866	1.3269 5075	0.7536 0747
20	1.2201 9004	0.8195 4447	1.2820 3723	0.7800 0855	1.3468 5501	0.7424 7042
21	1.2323 9194	0.8114 3017	1.2980 6270	0.7703 7881	1.3670 5783	0.7314 9795
22	1.2447 1586	0.8033 9621	1.3142 8848	0.7608 6796	1.3875 6370	0.7206 8763
23	1.2571 6302	0.7954 4179	1.3307 1709	0.7514 7453	1.4083 7715	0.7100 3708
24	1.2697 3465	0.7875 6613	1.3473 5105	0.7421 9707	1.4295 0281	0.6995 4392
25	1.2824 3200	0.7797 6844	1.3641 9294	0.7330 3414	1.4509 4535	0.6892 0583
26	1.2952 5631	0.7720 4796	1.3812 4535	0.7239 8434	1.4727 0953	0.6790 2052
27	1.3082 0888	0.7644 0392	1.3985 1092	0.7150 4626	1.4948 0018	0.6689 8574
28	1.3212 9097	0.7568 3557	1.4159 9230	0.7062 1853	1.5172 2218	0.6590 9925
29	1.3345 0388	0.7493 4215	1.4336 9221	0.6974 9978	1.5399 8051	0.6493 5887
30	1.3478 4892	0.7419 2292	1.4516 1336	0.6888 8867	1.5630 8022	0.6397 6243
31	1.3613 2740	0.7345 7715	1.4697 5853	0.6803 8387	1.5865 2642	0.6303 0781
32	1.3749 4068	0.7273 0411	1.4881 3051	0.6719 8407	1.6103 2432	0.6209 9292
33	1.3886 9009	0.7201 0307	1.5067 3214	0.6636 8797	1.6344 7918	0.6118 1568
34	1.4025 7699	0.7129 7334	1.5255 6629	0.6554 9429	1.6589 9637	0.6027 7407
35	1.4166 0276	0.7059 1420	1.5446 3587	0.6474 0177	1.6838 8132	0.5938 6608
36	1.4307 6878	0.6989 2495	1.5639 4382	0.6394 0916	1.7091 3954	0.5850 8974
37	1.4450 7647	0.6920 0490	1.5834 9312	0.6315 1522	1.7347 7663	0.5764 4309
38	1.4595 2724	0.6851 5337	1.6032 8678	0.6237 1873	1.7607 9828	0.5679 2423
39	1.4741 2251	0.6783 6967	1.6233 2787	0.6160 1850	1.7872 1025	0.5595 3126
40	1.4888 6373	0.6716 5314	1.6436 1946	0.6084 1334	1.8140 1841	0.5512 6232
41	1.5037 5237	0.6650 0311	1.6641 6471	0.6009 0206	1.8412 2868	0.5431 1559
42	1.5187 8989	0.6584 1892	1.6849 6677	0.5934 8352	1.8688 4712	0.5350 8925
43	1.5339 7779	0.6518 9992	1.7060 2885	0.5861 5656	1.8968 7982	0.5271 8153
44	1.5493 1757	0.6454 4546	1.7273 5421	0.5789 2006	1.9253 3302	0.5193 9067
45	1.5648 1075	0.6390 5492	1.7489 4614	0.5717 7290	1.9542 1301	0.5117 1494
46	1.5804 5885	0.6327 2764	1.7708 0797	0.5647 1397	1.9835 2621	0.5041 5265
47	1.5962 6344	0.6264 6301	1.7929 4306	0.5577 4219	2.0132 7910	0.4967 0212
48	1.6122 2608	0.6202 6041	1.8153 5485	0.5508 5649	2.0434 7829	0.4893 6170
49	1.6283 4834	0.6141 1921	1.8380 4679	0.5440 5579	2.0741 3046	0.4821 2975
50	1.6446 3182	0.6080 3882	1.8610 2237	0.5373 3905	2.1052 4242	0.4750 0468



$$i = 1\frac{3}{4}\%$$

$$i = 2\%$$

$$i = 2\frac{1}{4}\%$$

n	$(1 + i)^n$	$(1 + i)^{-n}$	$(1 + i)^n$	$(1 + i)^{-n}$	$(1 + i)^n$	$(1 + i)^{-n}$
1	1.0175 0000	0.9828 0098	1.0200 0000	0.9803 9216	1.0225 0000	0.9779 9511
2	1.0353 0625	0.9658 9777	1.0404 0000	0.9611 6878	1.0455 0625	0.9564 7444
3	1.0534 2411	0.9492 8528	1.0612 0800	0.9423 2233	1.0690 3014	0.9354 2732
4	1.0718 5903	0.9329 5851	1.0824 3216	0.9238 4543	1.0930 8332	0.9148 4335
5	1.0906 1656	0.9169 1254	1.1040 8080	0.9057 3081	1.1176 7769	0.8947 1232
6	1.1097 0235	0.9011 4254	1.1261 6242	0.8879 7138	1.1428 2544	0.8750 2427
7	1.1291 2215	0.8856 4378	1.1486 8567	0.8705 6018	1.1685 3901	0.8557 6946
8	1.1488 8178	0.8704 1157	1.1716 5938	0.8534 9037	1.1948 3114	0.8369 3835
9	1.1689 8721	0.8554 4135	1.1950 9257	0.8367 5527	1.2217 1484	0.8185 2161
10	1.1894 4449	0.8407 2860	1.2189 9442	0.8203 4830	1.2492 0343	0.8005 1013
11	1.2102 5977	0.8262 6889	1.2433 7431	0.8042 6304	1.2773 1050	0.7828 9499
12	1.2314 3931	0.8120 5788	1.2682 4179	0.7884 9318	1.3060 4999	0.7656 6748
13	1.2529 8950	0.7980 9128	1.2936 0663	0.7730 3253	1.3354 3611	0.7488 1905
14	1.2749 1682	0.7843 6490	1.3194 7876	0.7578 7502	1.3654 8343	0.7323 4137
15	1.2972 2786	0.7708 7459	1.3458 6834	0.7430 1473	1.3962 0680	0.7162 2628
16	1.3199 2935	0.7576 1631	1.3727 8571	0.7284 4581	1.4276 2146	0.7004 6580
17	1.3430 2811	0.7445 8605	1.4002 4142	0.7141 6256	1.4597 4294	0.6850 5212
18	1.3665 3111	0.7317 7990	1.4282 4625	0.7001 5937	1.4925 8716	0.6699 7763
19	1.3904 4540	0.7191 9401	1.4568 1117	0.6864 3076	1.5261 7037	0.6552 3484
20	1.4147 7820	0.7068 2458	1.4859 4740	0.6729 7133	1.5605 0920	0.6408 1647
21	1.4395 3681	0.6946 6789	1.5156 6634	0.6597 7582	1.5956 2066	0.6267 1538
22	1.4647 2871	0.6827 2028	1.5459 7967	0.6468 3904	1.6315 2212	0.6129 2457
23	1.4903 6146	0.6709 7817	1.5768 9926	0.6341 5592	1.6682 3137	0.5994 3724
24	1.5164 4279	0.6594 3800	1.6084 3725	0.6217 2149	1.7057 6658	0.5862 4668
25	1.5429 8054	0.6480 9632	1.6406 0599	0.6095 3087	1.7441 4632	0.5733 4639
26	1.5699 8269	0.6369 4970	1.6734 1811	0.5975 7928	1.7833 8962	0.5607 2997
27	1.5974 5739	0.6259 9479	1.7068 8648	0.5858 6204	1.8235 1588	0.5483 9117
28	1.6254 1290	0.6152 2829	1.7410 2421	0.5743 7455	1.8645 4499	0.5363 2388
29	1.6538 5762	0.6046 4697	1.7758 4469	0.5631 1231	1.9064 9725	0.5245 2213
30	1.6828 0013	0.5942 4764	1.8113 6158	0.5520 7089	1.9493 9344	0.5129 8008
31	1.7122 4913	0.5840 2716	1.8475 8882	0.5412 4597	1.9932 5479	0.5016 9201
32	1.7422 1349	0.5739 8247	1.8845 4059	0.5306 3330	2.0381 0303	0.4906 5233
33	1.7727 0223	0.5641 1053	1.9222 3140	0.5205 2873	2.0839 6034	0.4798 5558
34	1.8037 2452	0.5544 0839	1.9606 7603	0.5100 2817	2.1308 4945	0.4692 9641
35	1.8352 8970	0.5448 7311	1.9998 8955	0.5000 2761	2.1787 9356	0.4589 6960
36	1.8674 0727	0.5355 0183	2.0398 8734	0.4902 2315	2.2278 1642	0.4488 7002
37	1.9000 8689	0.5262 9172	2.0806 8509	0.4806 1093	2.2779 4229	0.4389 9268
38	1.9333 3841	0.5172 4002	2.1222 9879	0.4711 8719	2.3291 9599	0.4293 3270
39	1.9671 7184	0.5083 4400	2.1647 4477	0.4619 4822	2.3816 0290	0.4198 8528
40	2.0015 9734	0.4996 0098	2.2080 3966	0.4528 9042	2.4351 8897	0.4106 4575
41	2.0366 2530	0.4910 0834	2.2522 0046	0.4440 1021	2.4899 8072	0.4016 0954
42	2.0722 6624	0.4825 6348	2.2972 4447	0.4353 0413	2.5460 0528	0.3927 7216
43	2.1085 3090	0.4742 6386	2.3431 8936	0.4267 6875	2.6032 9040	0.3841 2925
44	2.1454 3019	0.4661 0699	2.3900 5314	0.4184 0074	2.6618 6444	0.3756 7653
45	2.1829 7522	0.4580 9040	2.4378 5421	0.4101 9680	2.7217 5639	0.3674 0981
46	2.2211 7728	0.4502 1170	2.4866 1129	0.4021 5373	2.7829 9590	0.3593 2500
47	2.2600 4789	0.4424 6850	2.5363 4352	0.3942 6836	2.8456 1331	0.3514 1809
48	2.2995 9872	0.4348 5848	2.5870 7039	0.3865 3761	2.9096 3961	0.3436 8518
49	2.3398 4170	0.4273 7934	2.6388 1179	0.3789 5844	2.9751 0650	0.3361 2242
50	2.3807 8893	0.4200 2883	2.6915 8803	0.3715 2788	3.0420 4640	0.3287 2608



