

Mathematical Tables

APPENDIX

A

Table A.1

Present Value of \$1 to Be Received after T Periods = $1/(1 + r)^T$

Table A.2

Present Value of an Annuity of \$1 per Period for T Periods = $[1 - 1/(1 + r)^T]/r$

Table A.3

Future Value of \$1 at the End of T Periods = $(1 + r)^T$

Table A.4

Future Value of an Annuity of \$1 per Period for T Periods = $[(1 + r)^T - 1]/r$

Table A.5

Future Value of \$1 with a Continuously Compounded Rate r for T Periods:
Values of e^{rT}

Table A.6

Present Value of \$1 with a Continuous Discount Rate r for T Periods:
Values of e^{-rT}

TABLE A.1

Present Value of \$1 to Be Received after T Periods = $1/(1 + r)^T$

PERIOD	INTEREST RATE								
	1%	2%	3%	4%	5%	6%	7%	8%	9%
1	.9901	.9804	.9709	.9615	.9524	.9434	.9346	.9259	.9174
2	.9803	.9612	.9426	.9246	.9070	.8900	.8734	.8573	.8417
3	.9706	.9423	.9151	.8890	.8638	.8396	.8163	.7938	.7722
4	.9610	.9238	.8885	.8548	.8227	.7921	.7629	.7350	.7084
5	.9515	.9057	.8626	.8219	.7835	.7473	.7130	.6806	.6499
6	.9420	.8880	.8375	.7903	.7462	.7050	.6663	.6302	.5963
7	.9327	.8706	.8131	.7599	.7107	.6651	.6227	.5835	.5470
8	.9235	.8535	.7894	.7307	.6768	.6274	.5820	.5403	.5019
9	.9143	.8368	.7664	.7026	.6446	.5919	.5439	.5002	.4604
10	.9053	.8203	.7441	.6756	.6139	.5584	.5083	.4632	.4224
11	.8963	.8043	.7224	.6496	.5847	.5268	.4751	.4289	.3875
12	.8874	.7885	.7014	.6246	.5568	.4970	.4440	.3971	.3555
13	.8787	.7730	.6810	.6006	.5303	.4688	.4150	.3677	.3262
14	.8700	.7579	.6611	.5775	.5051	.4423	.3878	.3405	.2992
15	.8613	.7430	.6419	.5553	.4810	.4173	.3624	.3152	.2745
16	.8528	.7284	.6232	.5339	.4581	.3936	.3387	.2919	.2519
17	.8444	.7142	.6050	.5134	.4363	.3714	.3166	.2703	.2311
18	.8360	.7002	.5874	.4936	.4155	.3503	.2959	.2502	.2120
19	.8277	.6864	.5703	.4746	.3957	.3305	.2765	.2317	.1945
20	.8195	.6730	.5537	.4564	.3769	.3118	.2584	.2145	.1784
21	.8114	.6598	.5375	.4388	.3589	.2942	.2415	.1987	.1637
22	.8034	.6468	.5219	.4220	.3418	.2775	.2257	.1839	.1502
23	.7954	.6342	.5067	.4057	.3256	.2618	.2109	.1703	.1378
24	.7876	.6217	.4919	.3901	.3101	.2470	.1971	.1577	.1264
25	.7798	.6095	.4776	.3751	.2953	.2330	.1842	.1460	.1160
30	.7419	.5521	.4120	.3083	.2314	.1741	.1314	.0994	.0754
40	.6717	.4529	.3066	.2083	.1420	.0972	.0668	.0460	.0318
50	.6080	.3715	.2281	.1407	.0872	.0543	.0339	.0213	.0134

PERIOD	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	.9091	.8929	.8772	.8696	.8621	.8475	.8333	.8065	.7813	.7576	.7353
2	.8264	.7972	.7695	.7561	.7432	.7182	.6944	.6504	.6104	.5739	.5407
3	.7513	.7118	.6750	.6575	.6407	.6086	.5787	.5245	.4768	.4348	.3975
4	.6830	.6355	.5921	.5718	.5523	.5158	.4823	.4230	.3725	.3294	.2923
5	.6209	.5674	.5194	.4972	.4761	.4371	.4019	.3411	.2910	.2495	.2149
6	.5645	.5066	.4556	.4323	.4104	.3704	.3349	.2751	.2274	.1890	.1580
7	.5132	.4523	.3996	.3759	.3538	.3139	.2791	.2218	.1776	.1432	.1162
8	.4665	.4039	.3506	.3269	.3050	.2660	.2326	.1789	.1388	.1085	.0854
9	.4241	.3606	.3075	.2843	.2630	.2255	.1938	.1443	.1084	.0822	.0628
10	.3855	.3220	.2697	.2472	.2267	.1911	.1615	.1164	.0847	.0623	.0462
11	.3505	.2875	.2366	.2149	.1954	.1619	.1346	.0938	.0662	.0472	.0340
12	.3186	.2567	.2076	.1869	.1685	.1372	.1122	.0757	.0517	.0357	.0250
13	.2897	.2292	.1821	.1625	.1452	.1163	.0935	.0610	.0404	.0271	.0184
14	.2633	.2046	.1597	.1413	.1252	.0985	.0779	.0492	.0316	.0205	.0135
15	.2394	.1827	.1401	.1229	.1079	.0835	.0649	.0397	.0247	.0155	.0099
16	.2176	.1631	.1229	.1069	.0930	.0708	.0541	.0320	.0193	.0118	.0073
17	.1978	.1456	.1078	.0929	.0802	.0600	.0451	.0258	.0150	.0089	.0054
18	.1799	.1300	.0946	.0808	.0691	.0508	.0376	.0208	.0118	.0068	.0039
19	.1635	.1161	.0829	.0703	.0596	.0431	.0313	.0168	.0092	.0051	.0029
20	.1486	.1037	.0728	.0611	.0514	.0365	.0261	.0135	.0072	.0039	.0021
21	.1351	.0926	.0638	.0531	.0443	.0309	.0217	.0109	.0056	.0029	.0016
22	.1228	.0826	.0560	.0462	.0382	.0262	.0181	.0088	.0044	.0022	.0012
23	.1117	.0738	.0491	.0402	.0329	.0222	.0151	.0071	.0034	.0017	.0008
24	.1015	.0659	.0431	.0349	.0284	.0188	.0126	.0057	.0027	.0013	.0006
25	.0923	.0588	.0378	.0304	.0245	.0160	.0105	.0046	.0021	.0010	.0005
30	.0573	.0334	.0196	.0151	.0116	.0070	.0042	.0016	.0006	.0002	.0001
40	.0221	.0107	.0053	.0037	.0026	.0013	.0007	.0002	.0001	*	*
50	.0085	.0035	.0014	.0009	.0006	.0003	.0001	*	*	*	*

*The factor is zero to four decimal places.