$$i = 2\frac{1}{2} \%$$

$$i = 3\%$$

$$i = 3\frac{1}{2} \%$$

n	$(1 + i)^n$	$(1 + i)^{-n}$	$(1 + i)^n$	$(1 + i)^{-n}$	$(1 + i)^n$	$(1 + i)^{-n}$
1	1.0250 0000	0.9756 0976	1.0300 0000	0.9708 7379	1.0350 0000	0.9661 8357
2	1.0506 2500	0.9518 1440	1.0609 0000	0.9425 9591	1.0712 2500	0.9335 1070
3	1.0768 9063	0.9285 9941	1.0927 2700	0.9151 4166	1.1087 1788	0.9019 4271
4	1.1038 1289	0.9059 5064	1.1255 0881	0.8884 8705	1.1475 2300	0.8714 4223
5	1.1314 0821	0.8838 5429	1.1592 7407	0.8626 0878	1.1876 8631	0.8419 7317
6	1.1596 9342	0.8622 9687	1.1940 5230	0.8374 8426	1.2292 5533	0.8135 0064
7	1.1886 8575	0.8412 6524	1.2298 7387	0.8130 9151	1.2722 7926	0.7859 9096
8	1.2184 0290	0.8207 4657	1.2667 7008	0.7894 0923	1.3168 0904	0.7594 1156
9	1.2488 6297	0.8007 2836	1.3047 7318	0.7664 1673	1.3628 9735	0.7337 3097
10	1.2800 8454	0.7811 9840	1.3439 1638	0.7440 9391	1.4105 9876	0.7089 1881
11	1.3120 8666	0.7621 4478	1.3842 3387	0.7224 2128	1.4599 6972	0.6849 4571
12	1.3448 8882	0.7435 5589	1.4257 6089	0.7013 7988	1.5110 6866	0.6617 8330
13	1.3785 1104	0.7254 2038	1.4685 3371	0.6809 5134	1.5639 5606	0.6394 0415
14	1.4129 7382	0.7077 2720	1.5125 8972	0.6611 1781	1.6186 9452	0.6177 8179
15	1.4482 9817	0.6904 6556	1.5579 6742	0.6418 6195	1.6753 4883	0.5968 9062
16	1.4845 0562	0.6736 2493	1.6047 0644	0.6231 6694	1.7339 8604	0.5767 0591
17	1.5216 1826	0.6571 9506	1.6528 4763	0.6050 1645	1.7946 7555	0.5572 0378
18	1.5596 5872	0.6411 6591	1.7024 3306	0.5873 9461	1.8574 8920	0.5383 6114
19	1.5986 5019	0.6255 2772	1.7535 0605	0.5702 8603	1.9225 0132	0.5201 5569
20	1.6386 1644	0.6102 7094	1.8061 1123	0.5536 7575	1.9897 8886	0.5025 6588
21	1.6795 8185	0.5953 8629	1.8602 9457	0.5375 4928	2.0594 3147	0.4855 7090
22	1.7215 7140	0.5808 6467	1.9161 0341	0.5218 9250	2.1315 1158	0.4691 5063
23	1.7646 1068	0.5666 9724	1.9735 8651	0.5066 9175	2.2061 1448	0.4532 8563
24	1.8087 2595	0.5528 7535	2.0327 9411	0.4919 3374	2.2833 2849	0.4379 5713
25	1.8539 4410	0.5393 9059	2.0937 7793	0.4776 0557	2.3632 4498	0.4231 4699
26	1.9002 9270	0.5262 3472	2.1565 9127	0.4636 9473	2.4459 5856	0.4088 3767
27	1.9478 0002	0.5133 9973	2.2212 8901	0.4501 8906	2.5315 6711	0.3950 1224
28	1.9964 9502	0.5008 7778	2.2879 2768	0.4370 7675	2.6201 7196	0.3816 5434
29	2.0464 0739	0.4886 6125	2.3565 6551	0.4243 4636	2.7118 7798	0.3687 4815
30	2.0975 6758	0.4767 4269	2.4272 6247	0.4119 8676	2.8067 9370	0.3562 7841
31	2.1500 0677	0.4651 1481	2.5000 8035	0.3999 8715	2.9050 3148	0.3442 3035
32	2.2037 5694	0.4537 7055	2.5750 8276	0.3883 3703	3.0067 0759	0.3325 8971
33	2.2588 5086	0.4427 0298	2.6523 3524	0.3770 2625	3.1119 4235	0.3213 4271
34	2.3153 2213	0.4319 0534	2.7319 0530	0.3660 4490	3.2208 6033	0.3104 7605
35	2.3732 0519	0.4213 7107	2.8138 6245	0.3553 8340	3.3335 9045	0.2999 7686
36	2.4325 3532	0.4110 9372	2.8982 7833	0.3450 3243	3.4502 6611	0.2898 3272
37	2.4933 4870	0.4010 6705	2.9852 2668	0.3349 8294	3.5710 2543	0.2800 3161
38	2.5556 8242	0.3912 8492	3.0747 8348	0.3252 2615	3.6960 1132	0.2705 6194
39	2.6195 7448	0.3817 4139	3.1670 2698	0.3157 5355	3.8253 7171	0.2614 1250
40	2.6850 6384	0.3724 3062	3.2620 3779	0.3065 5684	3.9592 5972	0.2525 7247
41	2.7521 9043	0.3633 4695	3.3598 9893	0.2976 2800	4.0978 3381	0.2440 3137
42	2.8209 9520	0.3544 8483	3.4606 9589	0.2889 5922	4.2412 5799	0.2357 7910
43	2.8915 2008	0.3458 3886	3.5645 1677	0.2805 4294	4.3897 0202	0.2278 0590
44	2.9638 8008	0.3374 0376	3.6714 5227	0.2723 7178	4.5433 4160	0.2201 0231
45	3.0379 0328	0.3291 7440	3.7815 9584	0.2644 3862	4.7023 5855	0.2126 5924
46	3.1138 5086	0.3211 4576	3.8950 4372	0.2567 3653	4.8669 4110	0.2054 6787
47	3.1916 9713	0.3133 1294	4.0118 9503	0.2492 5876	5.0372 8404	0.1985 1968
48	3.2714 8956	0.3056 7116	4.1322 5188	0.2419 9880	5.2135 8898	0.1918 0645
49	3.3532 7680	0.2982 1576	4.2562 1944	0.2349 5029	5.3960 6459	0.1853 2024
50	3.4371 0872	0.2909 4221	4.3839 0602	0.2281 0708	5.5849 2686	0.1790 5337