TABLE A.2

Present Value of an Annuity of \$1 per Period for T Periods = $[1 - 1/(1 + r)^T]/r$

NUMBER OF PERIODS	INTEREST RATE								
	1%	2%	3%	4%	5%	6%	7%	8%	9%
1	.9901	.9804	.9709	.9615	.9524	.9434	.9346	.9259	.9174
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591
3	2.9410	2.8839	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348
9	8.5660	8.1622	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952
10	9.4713	8.9826	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177
11	10.3676	9.7868	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052
12	11.2551	10.5753	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607
13	12.1337	11.3484	10.6350	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869
14	13.0037	12.1062	11.2961	10.5631	9.8986	9.2950	8.7455	8.2442	7.7862
15	13.8651	12.8493	11.9379	11.1184	10.3797	9.7122	9.1079	8.5595	8.0607
16	14.7179	13.5777	12.5611	11.6523	10.8378	10.1059	9.4466	8.8514	8.3126
17	15.5623	14.2919	13.1661	12.1657	11.2741	10.4773	9.7632	9.1216	8.5436
18	16.3983	14.9920	13.7535	12.6593	11.6896	10.8276	10.0591	9.3719	8.7556
19	17.2260	15.6785	14.3238	13.1339	12.0853	11.1581	10.3356	9.6036	8.9501
20	18.0456	16.3514	14.8775	13.5903	12.4622	11.4699	10.5940	9.8181	9.1285
21	18.8570	17.0112	15.4150	14.0292	12.8212	11.7641	10.8355	10.0168	9.2922
22	19.6604	17.6580	15.9369	14.4511	13.1630	12.0416	11.0612	10.2007	9.4424
23	20.4558	18.2922	16.4436	14.8568	13.4886	12.3034	11.2722	10.3741	9.5802
24	21.2434	18.9139	16.9355	15.2470	13.7986	12.5504	11.4693	10.5288	9.7066
25	22.0232	19.5235	17.4131	15.6221	14.0939	12.7834	11.6536	10.6748	9.8226
30	25.8077	22.3965	19.6004	17.2920	15.3725	13.7648	12.4090	11.2578	10.2737
40	32.8347	27.3555	23.1148	19.7928	17.1591	15.0463	13.3317	11.9246	10.7574
50	39.1961	31.4236	25.7298	21.4822	18.2559	15.7619	13.8007	12.2335	10.9617

NUMBER OF PERIODS	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%
1	.9091	.8929	.8772	.8696	.8621	.8475	.8333	.8065	.7813	.7576
2	1.7355	1.6901	1.6467	1.6257	1.6052	1.5656	1.5278	1.4568	1.3916	1.3315
3	2.4869	2.4018	2.3216	2.2832	2.2459	2.1743	2.1065	1.9813	1.8684	1.7663
4	3.1699	3.0373	2.9137	2.8550	2.7982	2.6901	2.5887	2.4043	2.2410	2.0957
5	3.7908	3.6048	3.4331	3.3522	3.2743	3.1272	2.9906	2.7454	2.5320	2.3452
6	4.3553	4.1114	3.8887	3.7845	3.6847	3.4976	3.3255	3.0205	2.7594	2.5342
7	4.8684	4.5638	4.2883	4.1604	4.0386	3.8115	3.6046	3.2423	2.9370	2.6775
8	5.3349	4.9676	4.6389	4.4873	4.3436	4.0776	3.8372	3.4212	3.0758	2.7860
9	5.7590	5.3282	4.9464	4.7716	4.6065	4.3030	4.0310	3.5655	3.1842	2.8681
10	6.1446	5.6502	5.2161	5.0188	4.8332	4.4941	4.1925	3.6819	3.2689	2.9304
11	6.4951	5.9377	5.4527	5.2337	5.0286	4.6560	4.3271	3.7757	3.3351	2.9776
12	6.8137	6.1944	5.6603	5.4206	5.1971	4.7932	4.4392	3.8514	3.3868	3.0133
13	7.1034	6.4235	5.8424	5.5831	5.3423	4.9095	4.5327	3.9124	3.4272	3.0404
14	7.3667	6.6282	6.0021	5.7245	5.4675	5.0081	4.6106	3.9616	3.4587	3.0609
15	7.6061	6.8109	6.1422	5.8474	5.5755	5.0916	4.6755	4.0013	3.4834	3.0764
16	7.8237	6.9740	6.2651	5.9542	5.6685	5.1624	4.7296	4.0333	3.5026	3.0882
17	8.0216	7.1196	6.3729	6.0472	5.7487	5.2223	4.7746	4.0591	3.5177	3.0971
18	8.2014	7.2497	6.4674	6.1280	5.8178	5.2732	4.8122	4.0799	3.5294	3.1039
19	8.3649	7.3658	6.5504	6.1982	5.8775	5.3162	4.8435	4.0967	3.5386	3.1090
20	8.5136	7.4694	6.6231	6.2593	5.9288	5.3527	4.8696	4.1103	3.5458	3.1129
21	8.6487	7.5620	6.6870	6.3125	5.9731	5.3837	4.8913	4.1212	3.5514	3.1158
22	8.7715	7.6446	6.7429	6.3587	6.0113	5.4099	4.9094	4.1300	3.5558	3.1180
23	8.8832	7.7184	6.7921	6.3988	6.0442	5.4321	4.9245	4.1371	3.5592	3.1197
24	8.9847	7.7843	6.8351	6.4338	6.0726	5.4509	4.9371	4.1428	3.5619	3.1210
25	9.0770	7.8431	6.8729	6.4641	6.0971	5.4669	4.9476	4.1474	3.5640	3.1220
30	9.4269	8.0552	7.0027	6.5660	6.1772	5.5168	4.9789	4.1601	3.5693	3.1242
40	9.7791	8.2438	7.1050	6.6418	6.2335	5.5482	4.9966	4.1659	3.5712	3.1250
50	9.9148	8.3045	7.1327	6.6605	6.2463	5.5541	4.9995	4.1666	3.5714	3.1250

TABLE A.3

Future Value of \$1 at the End of T Periods = $(1 + r)^T$

PERIOD	INTEREST RATE								
	1%	2%	3%	4%	5%	6%	7%	8%	9%
1	1.0100	1.0200	1.0300	1.0400	1.0500	1.0600	1.0700	1.0800	1.0900
2	1.0201	1.0404	1.0609	1.0816	1.1025	1.1236	1.1449	1.1664	1.1881
3	1.0303	1.0612	1.0927	1.1249	1.1576	1.1910	1.2250	1.2597	1.2950
4	1.0406	1.0824	1.1255	1.1699	1.2155	1.2625	1.3108	1.3605	1.4116
5	1.0510	1.1041	1.1593	1.2167	1.2763	1.3382	1.4026	1.4693	1.5386
6	1.0615	1.1262	1.1941	1.2653	1.3401	1.4185	1.5007	1.5869	1.6771
7	1.0721	1.1487	1.2299	1.3159	1.4071	1.5036	1.6058	1.7138	1.8280
8	1.0829	1.1717	1.2668	1.3686	1.4775	1.5938	1.7182	1.8509	1.9926
9	1.0937	1.1951	1.3048	1.4233	1.5513	1.6895	1.8385	1.9990	2.1719
10	1.1046	1.2190	1.3439	1.4802	1.6289	1.7908	1.9672	2.1589	2.3674
11	1.1157	1.2434	1.3842	1.5395	1.7103	1.8983	2.1049	2.3316	2.5804
12	1.1268	1.2682	1.4258	1.6010	1.7959	2.0122	2.2522	2.5182	2.8127
13	1.1381	1.2936	1.4685	1.6651	1.8856	2.1329	2.4098	2.7196	3.0658
14	1.1495	1.3195	1.5126	1.7317	1.9799	2.2609	2.5785	2.9372	3.3417
15	1.1610	1.3459	1.5580	1.8009	2.0789	2.3966	2.7590	3.1722	3.6425
16	1.1726	1.3728	1.6047	1.8730	2.1829	2.5404	2.9522	3.4259	3.9703
17	1.1843	1.4002	1.6528	1.9479	2.2920	2.6928	3.1588	3.7000	4.3276
18	1.1961	1.4282	1.7024	2.0258	2.4066	2.8543	3.3799	3.9960	4.7171
19	1.2081	1.4568	1.7535	2.1068	2.5270	3.0256	3.6165	4.3157	5.1417
20	1.2202	1.4859	1.8061	2.1911	2.6533	3.2071	3.8697	4.6610	5.6044
21	1.2324	1.5157	1.8603	2.2788	2.7860	3.3996	4.1406	5.0338	6.1088
22	1.2447	1.5460	1.9161	2.3699	2.9253	3.6035	4.4304	5.4365	6.6586
23	1.2572	1.5769	1.9736	2.4647	3.0715	3.8197	4.7405	5.8715	7.2579
24	1.2697	1.6084	2.0328	2.5633	3.2251	4.0489	5.0724	6.3412	7.9111
25	1.2824	1.6406	2.0938	2.6658	3.3864	4.2919	5.4274	6.8485	8.6231
30	1.3478	1.8114	2.4273	3.2434	4.3219	5.7435	7.6123	10.063	13.268
40	1.4889	2.2080	3.2620	4.8010	7.0400	10.286	14.974	21.725	31.409
50	1.6446	2.6916	4.3839	7.1067	11.467	18.420	29.457	46.902	74.358
60	1.8167	3.2810	5.8916	10.520	18.679	32.988	57.946	101.26	176.03

PERIOD	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	1.1000	1.1200	1.1400	1.1500	1.1600	1.1800	1.2000	1.2400	1.2800	1.3200	1.3600
2	1.2100	1.2544	1.2996	1.3225	1.3456	1.3924	1.4400	1.5376	1.6384	1.7424	1.8496
3	1.3310	1.4049	1.4815	1.5209	1.5609	1.6430	1.7280	1.9066	2.0972	2.3000	2.5155
4	1.4641	1.5735	1.6890	1.7490	1.8106	1.9388	2.0736	2.3642	2.6844	3.0360	3.4210
5	1.6105	1.7623	1.9254	2.0114	2.1003	2.2878	2.4883	2.9316	3.4360	4.0075	4.6526
6	1.7716	1.9738	2.1950	2.3131	2.4364	2.6996	2.9860	3.6352	4.3980	5.2899	6.3275
7	1.9487	2.2107	2.5023	2.6600	2.8262	3.1855	3.5832	4.5077	5.6295	6.9826	8.6054
8	2.1436	2.4760	2.8526	3.0590	3.2784	3.7589	4.2998	5.5895	7.2058	9.2170	11.703
9	2.3579	2.7731	3.2519	3.5179	3.8030	4.4355	5.1598	6.9310	9.2234	12.166	15.917
10	2.5937	3.1058	3.7072	4.0456	4.4114	5.2338	6.1917	8.5944	11.806	16.060	21.647
11	2.8531	3.4785	4.2262	4.6524	5.1173	6.1759	7.4301	10.657	15.112	21.199	29.439
12	3.1384	3.8960	4.8179	5.3503	5.9360	7.2876	8.9161	13.215	19.343	27.983	40.037
13	3.4523	4.3635	5.4924	6.1528	6.8858	8.5994	10.699	16.386	24.759	36.937	54.451
14	3.7975	4.8871	6.2613	7.0757	7.9875	10.147	12.839	20.319	31.691	48.757	74.053
15	4.1772	5.4736	7.1379	8.1371	9.2655	11.974	15.407	25.196	40.565	64.359	100.71
16	4.5950	6.1304	8.1372	9.3576	10.748	14.129	18.488	31.243	51.923	84.954	136.97
17	5.0545	6.8660	9.2765	10.761	12.468	16.672	22.186	38.741	66.461	112.14	186.28
18	5.5599	7.6900	10.575	12.375	14.463	19.673	26.623	48.039	86.071	148.02	253.34
19	6.1159	8.6128	12.056	14.232	16.777	23.214	31.948	59.568	108.89	195.39	344.54
20	6.7275	9.6463	13.743	16.367	19.461	27.393	38.338	73.864	139.38	257.92	468.57
21	7.4002	10.804	15.668	18.822	22.574	32.324	46.005	91.592	178.41	340.45	637.26
22	8.1403	12.100	17.861	21.645	26.186	38.142	55.206	113.57	228.36	449.39	866.67
23	8.9543	13.552	20.362	24.891	30.376	45.008	66.247	140.83	292.30	593.20	1178.7
24	9.8497	15.179	23.212	28.625	35.236	53.109	79.497	174.63	374.14	783.02	1603.0
25	10.835	17.000	26.462	32.919	40.874	62.669	95.396	216.54	478.90	1033.6	2180.1
30	17.449	29.960	50.950	66.212	85.850	143.37	237.38	634.82	1645.5	4142.1	10143.
40	45.259	93.051	188.88	267.86	378.72	750.38	1469.8	5455.9	19427.	66521.	*
50	117.39	289.00	700.23	1083.7	1670.7	3927.4	9100.4	46890.	*	*	*
60	304.48	897.60	2595.9	4384.0	7370.2	20555.	56348.	*	*	*	*