 $i = 4\%$ $i = 4\frac{1}{2}\%$ $i = 5\%$

n	$(1 + i)^n$	$(1 + i)^{-n}$	$(1 + i)^n$	$(1 + i)^{-n}$	$(1 + i)^n$	$(1 + i)^{-n}$
1	1.0400 0000	0.9615 3846	1.0450 0000	0.9569 3780	1.0500 0000	0.9523 8095
2	1.0816 0000	0.9245 5621	1.0920 2500	0.9157 2995	1.1025 0000	0.9070 2948
3	1.1248 6400	0.8889 9636	1.1411 6613	0.8762 9660	1.1576 2500	0.8638 3760
4	1.1698 5856	0.8548 0419	1.1925 1860	0.8382 6134	1.2155 0625	0.8227 0247
5	1.2166 5290	0.8219 2711	1.2461 8194	0.8024 5105	1.2762 8156	0.7835 2617
6	1.2653 1902	0.7903 1453	1.3022 6012	0.7678 9574	1.3400 9564	0.7462 1540
7	1.3159 3178	0.7599 1781	1.3608 6183	0.7348 2846	1.4071 0042	0.7106 8133
8	1.3685 6905	0.7306 9021	1.4221 0061	0.7031 8513	1.4774 5544	0.6768 3936
9	1.4233 1181	0.7025 8674	1.4860 9514	0.6729 0443	1.5513 2822	0.6446 0892
10	1.4802 4428	0.6755 6417	1.5529 6942	0.6439 2768	1.6288 9463	0.6139 1325
11	1.5394 5406	0.6495 8093	1.6228 5305	0.6161 9874	1.7103 3936	0.5846 7929
12	1.6010 3222	0.6245 9705	1.6958 8143	0.5896 6386	1.7958 5633	0.5568 3742
13	1.6650 7351	0.6005 7409	1.7721 9610	0.5642 7164	1.8856 4914	0.5303 2135
14	1.7316 7645	0.5774 7508	1.8519 4492	0.5399 7286	1.9799 3160	0.5050 6795
15	1.8009 4351	0.5552 6450	1.9352 8244	0.5167 2044	2.0789 2818	0.4810 1710
16	1.8729 8125	0.5339 0818	2.0223 7015	0.4944 6932	2.1828 7459	0.4581 1152
17	1.9479 0050	0.5133 7325	2.1133 7681	0.4731 7639	2.2920 1832	0.4362 9669
18	2.0258 1652	0.4936 2812	2.2084 7877	0.4528 0037	2.4066 1923	0.4155 2065
19	2.1068 4918	0.4746 4242	2.3078 6031	0.4333 0179	2.5269 5020	0.3957 3396
20	2.1911 2314	0.4563 8695	2.4117 1402	0.4146 4286	2.6532 9771	0.3768 8948
21	2.2787 6807	0.4388 3360	2.5202 4116	0.3967 8743	2.7859 6259	0.3589 4236
22	2.3699 1879	0.4219 5539	2.6336 5201	0.3797 0089	2.9252 6072	0.3418 4987
23	2.4647 1554	0.4057 2633	2.7521 6635	0.3633 5013	3.0715 2376	0.3255 7131
24	2.5633 0416	0.3901 2147	2.8760 1383	0.3477 0347	3.2250 9994	0.3100 6791
25	2.6658 3633	0.3751 1680	3.0054 3446	0.3327 3060	3.3863 5494	0.2953 0277
26	2.7724 6978	0.3606 8923	3.1406 7901	0.3184 0248	3.5556 7269	0.2812 4073
27	2.8833 6858	0.3468 1657	3.2820 0956	0.3046 9137	3.7334 5632	0.2678 4832
28	2.9987 0332	0.3334 7747	3.4296 9999	0.2915 7069	3.9201 2914	0.2550 9364
29	3.1186 5145	0.3206 5141	3.5840 3649	0.2790 1502	4.1161 3560	0.2429 4632
30	3.2433 9751	0.3083 1867	3.7453 1813	0.2670 0002	4.3219 4238	0.2313 7745
31	3.3731 3341	0.2964 6026	3.9138 5745	0.2555 0241	4.5380 3949	0.2203 5947
32	3.5080 5875	0.2850 5794	4.0899 8104	0.2444 9991	4.7649 4147	0.2098 6617
33	3.6483 8110	0.2740 9417	4.2740 3018	0.2339 7121	5.0031 8854	0.1998 7254
34	3.7943 1634	0.2635 5209	4.4663 6154	0.2238 9589	5.2533 4797	0.1903 5480
35	3.9460 8899	0.2534 1547	4.6673 4781	0.2142 5444	5.5160 1537	0.1812 9029
36	4.1039 3255	0.2436 6872	4.8773 7846	0.2050 2817	5.7918 1614	0.1726 5741
37	4.2680 8986	0.2342 9685	5.0968 6049	0.1961 9921	6.0814 0694	0.1644 3563
38	4.4388 1345	0.2252 8543	5.3262 1921	0.1877 5044	6.3854 7729	0.1566 0536
39	4.6163 6599	0.2166 2061	5.5658 9908	0.1796 6549	6.7047 5115	0.1491 4797
40	4.8010 2063	0.2082 8904	5.8163 6454	0.1719 2870	7.0399 8871	0.1420 4568
41	4.9930 6145	0.2002 7793	6.0781 0094	0.1645 2507	7.3919 8815	0.1352 8160
42	5.1927 8391	0.1925 7493	6.3516 1548	0.1574 4026	7.7615 8756	0.1288 3962
43	5.4004 9527	0.1851 6820	6.6374 3818	0.1506 6054	8.1496 6693	0.1227 0440
44	5.6165 1508	0.1780 4635	6.9361 2290	0.1441 7276	8.5571 5028	0.1168 6133
45	5.8411 7568	0.1711 9841	7.2482 4843	0.1379 6437	8.9850 0779	0.1112 9651
46	6.0748 2271	0.1646 1386	7.5744 1961	0.1320 2332	9.4342 5818	0.1059 9668
47	6.3178 1562	0.1582 8256	7.9152 6849	0.1263 3810	9.9059 7109	0.1009 4921
48	6.5705 2824	0.1521 9476	8.2714 5557	0.1208 9771	10.4012 6965	0.0961 4211
49	6.8333 4937	0.1463 4112	8.6436 7107	0.1156 9158	10.9213 3313	0.0915 6391
50	7.1066 8335	0.1407 1262	9.0326 3627	0.1107 0965	11.4673 9979	0.0872 0373

 $i = 6\%$ $i = 7\%$ $i = 8\%$

n	$(1 + i)^n$	$(1 + i)^{-n}$	$(1 + i)^n$	$(1 + i)^{-n}$	$(1 + i)^n$	$(1 + i)^{-n}$
1	1.0600 0000	0.9433 9623	1.0700 0000	0.9345 7944	1.0800 0000	0.9259 2593
2	1.1236 0000	0.8899 9644	1.1449 0000	0.8734 3873	1.1664 0000	0.8573 3882
3	1.1910 1600	0.8396 1928	1.2250 4300	0.8162 9788	1.2597 1200	0.7938 3224
4	1.2624 7696	0.7920 9366	1.3107 9601	0.7628 9521	1.3604 8896	0.7350 2985
5	1.3382 2558	0.7472 5817	1.4025 5173	0.7129 8618	1.4693 2808	0.6805 8320
6	1.4185 1911	0.7049 6054	1.5007 3035	0.6663 4222	1.5868 7432	0.6301 6963
7	1.5036 3026	0.6650 5711	1.6057 8148	0.6227 4974	1.7138 2427	0.5834 9040
8	1.5938 4807	0.6274 1237	1.7181 8618	0.5820 0910	1.8509 3021	0.5402 6888
9	1.6894 7896	0.5918 9846	1.8384 5921	0.5439 3374	1.9990 0463	0.5002 4897
10	1.7908 4770	0.5583 9478	1.9671 5136	0.5083 4929	2.1589 2500	0.4631 9349
11	1.8982 9856	0.5267 8753	2.1048 5195	0.4750 9280	2.3316 3900	0.4288 8286
12	2.0121 9647	0.4969 6936	2.2521 9159	0.4440 1196	2.5181 7012	0.3971 1376
13	2.1329 2826	0.4688 3902	2.4098 4500	0.4149 6445	2.7196 2373	0.3676 9792
14	2.2609 0396	0.4423 0096	2.5785 3415	0.3878 1724	2.9371 9362	0.3404 6104
15	2.3965 5819	0.4172 6506	2.7590 3154	0.3624 4602	3.1721 6911	0.3152 4170
16	2.5403 5168	0.3936 4628	2.9521 6375	0.3387 3460	3.4259 4264	0.2918 9047
17	2.6927 7279	0.3713 6442	3.1588 1521	0.3165 7439	3.7000 1805	0.2702 6895
18	2.8543 3915	0.3503 4379	3.3799 3228	0.2958 6392	3.9960 1950	0.2502 4903
19	3.0255 9950	0.3305 1301	3.6165 2754	0.2765 0833	4.3157 0106	0.2317 1206
20	3.2071 3547	0.3118 0473	3.8696 8446	0.2584 1900	4.6609 5714	0.2145 4821
21	3.3995 6360	0.2941 5540	4.1405 6237	0.2415 1309	5.0338 3372	0.1986 5575
22	3.6035 3742	0.2775 0510	4.4304 0174	0.2257 1317	5.4365 4041	0.1839 4051
23	3.8197 4966	0.2617 9726	4.7405 2986	0.2109 4688	5.8714 6365	0.1703 1528
24	4.0489 3464	0.2469 7855	5.0723 6695	0.1971 4662	6.3411 8074	0.1576 9934
25	4.2918 7072	0.2329 9863	5.4274 3264	0.1842 4918	6.8484 7520	0.1460 1790
26	4.5493 8296	0.2198 1003	5.8073 5292	0.1721 9549	7.3963 5321	0.1352 0176
27	4.8223 4594	0.2073 6795	6.2138 6763	0.1609 3037	7.9880 6147	0.1251 8682
28	5.1116 8670	0.1956 3014	6.6488 3836	0.1504 0221	8.6271 0639	0.1159 1372
29	5.4183 8790	0.1845 5674	7.1142 5705	0.1405 6282	9.3172 7490	0.1073 2752
30	5.7434 9117	0.1741 1013	7.6122 5504	0.1313 6712	10.0626 5689	0.0993 7733
31	6.0881 0064	0.1642 5484	8.1451 1290	0.1227 7301	10.8676 6944	0.0920 1605
32	6.4533 8668	0.1549 5740	8.7152 7080	0.1147 4113	11.7370 8300	0.0852 0005
33	6.8405 8988	0.1461 8622	9.3253 3975	0.1072 3470	12.6760 4964	0.0788 8893
34	7.2510 2528	0.1379 1153	9.9781 1354	0.1002 1934	13.6901 3361	0.0730 4531
35	7.6860 8679	0.1301 0522	10.6765 8148	0.0936 6294	14.7853 4429	0.0676 3454
36	8.1472 5200	0.1227 4077	11.4239 4219	0.0875 3546	15.9681 7184	0.0626 2458
37	8.6360 8712	0.1157 9318	12.2236 1814	0.0818 0884	17.2456 2558	0.0579 8572
38	9.1542 5235	0.1092 3885	13.0792 7141	0.0764 5686	18.6252 7563	0.0536 9048
39	9.7035 0749	0.1030 5552	13.9948 2041	0.0714 5501	20.1152 9768	0.0497 1341
40	10.2857 1794	0.0972 2219	14.9744 5784	0.0667 8038	21.7245 2150	0.0460 3093
41	10.9028 6101	0.0917 1905	16.0226 6989	0.0624 1157	23.4624 8322	0.0426 2123
42	11.5570 3267	0.0865 2740	17.1442 5678	0.0583 2857	25.3394 8187	0.0394 6411
43	12.2504 5463	0.0816 2962	18.3443 5475	0.0545 1268	27.3666 4042	0.0365 4084
44	12.9854 8191	0.0770 0908	19.6284 5959	0.0509 4643	29.5559 7166	0.0338 3411
45	13.7646 1083	0.0726 5007	21.0024 5176	0.0476 1349	31.9204 4939	0.0313 2788
46	14.5904 8748	0.0685 3781	22.4726 2338	0.0444 9859	34.4740 8534	0.0290 0730
47	15.4659 1673	0.0646 5831	24.0457 0702	0.0415 8747	37.2320 1217	0.0268 5861
48	16.3938 7173	0.0609 9840	25.7289 0651	0.0388 6679	40.2105 7314	0.0248 6908
49	17.3775 0403	0.0575 4566	27.5299 2997	0.0363 2410	43.4274 1899	0.0230 2693
50	18.4201 5427	0.0542 8836	29.4570 2506	0.0339 4776	46.9016 1251	0.0213 2123