*FVIV > 99,999.

TABLE A.4

Future Value of an Annuity of \$1 per Period for T Periods = $[(1 + r)^T - 1]/r$

NUMBER OF PERIODS	INTEREST RATE								
	1%	2%	3%	4%	5%	6%	7%	8%	9%
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	2.0100	2.0200	2.0300	2.0400	2.0500	2.0600	2.0700	2.0800	2.0900
3	3.0301	3.0604	3.0909	3.1216	3.1525	3.1836	3.2149	3.2464	3.2781
4	4.0604	4.1216	4.1836	4.2465	4.3101	4.3746	4.4399	4.5061	4.5731
5	5.1010	5.2040	5.3091	5.4163	5.5256	5.6371	5.7507	5.8666	5.9847
6	6.1520	6.3081	6.4684	6.6330	6.8019	6.9753	7.1533	7.3359	7.5233
7	7.2135	7.4343	7.6625	7.8983	8.1420	8.3938	8.6540	8.9228	9.2004
8	8.2857	8.5830	8.8932	9.2142	9.5491	9.8975	10.260	10.637	11.028
9	9.3685	9.7546	10.159	10.583	11.027	11.491	11.978	12.488	13.021
10	10.462	10.950	11.464	12.006	12.578	13.181	13.816	14.487	15.193
11	11.567	12.169	12.808	13.486	14.207	14.972	15.784	16.645	17.560
12	12.683	13.412	14.192	15.026	15.917	16.870	17.888	18.977	20.141
13	13.809	14.680	15.618	16.627	17.713	18.882	20.141	21.495	22.953
14	14.947	15.974	17.086	18.292	19.599	21.015	22.550	24.215	26.019
15	16.097	17.293	18.599	20.024	21.579	23.276	25.129	27.152	29.361
16	17.258	18.639	20.157	21.825	23.657	25.673	27.888	30.324	33.003
17	18.430	20.012	21.762	23.698	25.840	28.213	30.840	33.750	36.974
18	19.615	21.412	23.414	25.645	28.132	30.906	33.999	37.450	41.301
19	20.811	22.841	25.117	27.671	30.539	33.760	37.379	41.446	46.018
20	22.019	24.297	26.870	29.778	33.066	36.786	40.995	45.762	51.160
21	23.239	25.783	28.676	31.969	35.719	39.993	44.865	50.423	56.765
22	24.472	27.299	30.537	34.248	38.505	43.392	49.006	55.457	62.873
23	25.716	28.845	32.453	36.618	41.430	46.996	53.436	60.893	69.532
24	26.973	30.422	34.426	39.083	44.502	50.816	58.177	66.765	76.790
25	28.243	32.030	36.459	41.646	47.727	54.865	63.249	73.106	84.701
30	34.785	40.568	47.575	56.085	66.439	79.058	94.461	113.28	136.31
40	48.886	60.402	75.401	95.026	120.80	154.76	199.64	259.06	337.88
50	64.463	84.579	112.80	152.67	209.35	290.34	406.53	573.77	815.08
60	81.670	114.05	163.05	237.99	353.58	533.13	813.52	1253.2	1944.8

NUMBER OF PERIODS	INTEREST RATE										
	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	2.1000	2.1200	2.1400	2.1500	2.1600	2.1800	2.2000	2.2400	2.2800	2.3200	2.3600
3	3.3100	3.3744	3.4396	3.4725	3.5056	3.5724	3.6400	3.7776	3.9184	4.0624	4.2096
4	3.6410	4.7793	4.9211	4.9934	5.0665	5.2154	5.3680	5.6842	6.0156	6.3624	6.7251
5	6.1051	6.3528	6.6101	6.7424	6.8771	7.1542	7.4416	8.0484	8.6999	9.3983	10.146
6	7.7156	8.1152	8.5355	8.7537	8.9775	9.4420	9.9299	10.980	12.136	13.406	14.799
7	9.4872	10.089	10.730	11.067	11.414	12.142	12.916	14.615	16.534	18.696	21.126
8	11.436	12.300	13.233	13.727	14.240	15.327	16.499	19.123	22.163	25.678	29.732
9	13.579	14.776	16.085	16.786	17.519	19.086	20.799	24.712	29.369	34.895	41.435
10	15.937	17.549	19.337	20.304	21.321	23.521	25.959	31.643	38.593	47.062	57.352
11	18.531	20.655	23.045	24.349	25.733	28.755	32.150	40.238	50.398	63.122	78.998
12	21.384	24.133	27.271	29.002	30.850	34.931	39.581	50.895	65.510	84.320	108.44
13	24.523	28.029	32.089	34.352	36.786	42.219	48.497	64.110	84.853	112.30	148.47
14	27.975	32.393	37.581	40.505	43.672	50.818	59.196	80.496	109.61	149.24	202.93
15	31.772	37.280	43.842	47.580	51.660	60.965	72.035	100.82	141.30	198.00	276.98
16	35.950	42.753	50.980	55.717	60.925	72.939	87.442	126.01	181.87	262.36	377.69
17	40.545	48.884	59.118	65.075	71.673	87.068	105.93	157.25	233.79	347.31	514.66
18	45.599	55.750	68.394	75.836	84.141	103.74	128.12	195.99	300.25	459.45	700.94
19	51.159	64.440	78.969	88.212	98.603	123.41	154.74	244.03	385.32	607.47	954.28
20	57.275	72.052	91.025	102.44	115.38	146.63	186.69	303.60	494.21	802.86	1298.8
21	64.002	81.699	104.77	118.81	134.84	174.02	225.03	377.46	633.59	1060.8	1767.4
22	71.403	92.503	120.44	137.63	157.41	206.34	271.03	469.06	812.00	1401.2	2404.7
23	79.543	104.60	138.30	159.28	183.60	244.49	326.24	582.63	1040.4	1850.6	3271.3
24	88.497	118.16	158.66	184.17	213.98	289.49	392.48	723.46	1332.7	2443.8	4450.0
25	98.347	133.33	181.87	212.79	249.21	342.60	471.98	898.09	1706.8	3226.8	6053.0
30	164.49	241.33	356.79	434.75	530.31	790.95	1181.9	2640.9	5873.2	12941.	28172.3
40	442.59	767.09	1342.0	1779.1	2360.8	4163.2	7343.9	22729.	69377.	*	*
50	1163.9	2400.0	4994.5	7217.7	10436.	21813.	45497.	*	*	*	*
60	3034.8	7471.6	18535.	29220.	46058.	*	*	*	*	*	*

*FVIFA > 99,999.

TABLE A.5Future Value of \$1 with a Continuously Compounded Rate r for T Periods: Values of e^{rt}

PERIOD (T)	CONTINUOUSLY COMPOUNDED RATE (r)													
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%
1	1.0101	1.0202	1.0305	1.0408	1.0513	1.0618	1.0725	1.0833	1.0942	1.1052	1.1163	1.1275	1.1388	1.1503
2	1.0202	1.0408	1.0618	1.0833	1.1052	1.1275	1.1503	1.1735	1.1972	1.2214	1.2461	1.2712	1.2969	1.3231
3	1.0305	1.0618	1.0942	1.1275	1.1618	1.1972	1.2337	1.2712	1.3100	1.3499	1.3910	1.4333	1.4770	1.5220
4	1.0408	1.0833	1.1275	1.1735	1.2214	1.2712	1.3231	1.3771	1.4333	1.4918	1.5527	1.6161	1.6820	1.7507
5	1.0513	1.1052	1.1618	1.2214	1.2840	1.3499	1.4191	1.4918	1.5683	1.6487	1.7333	1.8221	1.9155	2.0138
6	1.0618	1.1275	1.1972	1.2712	1.3499	1.4333	1.5220	1.6161	1.7160	1.8221	1.9348	2.0544	2.1815	2.3164
7	1.0725	1.1503	1.2337	1.3231	1.4191	1.5220	1.6323	1.7507	1.8776	2.0138	2.1598	2.3164	2.4843	2.6645
8	1.0833	1.1735	1.2712	1.3771	1.4918	1.6161	1.7507	1.8965	2.0544	2.2255	2.4109	2.6117	2.8292	3.0649
9	1.0942	1.1972	1.3100	1.4333	1.5683	1.7160	1.8776	2.0544	2.2479	2.4596	2.6912	2.9447	3.2220	3.5254
10	1.1052	1.2214	1.3499	1.4918	1.6487	1.8221	2.0138	2.2255	2.4596	2.7183	3.0042	3.3201	3.6693	4.0552
11	1.1163	1.2461	1.3910	1.5527	1.7333	1.9348	2.1598	2.4109	2.6912	3.0042	3.3535	3.7434	4.1787	4.6646
12	1.1275	1.2712	1.4333	1.6161	1.8221	2.0544	2.3164	2.6117	2.9447	3.3201	3.7434	4.2207	4.7588	5.3656
13	1.1388	1.2969	1.4770	1.6820	1.9155	2.1815	2.4843	2.8292	3.2220	3.6693	4.1787	4.7588	5.4195	6.1719
14	1.1503	1.3231	1.5220	1.7507	2.0138	2.3164	2.6645	3.0649	3.5254	4.0552	4.6646	5.3656	6.1719	7.0993
15	1.1618	1.3499	1.5683	1.8221	2.1170	2.4596	2.8577	3.3201	3.8574	4.4817	5.2070	6.0496	7.0287	8.1662
16	1.1735	1.3771	1.6161	1.8965	2.2255	2.6117	3.0649	3.5966	4.2207	4.9530	5.8124	6.8210	8.0045	9.3933
17	1.1853	1.4049	1.6653	1.9739	2.3396	2.7732	3.2871	3.8962	4.6182	5.4739	6.4883	7.6906	9.1157	10.8049
18	1.1972	1.4333	1.7160	2.0544	2.4596	2.9447	3.5254	4.2207	5.0531	6.0496	7.2427	8.6711	10.3812	12.4286
19	1.2092	1.4623	1.7683	2.1383	2.5857	3.1268	3.7810	4.5722	5.5290	6.6959	8.0849	9.7767	11.8224	14.2963
20	1.2214	1.4918	1.8221	2.2255	2.7183	3.3201	4.0552	4.9530	6.0496	7.3891	9.0250	11.0232	13.4637	16.4446
21	1.2337	1.5220	1.8776	2.3164	2.8577	3.5254	4.3492	5.3656	6.6194	8.1662	10.0744	12.4286	15.3329	18.9158
22	1.2461	1.5527	1.9348	2.4109	3.0042	3.7434	4.6646	5.8124	7.2427	9.0250	11.2459	14.0132	17.4615	21.7584
23	1.2586	1.5841	1.9937	2.5093	3.1582	3.9749	5.0028	6.2965	7.9248	9.9742	12.5535	15.7998	19.8857	25.0281
24	1.2712	1.6161	2.0544	2.6117	3.3201	4.2207	5.3656	6.8210	8.6711	11.0232	14.0132	17.8143	22.7464	28.7892
25	1.2840	1.6487	2.1170	2.7183	3.4903	4.4817	5.7546	7.3891	9.4877	12.1825	15.6426	20.0855	25.7903	33.1155
30	1.3499	1.8221	2.4596	3.3201	4.4817	6.0496	8.1662	11.0232	14.8797	20.0855	27.1126	36.5982	49.4024	66.6863
35	1.4191	2.0138	2.8577	4.0552	5.7546	8.1662	11.5883	16.4446	23.3361	33.1155	46.9931	66.6863	94.6324	134.2898
40	1.4918	2.2255	3.3201	4.9530	7.3891	11.0232	16.4446	24.5235	36.5982	54.5982	81.4509	121.5104	181.2722	270.4264
45	1.5683	2.4596	3.8574	6.0496	9.4877	14.8797	23.3361	36.5982	57.3975	90.0171	141.1750	221.4064	347.2344	544.5719
50	1.6487	2.7183	4.4817	7.3891	12.1825	20.0855	33.1155	54.5982	90.0171	148.4132	244.6919	403.4288	665.1416	1096.633
55	1.7333	3.0042	5.2070	9.0250	15.6426	27.1126	46.9931	81.4509	141.1750	244.6919	424.1130	735.0952	1274.106	2208.348
60	1.8221	3.3201	6.0496	11.0232	20.0855	36.5982	66.6863	121.5104	221.4064	403.4288	735.0952	1339.431	2440.602	4447.067