TABLE 4
Log-Tables
LOGARITHAMS

	0	1	2	3	4	5	6	7	8	9	Mean Differences								
											1	2	3	4	5	6	7	8	9
10	0000	0043	0086	0128	0170						5	9	13	17	21	25	29	34	38
						0011	0053	0094	0134	0174	4	8	12	16	20	24	28	32	36
11	0414	0455	0495	0534	0573						4	8	12	16	20	23	27	31	35
						0527	0565	0602	0719	0755	4	7	11	15	19	22	26	29	33
12	0792	0832	0871	0909	0946						3	7	11	14	18	21	25	28	32
						0939	1006	1038	1073	1106	3	7	10	14	17	20	24	27	31
13	1139	1177	1215	1252	1289						3	6	10	13	16	19	23	26	29
						1283	1335	1367	1399	1430	3	7	10	13	16	19	22	25	29
14	1461	1497	1533	1568	1603						3	6	9	12	15	19	22	25	28
						1514	1564	1613	1661	1710	3	6	9	12	14	17	20	23	26
15	1761	1796	1831	1865	1899						3	6	9	11	14	17	20	23	26
						1903	1951	1999	2047	2094	3	6	8	11	14	17	19	22	25
16	2041	2075	2109	2142	2175						3	6	8	11	14	16	19	22	24
						2175	2208	2240	2272	2303	3	5	8	10	13	16	18	21	23
17	2304	2337	2369	2401	2432						3	5	8	10	13	15	18	20	22
						2436	2465	2493	2521	2549	3	5	8	10	12	15	17	20	22
18	2593	2625	2656	2687	2717						3	5	7	9	12	14	17	19	21
						2712	2740	2767	2794	2821	3	4	7	9	11	14	16	18	20
19	2868	2899	2929	2959	2988						3	4	7	9	11	13	16	18	20
						2993	3020	3046	3072	3098	3	4	6	8	11	13	15	17	19
20	3098	3127	3156	3185	3213						3	4	6	8	11	13	15	17	19
						3199	3226	3252	3278	3304	3	4	6	8	10	12	14	16	18
21	3222	3249	3275	3301	3327						3	4	6	8	10	12	14	16	18
						3324	3349	3374	3398	3423	3	4	6	8	10	12	14	16	18
22	3424	3449	3474	3498	3522						3	4	6	8	10	12	14	15	17
						3522	3545	3568	3591	3614	3	4	6	8	10	12	14	15	17
23	3617	3640	3663	3685	3707						3	4	6	7	9	11	13	15	17
						3711	3733	3755	3776	3797	3	4	6	7	9	11	13	15	17
24	3802	3823	3844	3864	3884						3	4	5	7	9	11	12	14	16
						3892	3913	3933	3953	3973	3	4	5	7	9	11	12	14	16
25	3979	3997	4014	4031	4048						3	3	5	7	9	10	12	14	15
						4055	4072	4089	4106	4122	3	3	5	7	9	10	12	14	15
26	4150	4166	4182	4198	4213						3	3	5	7	9	10	12	13	15
						4220	4236	4252	4268	4283	3	3	5	7	9	10	12	13	15
27	4314	4329	4344	4358	4373						3	3	5	8	9	11	13	14	16
						4380	4395	4410	4425	4440	3	3	5	8	9	11	13	14	16
28	4472	4487	4499	4511	4523						3	3	5	8	9	11	12	14	16
						4530	4545	4560	4575	4590	3	3	5	8	9	11	12	14	16
29	4624	4639	4653	4667	4681						3	3	4	6	7	9	10	12	13
						4688	4703	4718	4732	4747	3	3	4	6	7	9	10	12	13
30	4771	4785	4799	4813	4827						3	3	4	5	7	9	10	11	13
						4833	4847	4861	4875	4889	3	3	4	5	7	9	10	11	13
31	4914	4928	4941	4955	4968						3	3	4	5	7	8	10	11	12
						4974	4987	5000	5013	5026	3	3	4	5	7	8	10	11	12
32	5031	5044	5057	5070	5082						3	3	4	5	7	8	9	11	12
						5089	5101	5113	5125	5137	3	3	4	5	7	8	9	11	12
33	5183	5195	5207	5219	5230						3	3	4	5	6	8	9	10	12
						5237	5248	5259	5270	5281	3	3	4	5	6	8	9	10	12
34	5315	5326	5337	5348	5358						3	3	4	5	6	8	9	10	11
						5368	5378	5388	5398	5408	3	3	4	5	6	8	9	10	11
35	5441	5452	5462	5472	5482						3	3	4	5	6	7	9	10	11
						5492	5502	5512	5521	5531	3	3	4	5	6	7	9	10	11
36	5563	5573	5582	5592	5601						3	3	4	5	6	7	8	10	11
						5611	5620	5629	5638	5647	3	3	4	5	6	7	8	10	11
37	5682	5691	5700	5709	5717						3	3	3	5	7	8	9	10	11
						5726	5735	5743	5752	5760	3	3	3	5	7	8	9	10	11
38	5798	5807	5815	5823	5831						3	3	3	5	6	7	8	9	10
						5840	5848	5856	5864	5872	3	3	3	5	6	7	8	9	10
39	5911	5919	5927	5935	5943						3	3	3	4	5	7	8	9	10
						5951	5959	5967	5975	5983	3	3	3	4	5	7	8	9	10
40	6021	6029	6037	6045	6053						3	3	3	4	5	6	8	9	10
						6061	6069	6077	6085	6093	3	3	3	4	5	6	8	9	10
41	6128	6136	6144	6152	6160						3	3	3	4	5	6	7	8	9
						6168	6176	6184	6192	6200	3	3	3	4	5	6	7	8	9
42	6232	6240	6248	6256	6264						3	3	3	4	5	6	7	8	9
						6272	6280	6288	6296	6304	3	3	3	4	5	6	7	8	9
43	6333	6341	6349	6357	6365						3	3	3	4	5	6	7	8	9
						6373	6381	6389	6397	6405	3	3	3	4	5	6	7	8	9
44	6435	6443	6451	6459	6467						3	3	3	4	5	6	7	8	9
						6475	6483	6491	6500	6508	3	3	3	4	5	6	7	8	9
45	6532	6540	6548	6556	6564						3	3	3	4	5	6	7	8	9
						6572	6580	6588	6596	6604	3	3	3	4	5	6	7	8	9
46	6628	6636	6644	6652	6660						3	3	3	4	5	6	7	8	9
						6668	6676	6684	6692	6700	3	3	3	4	5	6	7	8	9
47	6723	6731	6739	6747	6755						3	3	3	4	5	6	7	8	9
						6763	6771	6779	6787	6795	3	3	3	4	5	6	7	8	9
48	6823	6831	6839	6847	6855						3	3	3	4	5	6	7	8	9
						6863	6871	6879	6887	6895	3	3	3	4	5	6	7	8	9
49	6923	6931	6939	6947	6955						3	3	3	4	5	6	7	8	9
						6963	6971	6979	6987	6995	3	3	3	4	5	6	7	8	9



	0	1	2	3	4	5	6	7	8	9	Mean Differences							
											1	2	3	4	5	6	7	8
50	6990	6998	7007	7016	7024	7033	7042	7050	7059	7067	1	2	3	4	5	6	7	8
51	7076	7084	7093	7101	7110	7118	7126	7135	7143	7152	1	2	3	4	5	6	7	8
52	7160	7168	7177	7185	7193	7202	7210	7218	7226	7235	1	2	3	4	5	6	7	8
53	7243	7251	7259	7267	7275	7284	7292	7300	7308	7316	1	2	3	4	5	6	7	8
54	7324	7332	7340	7348	7356	7364	7372	7380	7388	7396	1	2	3	4	5	6	7	8
55	7404	7412	7419	7427	7435	7443	7451	7459	7466	7474	1	2	3	4	5	6	7	8
56	7482	7490	7497	7505	7513	7520	7528	7536	7543	7551	1	2	3	4	5	6	7	8
57	7559	7566	7574	7582	7589	7597	7604	7612	7619	7627	1	2	3	4	5	6	7	8
58	7634	7642	7649	7657	7664	7672	7679	7686	7694	7701	1	1	2	3	4	5	6	7
59	7709	7716	7723	7731	7738	7745	7752	7760	7767	7774	1	1	2	3	4	5	6	7
60	7782	7789	7796	7803	7810	7818	7825	7832	7839	7846	1	1	2	3	4	5	6	6
61	7853	7860	7868	7875	7882	7889	7896	7903	7910	7917	1	1	2	3	4	5	6	6
62	7924	7931	7938	7945	7952	7959	7966	7973	7980	7987	1	1	2	3	4	5	6	6
63	7993	8000	8007	8014	8021	8028	8035	8041	8048	8055	1	1	2	3	4	5	6	6
64	8062	8069	8075	8082	8089	8096	8102	8109	8116	8123	1	1	2	3	4	5	6	6
65	8129	8136	8143	8149	8156	8162	8169	8176	8182	8189	1	1	2	3	4	5	6	6
66	8195	8202	8209	8215	8222	8228	8235	8241	8248	8254	1	1	2	3	4	5	6	6
67	8261	8267	8274	8280	8287	8293	8299	8306	8312	8319	1	1	2	3	4	5	6	6
68	8325	8331	8338	8344	8351	8357	8363	8370	8376	8382	1	1	2	3	4	5	6	6
69	8388	8395	8401	8407	8414	8420	8426	8432	8439	8445	1	1	2	3	4	5	6	6
70	8451	8457	8463	8470	8476	8482	8489	8494	8500	8506	1	1	2	3	4	5	6	6
71	8513	8519	8525	8531	8537	8543	8549	8555	8561	8567	1	1	2	3	4	5	6	6
72	8573	8579	8585	8591	8597	8603	8609	8615	8621	8627	1	1	2	3	4	5	6	6
73	8633	8639	8645	8651	8657	8663	8669	8675	8681	8686	1	1	2	3	4	5	6	6
74	8692	8698	8704	8710	8716	8722	8727	8733	8739	8745	1	1	2	3	4	5	6	6
75	8751	8756	8762	8768	8774	8779	8785	8791	8797	8803	1	1	2	3	4	5	6	6
76	8808	8814	8820	8825	8831	8837	8842	8848	8854	8859	1	1	2	3	4	5	6	6
77	8865	8871	8876	8882	8887	8893	8899	8904	8910	8916	1	1	2	3	4	5	6	6
78	8921	8927	8932	8938	8943	8949	8954	8960	8965	8971	1	1	2	3	4	5	6	6
79	8976	8982	8987	8993	8998	9004	9009	9015	9020	9025	1	1	2	3	4	5	6	6
80	9031	9036	9042	9047	9053	9058	9063	9069	9074	9079	1	1	2	3	4	5	6	6
81	9085	9090	9095	9101	9106	9112	9117	9122	9128	9133	1	1	2	3	4	5	6	6
82	9138	9143	9149	9154	9159	9165	9170	9175	9180	9186	1	1	2	3	4	5	6	6
83	9191	9196	9201	9206	9212	9217	9223	9227	9233	9238	1	1	2	3	4	5	6	6
84	9243	9248	9253	9258	9263	9269	9274	9279	9284	9289	1	1	2	3	4	5	6	6
85	9294	9299	9304	9309	9315	9320	9325	9330	9335	9340	1	1	2	3	4	5	6	6
86	9345	9350	9355	9360	9365	9370	9375	9380	9385	9390	1	1	2	3	4	5	6	6
87	9395	9400	9405	9410	9415	9420	9425	9430	9435	9440	0	1	1	2	3	4	5	6
88	9445	9450	9455	9460	9465	9469	9474	9479	9484	9489	0	1	1	2	3	4	5	6
89	9494	9499	9504	9509	9513	9518	9523	9528	9533	9538	0	1	1	2	3	4	5	6
90	9543	9547	9552	9557	9562	9566	9571	9576	9581	9586	0	1	1	2	3	4	5	6
91	9590	9595	9600	9605	9609	9614	9619	9624	9628	9633	0	1	1	2	3	4	5	6
92	9638	9643	9647	9652	9657	9661	9665	9671	9675	9680	0	1	1	2	3	4	5	6
93	9685	9689	9694	9699	9703	9708	9713	9717	9722	9727	0	1	1	2	3	4	5	6
94	9731	9736	9741	9745	9750	9754	9759	9763	9768	9773	0	1	1	2	3	4	5	6
95	9777	9782	9786	9791	9795	9800	9803	9809	9814	9818	0	1	1	2	3	4	5	6
96	9823	9827	9832	9836	9841	9845	9850	9854	9859	9863	0	1	1	2	3	4	5	6
97	9868	9873	9877	9881	9886	9890	9894	9899	9903	9908	0	1	1	2	3	4	5	6
98	9912	9917	9921	9926	9930	9934	9939	9943	9948	9952	0	1	1	2	3	4	5	6
99	9956	9961	9965	9969	9974	9978	9983	9987	9991	9996	0	1	1	2	3	4	5	6



TABLE 5
ANTILOGARITHMS

LOG-TABLES

	0	1	2	3	4	5	6	7	8	9	Mean Differences								
											1	2	3	4	5	6	7	8	9
.00	1000	1001	1003	1007	1009	1012	1014	1018	1019	1021	0	0	1	1	1	1	2	2	2
.01	1023	1026	1028	1030	1033	1035	1038	1040	1042	1045	0	0	1	1	1	1	2	2	2
.02	1047	1050	1052	1054	1057	1059	1062	1064	1067	1069	0	0	1	1	1	1	2	2	2
.03	1071	1074	1076	1079	1081	1084	1086	1089	1091	1094	0	0	1	1	1	1	2	2	2
.04	1096	1099	1101	1104	1107	1109	1112	1114	1117	1119	0	1	1	1	1	1	2	2	2
.05	1122	1125	1127	1130	1132	1135	1138	1140	1143	1145	0	1	1	1	1	1	2	2	2
.06	1148	1151	1153	1156	1158	1161	1164	1167	1169	1172	0	1	1	1	1	1	2	2	2
.07	1175	1178	1180	1183	1185	1188	1191	1194	1197	1199	0	1	1	1	1	1	2	2	2
.08	1202	1205	1208	1211	1213	1216	1219	1222	1225	1227	0	1	1	1	1	1	2	2	2
.09	1230	1233	1236	1239	1242	1245	1247	1250	1253	1255	0	1	1	1	1	1	2	2	2
.10	1259	1262	1265	1268	1271	1274	1276	1279	1282	1285	0	1	1	1	1	1	2	2	2
.11	1288	1291	1294	1297	1300	1303	1306	1309	1312	1315	0	1	1	1	1	1	2	2	2
.12	1318	1321	1324	1327	1330	1334	1337	1340	1343	1346	0	1	1	1	1	1	2	2	2
.13	1349	1352	1355	1358	1361	1365	1368	1371	1374	1377	0	1	1	1	1	1	2	2	2
.14	1380	1384	1387	1390	1393	1396	1400	1403	1406	1409	0	1	1	1	1	1	2	2	2
.15	1413	1416	1419	1422	1426	1429	1432	1435	1438	1442	0	1	1	1	1	1	2	2	2
.16	1445	1449	1452	1455	1459	1462	1466	1469	1472	1475	0	1	1	1	1	1	2	2	2
.17	1479	1483	1486	1489	1493	1496	1499	1503	1506	1510	0	1	1	1	1	1	2	2	2
.18	1514	1517	1521	1524	1528	1531	1535	1538	1542	1545	0	1	1	1	1	1	2	2	2
.19	1549	1552	1556	1560	1563	1567	1570	1574	1578	1581	0	1	1	1	1	1	2	2	2
.20	1585	1589	1592	1596	1599	1603	1607	1611	1614	1618	0	1	1	1	1	1	2	2	2
.21	1622	1626	1629	1633	1637	1640	1644	1648	1652	1655	0	1	1	1	1	1	2	2	2
.22	1659	1663	1667	1671	1675	1679	1683	1687	1690	1694	0	1	1	1	1	1	2	2	2
.23	1698	1702	1706	1710	1714	1718	1722	1726	1730	1734	0	1	1	1	1	1	2	2	2
.24	1738	1742	1746	1750	1754	1758	1762	1766	1770	1774	0	1	1	1	1	1	2	2	2
.25	1778	1782	1786	1791	1795	1799	1803	1807	1811	1815	0	1	1	1	1	1	2	2	2
.26	1820	1824	1828	1832	1837	1841	1845	1849	1854	1858	0	1	1	1	1	1	2	2	2
.27	1862	1866	1871	1875	1879	1884	1888	1892	1897	1901	0	1	1	1	1	1	2	2	2
.28	1905	1910	1914	1919	1923	1928	1932	1936	1940	1945	0	1	1	1	1	1	2	2	2
.29	1949	1954	1958	1963	1968	1972	1977	1982	1986	1991	0	1	1	1	1	1	2	2	2
.30	1995	2000	2004	2009	2014	2018	2023	2028	2032	2037	0	1	1	1	1	1	2	2	2
.31	2042	2046	2051	2056	2061	2065	2070	2075	2080	2084	0	1	1	1	1	1	2	2	2
.32	2089	2094	2099	2104	2109	2113	2118	2123	2128	2133	0	1	1	1	1	1	2	2	2
.33	2138	2143	2148	2153	2158	2163	2168	2173	2178	2183	0	1	1	1	1	1	2	2	2
.34	2188	2193	2198	2203	2208	2213	2218	2223	2228	2234	1	1	1	1	1	1	2	2	2
.35	2239	2244	2249	2254	2259	2265	2270	2275	2280	2286	1	1	1	1	1	1	2	2	2
.36	2291	2296	2301	2307	2312	2317	2323	2328	2333	2339	1	1	1	1	1	1	2	2	2
.37	2344	2350	2355	2360	2366	2371	2377	2382	2388	2393	1	1	1	1	1	1	2	2	2
.38	2398	2404	2410	2415	2421	2427	2432	2438	2443	2449	1	1	1	1	1	1	2	2	2
.39	2455	2460	2466	2472	2477	2483	2489	2495	2500	2506	1	1	1	1	1	1	2	2	2
.40	2512	2518	2523	2529	2535	2541	2547	2553	2559	2564	1	1	1	1	1	1	2	2	2
.41	2570	2576	2582	2588	2594	2600	2606	2612	2617	2624	1	1	1	1	1	1	2	2	2
.42	2630	2636	2642	2648	2655	2661	2667	2673	2679	2685	1	1	1	1	1	1	2	2	2
.43	2692	2698	2704	2710	2716	2723	2729	2735	2742	2748	1	1	1	1	1	1	2	2	2
.44	2754	2761	2767	2773	2780	2786	2793	2799	2805	2812	1	1	1	1	1	1	2	2	2
.45	2818	2825	2831	2838	2844	2851	2858	2864	2871	2877	1	1	1	1	1	1	2	2	2
.46	2884	2891	2897	2904	2911	2917	2924	2931	2938	2944	1	1	1	1	1	1	2	2	2
.47	2951	2958	2965	2972	2979	2985	2992	2999	3006	3013	1	1	1	1	1	1	2	2	2
.48	3020	3027	3034	3041	3048	3055	3062	3069	3076	3083	1	1	1	1	1	1	2	2	2
.49	3090	3097	3105	3112	3119	3126	3133	3141	3148	3155	1	1	1	1	1	1	2	2	2