CONTINUOUSLY COMPOUNDED RATE (r)

PERIOD
(T)

	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%	26%	27%	28%
1	1.1618	1.1735	1.1853	1.1972	1.2092	1.2214	1.2337	1.2461	1.2586	1.2712	1.2840	1.2969	1.3100	1.3231
2	1.3499	1.3771	1.4049	1.4333	1.4623	1.4918	1.5220	1.5527	1.5841	1.6161	1.6487	1.6820	1.7160	1.7507
3	1.5683	1.6161	1.6653	1.7160	1.7683	1.8221	1.8776	1.9348	1.9937	2.0544	2.1170	2.1815	2.2479	2.3164
4	1.8221	1.8965	1.9739	2.0544	2.1383	2.2255	2.3164	2.4109	2.5093	2.6117	2.7183	2.8292	2.9447	3.0649
5	2.1170	2.2255	2.3396	2.4596	2.5857	2.7183	2.8577	3.0042	3.1582	3.3201	3.4903	3.6693	3.8574	4.0552
6	2.4596	2.6117	2.7732	2.9447	3.1268	3.3201	3.5254	3.7434	3.9749	4.2207	4.4817	4.7588	5.0351	5.3656
7	2.8577	3.0649	3.2871	3.5254	3.7810	4.0552	4.3492	4.6646	5.0028	5.3656	5.7546	6.1719	6.6194	7.0993
8	3.3201	3.5966	3.8962	4.2207	4.5722	4.9530	5.3656	5.8124	6.2965	6.8210	7.3891	8.0045	8.6711	9.3933
9	3.8574	4.2207	4.6182	5.0531	5.5290	6.0496	6.6194	7.2427	7.9248	8.6711	9.4877	10.3812	11.3589	12.4286
10	4.4817	4.9530	5.4739	6.0496	6.6859	7.3891	8.1662	9.0250	9.9742	11.0232	12.1825	13.4637	14.8797	16.4446
11	5.2070	5.8124	6.4883	7.2427	8.0849	9.0250	10.0744	11.2459	12.5535	14.0132	15.6426	17.4615	19.4919	21.7584
12	6.0496	6.8210	7.6906	8.6711	9.7767	11.0232	12.4286	14.0132	15.7988	17.8143	20.0855	22.6464	25.5377	28.7892
13	7.0287	8.0045	9.1157	10.3812	11.8224	13.4637	15.3329	17.4615	19.8857	22.6464	25.7903	29.3708	33.4463	38.0918
14	8.1662	9.3933	10.8049	12.4286	14.2963	16.4446	18.9158	21.7584	25.0281	28.7892	33.1155	38.0918	43.8160	50.4004
15	9.4877	11.0232	12.0871	14.8797	17.2878	20.0855	23.3361	27.1126	31.5004	36.5982	42.5211	49.4024	57.3975	66.6863
16	11.0232	12.9358	15.1803	17.8143	20.9052	24.5325	28.7892	33.7844	39.6464	46.5255	54.5982	64.0715	75.1886	88.2347
17	12.8071	15.1803	17.9933	21.3276	25.2797	29.9641	35.5166	42.0980	49.8990	59.1455	70.1054	83.0963	98.4944	116.7459
18	14.8797	17.8143	21.3276	25.5337	30.5694	36.5982	43.8160	52.4573	62.8028	75.1886	90.0171	107.7701	129.0242	154.4700
19	17.2878	20.9052	25.2797	30.5694	36.9661	44.7012	54.0549	65.3659	79.0436	95.5835	115.5843	139.7702	169.0171	204.3839
20	20.0855	24.5325	29.9641	36.5982	44.7012	54.5982	66.6863	81.4509	99.4843	121.5104	148.4132	181.2722	221.4064	270.4264
21	23.3361	28.7892	35.5166	43.8160	54.0549	66.6863	82.2695	101.4940	125.2110	154.4700	190.5663	235.0974	290.0345	357.8092
22	27.1126	33.7844	42.0980	52.4573	65.3659	81.4509	101.4940	126.4694	157.5905	196.3699	244.6919	304.9049	379.9349	473.4281
23	31.5004	39.6464	49.8990	62.8028	79.0436	99.4843	125.2110	157.5905	198.3434	249.6350	314.1907	395.4404	497.7013	626.4068
24	36.5982	46.5255	59.1455	75.1886	95.5835	121.5104	154.4700	196.3699	249.6350	317.3483	403.4288	512.8585	651.9709	828.8175
25	42.5211	54.5982	70.1054	90.0171	115.5843	148.4132	190.5663	244.6919	314.1907	403.4288	518.0128	665.1416	854.0588	1096.633
30	90.0171	121.5104	164.0219	221.4064	298.8674	403.4288	544.5719	735.0952	992.2747	1339.431	1808.042	2440.602	3294.468	4447.067
35	190.5663	270.4264	383.7533	544.5719	772.7843	1096.633	1556.197	2208.348	3133.795	4447.067	6310.688	8955.293	12708.17	18033.74
40	403.4288	601.8450	897.8473	1339.431	1998.196	2980.958	4447.067	6634.244	9897.129	14764.78	22026.47	32859.63	49020.80	73130.44
45	854.0588	1339.431	2100.646	3294.468	5166.754	8103.084	12708.17	19930.37	31257.04	49020.80	76879.92	120571.7	189094.1	296558.6
50	1808.042	2980.958	4914.769	8103.084	13359.73	22026.47	36315.50	59874.14	98715.77	162754.8	268337.3	442413.4	729416.4	1202604.
55	3827.626	6634.244	11498.82	19930.37	34544.37	59874.14	103777.0	179871.9	311763.4	540364.9	938589.2	1623346.	2813669.	4876801.
60	8103.084	14764.78	26903.19	49020.80	89321.72	162754.8	296558.6	540364.9	984609.1	1794075.	3269017.	5956538.	10853520.	19776403.