											Mean Differences								
	0	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
50	3162	3170	3177	3184	3192	3199	3206	3214	3221	3228	1	1	2	3	4	5	6	7	
51	3236	3243	3250	3258	3266	3273	3281	3289	3296	3304	1	2	2	3	4	5	6	7	
52	3311	3319	3327	3334	3342	3350	3357	3365	3373	3381	1	2	2	3	4	5	6	7	
53	3388	3396	3404	3412	3420	3428	3436	3443	3451	3459	1	2	2	3	4	5	6	7	
54	3467	3475	3483	3491	3499	3508	3516	3524	3532	3540	1	2	2	3	4	5	6	7	
55	3548	3556	3565	3573	3581	3589	3597	3606	3614	3622	1	2	2	3	4	5	6	7	
56	3630	3639	3648	3656	3664	3673	3681	3690	3698	3707	1	2	2	3	4	5	6	7	
57	3715	3724	3733	3741	3750	3758	3767	3776	3784	3793	1	2	2	3	4	5	6	7	
58	3802	3811	3819	3828	3837	3846	3855	3864	3873	3882	1	2	2	3	4	5	6	7	
59	3890	3899	3908	3917	3926	3936	3945	3954	3963	3972	1	2	2	3	4	5	6	7	
60	3981	3990	3999	4009	4018	4027	4036	4046	4055	4064	1	2	2	3	4	5	6	7	
61	4074	4083	4093	4102	4111	4121	4130	4140	4150	4159	1	2	2	3	4	5	6	7	
62	4169	4178	4188	4198	4207	4217	4227	4236	4246	4256	1	2	2	3	4	5	6	7	
63	4266	4276	4285	4295	4305	4315	4325	4335	4345	4355	1	2	2	3	4	5	6	7	
64	4365	4375	4385	4395	4405	4415	4425	4435	4445	4455	1	2	2	3	4	5	6	7	
65	4465	4475	4485	4495	4505	4515	4525	4535	4545	4555	1	2	2	3	4	5	6	7	
66	4565	4575	4585	4595	4605	4615	4625	4635	4645	4655	1	2	2	3	4	5	6	7	
67	4665	4675	4685	4695	4705	4715	4725	4735	4745	4755	1	2	2	3	4	5	6	7	
68	4765	4775	4785	4795	4805	4815	4825	4835	4845	4855	1	2	2	3	4	5	6	7	
69	4865	4875	4885	4895	4905	4915	4925	4935	4945	4955	1	2	2	3	4	5	6	7	
70	5012	5023	5035	5047	5058	5070	5082	5093	5105	5117	1	2	2	3	4	5	6	7	
71	5129	5140	5152	5164	5176	5188	5200	5212	5224	5236	1	2	2	3	4	5	6	7	
72	5248	5260	5272	5284	5297	5309	5321	5333	5346	5358	1	2	2	3	4	5	6	7	
73	5370	5383	5395	5408	5420	5433	5445	5458	5471	5483	1	2	2	3	4	5	6	7	
74	5495	5508	5521	5534	5546	5559	5572	5585	5598	5610	1	2	2	3	4	5	6	7	
75	5623	5636	5649	5662	5675	5688	5701	5714	5728	5741	1	2	2	3	4	5	6	7	
76	5754	5768	5781	5794	5808	5821	5834	5848	5861	5875	1	2	2	3	4	5	6	7	
77	5888	5902	5916	5929	5943	5957	5970	5984	5998	6012	1	2	2	3	4	5	6	7	
78	6026	6039	6053	6067	6081	6095	6109	6124	6138	6153	1	2	2	3	4	5	6	7	
79	6166	6180	6194	6209	6223	6237	6252	6266	6281	6295	1	2	2	3	4	5	6	7	
80	6310	6324	6339	6353	6368	6383	6397	6412	6427	6442	1	2	2	3	4	5	6	7	
81	6457	6471	6486	6501	6516	6531	6546	6561	6577	6592	2	2	2	3	4	5	6	7	
82	6607	6622	6637	6653	6668	6683	6699	6715	6730	6745	2	2	2	3	4	5	6	7	
83	6761	6776	6792	6808	6823	6839	6855	6871	6887	6902	2	2	2	3	4	5	6	7	
84	6918	6934	6950	6966	6982	6998	7015	7031	7047	7063	2	2	2	3	4	5	6	7	
85	7079	7096	7112	7129	7145	7161	7178	7194	7211	7228	2	2	2	3	4	5	6	7	
86	7244	7261	7278	7295	7311	7328	7345	7362	7379	7396	2	2	2	3	4	5	6	7	
87	7413	7430	7447	7464	7482	7499	7516	7534	7551	7568	2	2	2	3	4	5	6	7	
88	7586	7603	7621	7638	7656	7674	7691	7709	7727	7745	2	2	2	3	4	5	6	7	
89	7762	7780	7798	7816	7834	7852	7870	7889	7907	7925	2	2	2	3	4	5	6	7	
90	7943	7962	7980	7998	8017	8035	8054	8072	8091	8110	2	2	2	3	4	5	6	7	
91	8128	8147	8166	8185	8204	8222	8241	8260	8279	8298	2	2	2	3	4	5	6	7	
92	8317	8336	8355	8375	8393	8414	8432	8451	8472	8492	2	2	2	3	4	5	6	7	
93	8511	8531	8551	8570	8590	8610	8630	8650	8670	8690	2	2	2	3	4	5	6	7	
94	8710	8730	8750	8770	8790	8810	8831	8851	8872	8892	2	2	2	3	4	5	6	7	
95	8913	8933	8954	8974	8995	9015	9036	9057	9078	9099	2	2	2	3	4	5	6	7	
96	9120	9141	9162	9183	9204	9225	9247	9268	9290	9311	2	2	2	3	4	5	6	7	
97	9333	9354	9375	9397	9418	9440	9462	9484	9506	9528	2	2	2	3	4	5	6	7	
98	9550	9572	9594	9616	9638	9661	9683	9705	9727	9750	2	2	2	3	4	5	6	7	
99	9772	9795	9817	9840	9863	9885	9908	9931	9954	9977	2	2	2	3	4	5	6	7	

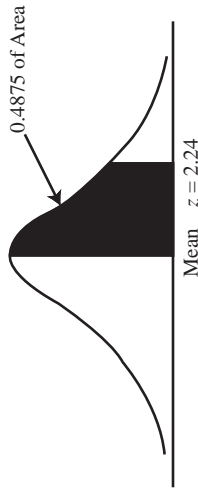


Table 6

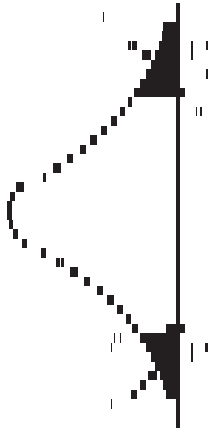
Areas under the Standard Normal Probability Distribution between the Mean and Positive Values of z

Example:	x	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
To find the area under the curve between the mean and a point 2.24 standard deviations to the right of the mean, look up the value opposite 2.2 and under 0.04 in the table; 0.4875 of the area under the curve lies between the mean and a z Value of 2.24	0.0	0.0000	0.0040	0.0080	0.0120	0.0160	0.0199	0.0239	0.0279	0.0319	0.0359
	0.1	0.0398	0.0438	0.0478	0.0517	0.0557	0.0596	0.0636	0.0675	0.0714	0.0753
	0.2	0.0793	0.0832	0.0871	0.0910	0.0948	0.0987	0.1026	0.1064	0.1103	0.1141
	0.3	0.1179	0.1217	0.1255	0.1293	0.1331	0.1368	0.1406	0.1443	0.1480	0.1517
	0.4	0.1554	0.1591	0.1628	0.1664	0.1700	0.1736	0.1772	0.1808	0.1844	0.1879
	0.5	0.1915	0.1950	0.1985	0.2019	0.2054	0.2088	0.2123	0.2157	0.2190	0.2224
	0.6	0.2257	0.2291	0.2324	0.2357	0.2389	0.2422	0.2454	0.2486	0.2517	0.2549
	0.7	0.2580	0.2611	0.2642	0.2673	0.2704	0.2734	0.2764	0.2794	0.2823	0.2852
	0.8	0.2881	0.2910	0.2939	0.2967	0.2995	0.3023	0.3051	0.3078	0.3106	0.3133
	0.9	0.3159	0.3186	0.3212	0.3238	0.3264	0.3289	0.3315	0.3340	0.3365	0.3389
	1.0	0.3413	0.3438	0.3461	0.3485	0.3508	0.3531	0.3554	0.3577	0.3599	0.3621
	1.1	0.3643	0.3665	0.3686	0.3708	0.3729	0.3749	0.3770	0.3790	0.3810	0.3830
	1.2	0.3849	0.3869	0.3888	0.3907	0.3925	0.3944	0.3962	0.3980	0.3997	0.4015
	1.3	0.4032	0.4049	0.4066	0.4082	0.4099	0.4115	0.4131	0.4147	0.4162	0.4177
	1.4	0.4192	0.4207	0.4222	0.4236	0.4251	0.4265	0.4279	0.4292	0.4306	0.4319
	1.5	0.4332	0.4345	0.4357	0.4370	0.4382	0.4394	0.4406	0.4418	0.4429	0.4441
	1.6	0.4452	0.4463	0.4474	0.4484	0.4495	0.4505	0.4515	0.4525	0.4535	0.4545
	1.7	0.4554	0.4564	0.4573	0.4582	0.4591	0.4599	0.4608	0.4616	0.4625	0.4633
	1.8	0.4641	0.4649	0.4656	0.4664	0.4671	0.4678	0.4686	0.4693	0.4699	0.4706
	1.9	0.4713	0.4719	0.4726	0.4732	0.4738	0.4744	0.4750	0.4756	0.4761	0.4767
	2.0	0.4772	0.4778	0.4783	0.4788	0.4793	0.4798	0.4803	0.4808	0.4812	0.4817
	2.1	0.4821	0.4826	0.4830	0.4834	0.4838	0.4842	0.4846	0.4850	0.4854	0.4857
	2.2	0.4861	0.4864	0.4868	0.4871	0.4875	0.4878	0.4881	0.4884	0.4887	0.4890
	2.3	0.4893	0.4896	0.4898	0.4901	0.4904	0.4906	0.4909	0.4911	0.4913	0.4916
	2.4	0.4918	0.4920	0.4922	0.4925	0.4927	0.4929	0.4931	0.4932	0.4934	0.4936
	2.5	0.4938	0.4940	0.4941	0.4943	0.4945	0.4946	0.4948	0.4949	0.4951	0.4952
	2.6	0.4953	0.4955	0.4956	0.4957	0.4959	0.4960	0.4961	0.4962	0.4963	0.4964
	2.7	0.4965	0.4966	0.4967	0.4968	0.4969	0.4970	0.4971	0.4972	0.4973	0.4974
	2.8	0.4974	0.4975	0.4976	0.4977	0.4977	0.4978	0.4979	0.4979	0.4980	0.4981
	2.9	0.4981	0.4982	0.4982	0.4983	0.4984	0.4984	0.4985	0.4985	0.4986	0.4986
	3.0	0.4987	0.4987	0.4987	0.4988	0.4988	0.4989	0.4989	0.4989	0.4990	0.4990



Table 7

Areas in Both Tails Combined for Student's *t* Distribution



Degree of Freedom	Area in Both Tails Combined			
	0.10	0.05	0.02	0.01
1	6.314	12.706	31.821	63.657
2	2.920	4.303	6.965	9.925
3	2.353	3.182	4.541	5.841
4	2.132	2.776	3.747	4.604
5	2.015	2.571	3.365	4.032
6	1.943	2.447	3.143	3.707
7	1.895	2.365	2.998	3.499
8	1.860	2.306	2.896	3.355
9	1.833	2.262	2.821	3.250
10	1.812	2.228	2.764	3.169
11	1.796	2.201	2.718	3.106
12	1.782	2.179	2.681	3.055
13	1.771	2.160	2.650	3.012
14	1.761	2.145	2.624	2.977
15	1.753	2.131	2.602	2.947
16	1.746	2.120	2.583	2.921
17	1.740	2.110	2.567	2.898
18	1.734	2.101	2.552	2.878
19	1.729	2.093	2.539	2.861
20	1.725	2.086	2.528	2.845
21	1.721	2.080	2.518	2.831
22	1.717	2.074	2.508	2.819
23	1.714	2.069	2.500	2.807
24	1.711	2.064	2.492	2.797
25	1.708	2.060	2.485	2.787
26	1.706	2.056	2.479	2.779
27	1.703	2.052	2.473	2.771
28	1.701	2.048	2.467	2.763
29	1.699	2.045	2.462	2.756
30	1.697	2.042	2.457	2.750
40	1.684	2.021	2.423	2.704
60	1.671	2.000	2.390	2.660
120	1.658	1.980	2.358	2.617
Normal Distribution	1.645	1.960	2.326	2.576

Example:

To find the value of *t* that corresponds to an area of 0.10 in both tails of the distribution combined, when there are 19 degrees of freedom, look under the 0.10 column, and proceed down to the 19 degrees of freedom row; the appropriate *t* value there is 1.729

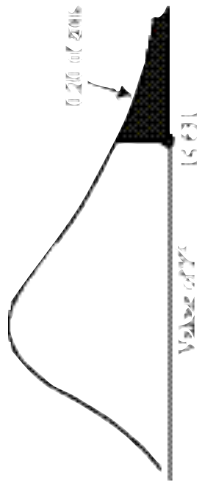


Table 8

Area in the Right Tail of a Chi-square ($\frac{1}{2\alpha 3^2}$) Distribution

Degrees of Freedom	Area in Right Tail									
	0.99	0.975	0.95	0.90	0.800	0.20	0.10	0.05	0.025	0.01
1	0.00016	0.00098	0.00398	0.0158	0.0642	1.642	2.706	3.841	5.024	6.635
2	0.0201	0.0506	0.103	0.211	0.446	3.219	4.605	5.991	7.378	9.210
3	0.115	0.216	0.352	0.584	1.005	4.642	6.251	7.815	9.348	11.345
4	0.297	0.484	0.711	1.064	1.649	5.989	7.779	9.488	11.143	13.277
5	0.554	0.831	1.145	1.610	2.343	7.289	9.236	11.070	12.833	15.086
6	0.872	1.237	1.635	2.204	3.070	8.558	10.645	12.592	14.449	16.812
7	1.239	1.690	2.167	2.833	3.822	9.803	12.017	14.067	16.013	18.475
8	1.646	2.180	2.733	3.490	4.594	11.030	13.362	15.507	17.535	20.090
9	2.088	2.700	3.325	4.168	5.380	12.242	14.684	16.919	19.023	21.666
10	2.558	3.247	3.940	4.865	6.179	13.442	15.987	18.307	20.483	23.209
11	3.053	3.816	4.575	5.578	6.989	14.631	17.275	19.675	21.920	24.725
12	3.571	4.404	5.226	6.304	7.807	15.812	18.549	21.026	23.337	26.217
13	4.107	5.009	5.892	7.042	8.634	16.985	19.812	22.362	24.736	27.688
14	4.660	5.629	6.571	7.790	9.467	18.151	21.064	23.685	26.119	29.141
15	5.229	6.262	7.261	8.547	10.307	19.311	22.307	24.996	27.488	30.578
16	5.812	6.908	7.962	9.312	11.152	20.465	23.542	26.296	28.845	32.000
17	6.408	7.564	8.672	10.085	12.002	21.615	24.769	27.587	30.191	33.409
18	7.015	8.231	9.390	10.865	12.857	22.760	25.989	28.869	31.526	34.805
19	7.633	8.907	10.117	11.651	13.716	23.900	27.204	30.144	32.852	36.191
20	8.260	9.591	10.851	12.443	14.578	25.038	28.412	31.410	34.170	37.566

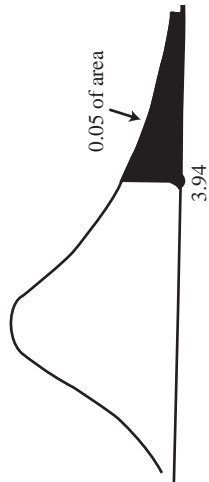
Example:

In a chi-square distribution with 11 degrees of freedom, to find the chi-square value of 0.20 of the area under the curve (the coloured area in the right tail) look under the 0.20 column in the table and the 11 degrees of freedom row, the appropriate chi-squares value is 14.631



Table 9 (a)

Values of *F* for *F* Distribution with 0.05 of the Area in the Right Tail



Degrees of Freedom for Denominator	Degrees of Freedom for Numerator																		
	1	2	3	4	5	6	7	8	9	10	12	15	20	24	30	40	60	120	∞
1	161	200	216	225	230	234	237	239	241	242	244	246	248	249	250	251	252	253	254
2	18.5	19.0	19.2	19.2	19.3	19.3	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.5	19.5	19.5	19.5	19.5	19.5
3	10.1	9.55	9.28	9.12	9.01	8.94	8.89	8.85	8.81	8.79	8.74	8.70	8.66	8.64	8.62	8.59	8.57	8.55	8.53
4	7.71	6.94	6.59	6.39	6.26	6.16	6.09	6.04	6.00	5.96	5.91	5.86	5.80	5.77	5.75	5.72	5.69	5.66	5.63
5	6.61	5.79	5.41	5.19	5.05	4.95	4.88	4.82	4.77	4.74	4.68	4.62	4.56	4.53	4.50	4.46	4.43	4.40	4.37
6	5.99	5.14	4.76	4.53	4.39	4.28	4.21	4.15	4.10	4.06	4.00	3.94	3.87	3.84	3.81	3.77	3.74	3.70	3.67
7	5.59	4.74	4.35	4.12	3.97	3.87	3.79	3.73	3.68	3.64	3.57	3.51	3.44	3.41	3.38	3.34	3.30	3.27	3.23
8	5.32	4.46	4.07	3.84	3.69	3.58	3.50	3.44	3.39	3.35	3.28	3.22	3.15	3.12	3.08	3.04	3.01	2.97	2.93
9	5.12	4.26	3.86	3.63	3.48	3.37	3.29	3.23	3.18	3.14	3.07	3.01	2.94	2.90	2.86	2.83	2.79	2.75	2.71
10	4.96	4.10	3.71	3.48	3.33	3.22	3.14	3.07	3.02	2.98	2.91	2.85	2.77	2.74	2.70	2.66	2.62	2.58	2.54
11	4.84	3.98	3.59	3.36	3.20	3.09	3.01	2.95	2.90	2.85	2.79	2.72	2.65	2.61	2.57	2.53	2.49	2.45	2.40
12	4.75	3.89	3.49	3.26	3.11	3.00	2.91	2.85	2.80	2.75	2.69	2.62	2.54	2.51	2.47	2.43	2.38	2.34	2.30
13	4.67	3.81	3.41	3.18	3.03	2.92	2.83	2.77	2.71	2.67	2.60	2.53	2.46	2.42	2.38	2.34	2.30	2.25	2.21
14	4.60	3.74	3.34	3.11	2.96	2.85	2.76	2.70	2.65	2.60	2.53	2.46	2.39	2.35	2.31	2.27	2.22	2.18	2.13
15	4.54	3.68	3.29	3.06	2.90	2.79	2.71	2.64	2.59	2.54	2.48	2.40	2.33	2.29	2.25	2.20	2.16	2.11	2.07
16	4.49	3.63	3.24	3.01	2.85	2.74	2.66	2.59	2.54	2.49	2.42	2.35	2.28	2.24	2.19	2.15	2.11	2.06	2.01
17	4.45	3.59	3.20	2.96	2.81	2.70	2.61	2.55	2.49	2.45	2.38	2.31	2.23	2.19	2.15	2.10	2.06	2.01	1.96
18	4.41	3.55	3.16	2.93	2.77	2.66	2.58	2.51	2.46	2.41	2.34	2.27	2.19	2.15	2.11	2.06	2.02	1.97	1.92
19	4.38	3.52	3.13	2.90	2.74	2.63	2.54	2.48	2.42	2.38	2.31	2.23	2.16	2.11	2.07	2.03	1.98	1.93	1.88
20	4.35	3.49	3.10	2.87	2.71	2.60	2.51	2.45	2.39	2.35	2.28	2.20	2.12	2.08	2.04	1.99	1.95	1.90	1.84
21	4.32	3.47	3.07	2.84	2.68	2.57	2.49	2.42	2.37	2.32	2.25	2.18	2.10	2.05	2.01	1.96	1.92	1.87	1.81
22	4.30	3.44	3.05	2.82	2.66	2.55	2.46	2.40	2.34	2.30	2.23	2.15	2.07	2.03	1.98	1.94	1.89	1.84	1.78
23	4.28	3.42	3.03	2.80	2.64	2.53	2.44	2.37	2.32	2.27	2.20	2.13	2.05	2.01	1.96	1.91	1.86	1.81	1.76
24	4.26	3.40	3.01	2.78	2.62	2.51	2.42	2.36	2.30	2.25	2.18	2.11	2.03	1.98	1.94	1.89	1.84	1.79	1.73
25	4.24	3.39	2.99	2.76	2.60	2.49	2.40	2.34	2.28	2.24	2.16	2.09	2.01	1.96	1.92	1.87	1.82	1.77	1.71
30	4.17	3.32	2.92	2.69	2.53	2.42	2.33	2.27	2.21	2.16	2.09	2.01	1.93	1.89	1.84	1.79	1.74	1.68	1.62
40	4.08	3.23	2.84	2.61	2.45	2.34	2.25	2.18	2.12	2.08	2.00	1.92	1.84	1.79	1.74	1.69	1.64	1.58	1.51
60	4.00	3.15	2.76	2.53	2.37	2.25	2.17	2.10	2.04	1.99	1.92	1.84	1.75	1.70	1.65	1.59	1.53	1.47	1.39
120	3.92	3.07	2.68	2.45	2.29	2.18	2.09	2.02	1.96	1.91	1.83	1.75	1.66	1.61	1.55	1.50	1.43	1.35	1.25
∞	3.84	3.00	2.60	2.37	2.21	2.10	2.01	1.94	1.88	1.83	1.75	1.67	1.57	1.52	1.46	1.39	1.32	1.22	1.00