TABLE A.6Present Value of \$1 with a Continuous Discount Rate r for T Periods: Values of e^{-rt}

PERIOD (T)	CONTINUOUS DISCOUNT RATE (r)																
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%
1	.9900	.9802	.9704	.9608	.9512	.9418	.9324	.9231	.9139	.9048	.8958	.8869	.8781	.8694	.8607	.8521	.8437
2	.9802	.9608	.9418	.9231	.9048	.8869	.8694	.8521	.8353	.8187	.8025	.7866	.7711	.7558	.7408	.7261	.7118
3	.9704	.9418	.9139	.8869	.8607	.8353	.8106	.7866	.7634	.7408	.7189	.6977	.6771	.6570	.6376	.6188	.6005
4	.9608	.9231	.8869	.8521	.8187	.7866	.7558	.7261	.6977	.6703	.6440	.6188	.5945	.5712	.5488	.5273	.5066
5	.9512	.9048	.8607	.8187	.7788	.7408	.7047	.6703	.6376	.6065	.5769	.5488	.5220	.4966	.4724	.4493	.4274
6	.9418	.8869	.8353	.7866	.7408	.6977	.6570	.6188	.5827	.5488	.5169	.4868	.4584	.4317	.4066	.3829	.3606
7	.9324	.8694	.8106	.7558	.7047	.6570	.6126	.5712	.5326	.4966	.4630	.4317	.4025	.3753	.3499	.3263	.3042
8	.9231	.8521	.7866	.7261	.6703	.6188	.5712	.5273	.4868	.4493	.4148	.3829	.3535	.3263	.3012	.2780	.2576
9	.9139	.8353	.7634	.6977	.6376	.5827	.5326	.4868	.4449	.4066	.3716	.3396	.3104	.2837	.2592	.2369	.2165
10	.9048	.8187	.7408	.6703	.6065	.5488	.4966	.4493	.4066	.3679	.3329	.3012	.2725	.2466	.2231	.2019	.1827
11	.8958	.8025	.7189	.6440	.5769	.5169	.4630	.4148	.3716	.3329	.2982	.2671	.2393	.2144	.1920	.1720	.1541
12	.8869	.7866	.6977	.6188	.5488	.4868	.4317	.3829	.3396	.3012	.2671	.2369	.2101	.1864	.1653	.1466	.1300
13	.8781	.7711	.6771	.5945	.5220	.4584	.4025	.3535	.3104	.2725	.2393	.2101	.1845	.1620	.1423	.1249	.1097
14	.8694	.7558	.6570	.5712	.4966	.4317	.3753	.3263	.2837	.2466	.2144	.1864	.1620	.1409	.1225	.1065	.0926
15	.8607	.7408	.6376	.5488	.4724	.4066	.3499	.3012	.2592	.2231	.1920	.1653	.1423	.1225	.1054	.0907	.0781
16	.8521	.7261	.6188	.5273	.4493	.3829	.3263	.2780	.2369	.2019	.1720	.1466	.1249	.1065	.0907	.0773	.0659
17	.8437	.7118	.6005	.5066	.4274	.3606	.3042	.2567	.2165	.1827	.1541	.1300	.1097	.0926	.0781	.0659	.0556
18	.8353	.6977	.5827	.4868	.4066	.3396	.2837	.2369	.1979	.1653	.1381	.1153	.0963	.0805	.0672	.0561	.0469
19	.8270	.6839	.5655	.4677	.3867	.3198	.2645	.2187	.1809	.1496	.1237	.1023	.0846	.0699	.0578	.0478	.0396
20	.8187	.6703	.5488	.4493	.3679	.3012	.2466	.2019	.1653	.1353	.1108	.0907	.0743	.0608	.0498	.0408	.0334
21	.8106	.6570	.5326	.4317	.3499	.2837	.2299	.1864	.1511	.1225	.0993	.0805	.0652	.0529	.0429	.0347	.0282
22	.8025	.6440	.5169	.4148	.3329	.2671	.2144	.1720	.1381	.1108	.0889	.0714	.0573	.0460	.0369	.0296	.0238
23	.7945	.6313	.5016	.3985	.3166	.2516	.1999	.1588	.1262	.1003	.0797	.0633	.0503	.0400	.0317	.0252	.0200
24	.7866	.6188	.4868	.3829	.3012	.2369	.1864	.1466	.1153	.0907	.0714	.0561	.0442	.0347	.0273	.0215	.0169
25	.7788	.6065	.4724	.3679	.2865	.2231	.1738	.1353	.1054	.0821	.0639	.0498	.0388	.0302	.0235	.0183	.0143
30	.7408	.5488	.4066	.3012	.2231	.1653	.1225	.0907	.0672	.0498	.0369	.0273	.0202	.0150	.0111	.0082	.0061
35	.7047	.4966	.3499	.2466	.1738	.1225	.0863	.0608	.0429	.0302	.0213	.0150	.0106	.0074	.0052	.0037	.0026
40	.6703	.4493	.3012	.2019	.1353	.0907	.0608	.0408	.0273	.0183	.0131	.0082	.0055	.0037	.0025	.0017	.0011
45	.6376	.4066	.2592	.1653	.1054	.0672	.0429	.0273	.0174	.0111	.0071	.0045	.0029	.0018	.0012	.0007	.0005
50	.6065	.3679	.2231	.1353	.0821	.0498	.0302	.0183	.0111	.0067	.0041	.0025	.0015	.0009	.0006	.0003	.0002
55	.5769	.3329	.1920	.1108	.0639	.0369	.0213	.0123	.0071	.0041	.0024	.0014	.0008	.0005	.0003	.0002	.0001
60	.5488	.3012	.1653	.0907	.0498	.0273	.0150	.0082	.0045	.0025	.0014	.0007	.0004	.0002	.0001	.0001	.0000

CONTINUOUS DISCOUNT RATE (r)

PERIOD (T)	18%	19%	20%	21%	22%	23%	24%	25%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%
1	.8953	.8270	.8187	.8106	.8025	.7945	.7866	.7788	.7711	.7634	.7558	.7483	.7408	.7334	.7261	.7189	.7118	.7047
2	.6977	.6839	.6703	.6570	.6440	.6313	.6188	.6065	.5945	.5827	.5712	.5599	.5488	.5379	.5273	.5169	.5066	.4966
3	.5827	.5655	.5488	.5326	.5169	.5016	.4868	.4724	.4584	.4449	.4317	.4190	.4066	.3946	.3829	.3716	.3606	.3499
4	.4868	.4677	.4493	.4317	.4148	.3985	.3829	.3679	.3535	.3396	.3263	.3135	.3012	.2894	.2780	.2671	.2567	.2466
5	.4066	.3867	.3679	.3499	.3329	.3166	.3012	.2865	.2725	.2592	.2466	.2346	.2231	.2122	.2019	.1920	.1827	.1738
6	.3396	.3198	.3012	.2837	.2671	.2516	.2369	.2231	.2101	.1979	.1864	.1755	.1653	.1557	.1466	.1381	.1300	.1225
7	.2837	.2645	.2466	.2299	.2144	.1999	.1864	.1738	.1620	.1511	.1409	.1313	.1225	.1142	.1065	.0993	.0926	.0863
8	.2369	.2187	.2019	.1864	.1720	.1588	.1466	.1353	.1249	.1153	.1065	.0983	.0907	.0837	.0773	.0714	.0659	.0608
9	.1979	.1809	.1653	.1511	.1381	.1262	.1153	.1054	.0963	.0880	.0805	.0735	.0672	.0614	.0561	.0513	.0469	.0429
10	.1653	.1496	.1353	.1225	.1108	.1003	.0907	.0821	.0743	.0672	.0608	.0550	.0498	.0450	.0408	.0369	.0334	.0302
11	.1381	.1237	.1108	.0993	.0889	.0797	.0714	.0639	.0573	.0513	.0460	.0412	.0369	.0330	.0296	.0265	.0238	.0213
12	.1154	.1023	.0907	.0805	.0714	.0633	.0561	.0498	.0442	.0392	.0347	.0308	.0273	.0242	.0215	.0191	.0169	.0150
13	.0963	.0846	.0743	.0652	.0573	.0503	.0442	.0388	.0340	.0299	.0263	.0231	.0202	.0178	.0156	.0137	.0120	.0106
14	.0805	.0699	.0608	.0529	.0460	.0400	.0347	.0302	.0263	.0228	.0198	.0172	.0150	.0130	.0113	.0099	.0086	.0074
15	.0672	.0578	.0498	.0429	.0369	.0317	.0273	.0235	.0202	.0174	.0150	.0129	.0111	.0096	.0082	.0071	.0061	.0052
16	.0561	.0478	.0408	.0347	.0296	.0252	.0215	.0183	.0156	.0133	.0113	.0097	.0082	.0070	.0060	.0051	.0043	.0037
17	.0469	.0396	.0334	.0282	.0238	.0200	.0169	.0143	.0120	.0102	.0086	.0072	.0061	.0051	.0043	.0037	.0031	.0026
18	.0392	.0327	.0273	.0228	.0191	.0159	.0133	.0111	.0093	.0078	.0065	.0054	.0045	.0038	.0032	.0026	.0022	.0018
19	.0327	.0271	.0224	.0185	.0153	.0127	.0105	.0087	.0072	.0059	.0049	.0040	.0033	.0028	.0023	.0019	.0016	.0013
20	.0273	.0224	.0183	.0150	.0123	.0101	.0082	.0067	.0055	.0045	.0037	.0030	.0025	.0020	.0017	.0014	.0011	.0009
21	.0228	.0185	.0150	.0122	.0099	.0080	.0065	.0052	.0043	.0034	.0028	.0023	.0018	.0015	.0012	.0010	.0008	.0006
22	.0191	.0153	.0123	.0099	.0079	.0063	.0051	.0041	.0033	.0026	.0021	.0017	.0014	.0011	.0009	.0007	.0006	.0005
23	.0159	.0127	.0101	.0080	.0063	.0050	.0040	.0032	.0025	.0020	.0016	.0013	.0010	.0008	.0006	.0005	.0004	.0003
24	.0133	.0105	.0082	.0065	.0051	.0040	.0032	.0025	.0019	.0015	.0012	.0009	.0007	.0006	.0005	.0004	.0003	.0002
25	.0111	.0087	.0067	.0052	.0041	.0032	.0025	.0019	.0015	.0012	.0009	.0007	.0006	.0004	.0003	.0002	.0002	.0002
30	.0045	.0033	.0025	.0018	.0014	.0010	.0007	.0006	.0004	.0003	.0002	.0002	.0001	.0001	.0001	.0001	.0000	.0000
35	.0018	.0013	.0009	.0006	.0005	.0003	.0002	.0002	.0001	.0001	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000
40	.0007	.0005	.0003	.0002	.0002	.0001	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
45	.0003	.0002	.0001	.0001	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
50	.0001	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
55	.0001	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
60	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000