Example:

In an *F* distribution with 15 degrees of freedom for the numerator and 6 degrees of freedom for the denominator, to find the *F* Value for 0.05 of the area under the curve look under the 15 degrees of Freedom column and across the 6 degrees of freedom row; the appropriate *F* value is 3.94.

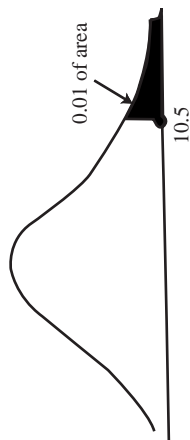


Table 9 (b)

Values of *F* for *F* Distributions with 0.01 of the Area in the Right Tail

Example:	Degrees of Freedom for Numerator																			∞
	1	2	3	4	5	6	7	8	9	10	12	15	20	24	30	40	60	120		
In an <i>F</i> distribution with 7	4,052	5,000	5,403	5,625	5,764	5,859	5,928	5,982	6,023	6,056	6,106	6,157	6,209	6,235	6,261	6,287	6,313	6,339	6,366	6,366
degrees of freedom for the numerator and	98.5	99.0	99.2	99.2	99.3	99.3	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.5	99.5	99.5	99.5	99.5	99.5
5 degrees of freedom for the denominator,	34.1	30.8	29.5	28.7	28.2	27.9	27.7	27.5	27.3	27.2	27.1	26.9	26.7	26.6	26.5	26.4	26.3	26.2	26.1	26.1
to find the <i>F</i> Value for 0.01 of the area under the curve look under the 17 degrees of freedom column and across the 5 degrees of freedom row;	21.2	18.0	16.7	16.0	15.5	15.2	15.0	14.8	14.7	14.5	14.4	14.2	14.0	13.9	13.8	13.7	13.6	13.5	13.5	13.5
the appropriate <i>F</i> value is 10.5	16.3	13.3	12.1	11.4	11.0	10.7	10.5	10.3	10.2	10.1	9.89	9.72	9.55	9.47	9.38	9.29	9.20	9.11	9.02	9.02
	13.7	10.9	9.78	9.15	8.75	8.47	8.26	8.10	7.98	7.87	7.72	7.56	7.40	7.31	7.23	7.14	7.06	6.97	6.88	6.88
	12.2	9.55	8.45	7.85	7.46	7.19	6.99	6.84	6.72	6.62	6.47	6.31	6.16	6.07	5.99	5.91	5.82	5.74	5.65	5.65
	11.3	8.65	7.59	7.01	6.63	6.37	6.18	6.03	5.91	5.81	5.67	5.52	5.36	5.28	5.20	5.12	5.03	4.95	4.86	4.86
	10.6	8.02	6.99	6.42	6.06	5.80	5.61	5.47	5.35	5.26	5.11	4.96	4.81	4.73	4.65	4.57	4.48	4.40	4.31	4.31
	10.0	7.56	6.55	5.99	5.64	5.39	5.20	5.06	4.94	4.85	4.71	4.56	4.41	4.33	4.25	4.17	4.08	4.00	3.91	3.91
	9.65	7.21	6.22	5.67	5.32	5.07	4.89	4.74	4.63	4.54	4.40	4.25	4.10	4.02	3.94	3.86	3.78	3.69	3.60	3.60
	9.33	6.93	5.95	5.41	5.06	4.82	4.64	4.50	4.39	4.30	4.16	4.01	3.86	3.78	3.70	3.62	3.54	3.45	3.36	3.36
	9.07	6.70	5.74	5.21	4.86	4.62	4.44	4.30	4.19	4.10	3.96	3.82	3.66	3.59	3.51	3.43	3.34	3.25	3.17	3.17
	8.86	6.51	5.56	5.04	4.70	4.46	4.28	4.14	4.03	3.94	3.80	3.66	3.51	3.43	3.35	3.27	3.18	3.09	3.00	3.00
	8.68	6.36	5.42	4.89	4.56	4.32	4.14	4.00	3.89	3.80	3.67	3.52	3.37	3.29	3.21	3.13	3.05	2.96	2.87	2.87
	8.53	6.23	5.29	4.77	4.44	4.20	4.03	3.89	3.78	3.69	3.55	3.41	3.26	3.18	3.10	3.02	2.93	2.84	2.75	2.75
	8.40	6.11	5.19	4.67	4.34	4.10	3.93	3.79	3.68	3.59	3.46	3.31	3.16	3.08	3.00	2.92	2.83	2.75	2.65	2.65
	8.29	6.01	5.09	4.58	4.25	4.01	3.84	3.71	3.60	3.51	3.37	3.23	3.08	3.00	2.92	2.84	2.75	2.66	2.57	2.57
	8.19	5.93	5.01	4.50	4.17	3.94	3.77	3.63	3.52	3.43	3.30	3.15	3.00	2.92	2.84	2.76	2.67	2.58	2.49	2.49
	8.10	5.85	4.94	4.43	4.10	3.87	3.70	3.56	3.46	3.37	3.23	3.09	2.94	2.86	2.78	2.69	2.61	2.52	2.42	2.42
	8.02	5.78	4.87	4.37	4.04	3.81	3.64	3.51	3.40	3.31	3.17	3.03	2.88	2.80	2.72	2.64	2.55	2.46	2.36	2.36
	7.95	5.72	4.82	4.31	3.99	3.76	3.59	3.45	3.35	3.26	3.12	2.98	2.83	2.75	2.67	2.58	2.50	2.40	2.31	2.31
	7.88	5.66	4.76	4.26	3.94	3.71	3.54	3.41	3.30	3.21	3.07	2.93	2.78	2.70	2.62	2.54	2.45	2.35	2.26	2.26
	7.82	5.61	4.72	4.22	3.90	3.67	3.50	3.36	3.26	3.17	3.03	2.89	2.74	2.66	2.58	2.49	2.40	2.31	2.21	2.21
	7.77	5.57	4.68	4.18	3.86	3.63	3.46	3.32	3.22	3.13	2.99	2.85	2.70	2.62	2.53	2.45	2.36	2.27	2.17	2.17
	7.56	5.39	4.51	4.02	3.70	3.47	3.30	3.17	3.07	2.98	2.84	2.70	2.55	2.47	2.39	2.30	2.21	2.11	2.01	2.01
	7.31	5.18	4.31	3.83	3.51	3.29	3.12	2.99	2.89	2.80	2.66	2.52	2.37	2.29	2.20	2.11	2.02	1.92	1.80	1.80
	7.08	4.98	4.13	3.65	3.34	3.12	2.95	2.82	2.72	2.63	2.50	2.35	2.20	2.12	2.03	1.94	1.84	1.73	1.60	1.60
	6.85	4.79	3.95	3.48	3.17	2.96	2.79	2.66	2.56	2.47	2.34	2.19	2.03	1.95	1.86	1.76	1.66	1.53	1.38	1.38
	6.63	4.61	3.78	3.32	3.02	2.80	2.64	2.51	2.41	2.32	2.18	2.04	1.88	1.79	1.70	1.59	1.47	1.32	1.00	1.00