TABLE 5-A-1 Future Value of $1

	i														
N	**0.5**	**1**	**1.5**	**2**	**2.5**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**12**	**15**
1	1.0050	1.0100	1.0150	1.0200	1.0250	1.0300	1.0400	1.0500	1.0600	1.0700	1.0800	1.0900	1.1000	1.1200	1.1500
2	1.0100	1.0201	1.0302	1.0404	1.0506	1.0609	1.0816	1.1025	1.1236	1.1449	1.1664	1.1881	1.2100	1.2544	1.3225
3	1.0151	1.0303	1.0457	1.0612	1.0769	1.0927	1.1249	1.1576	1.1910	1.2250	1.2597	1.2950	1.3310	1.4049	1.5209
4	1.0202	1.0406	1.0614	1.0824	1.1038	1.1255	1.1699	1.2155	1.2625	1.3108	1.3605	1.4116	1.4641	1.5735	1.7490
5	1.0253	1.0510	1.0773	1.1041	1.1314	1.1593	1.2167	1.2763	1.3382	1.4026	1.4693	1.5386	1.6105	1.7623	2.0114
6	1.0304	1.0615	1.0934	1.1262	1.1597	1.1941	1.2653	1.3401	1.4185	1.5007	1.5869	1.6771	1.7716	1.9738	2.3131
7	1.0355	1.0721	1.1098	1.1487	1.1887	1.2299	1.3159	1.4071	1.5036	1.6058	1.7138	1.8280	1.9487	2.2107	2.6600
8	1.0407	1.0829	1.1265	1.1717	1.2184	1.2668	1.3686	1.4774	1.5938	1.7182	1.8509	1.9926	2.1436	2.4760	3.0590
9	1.0459	1.0937	1.1434	1.1951	1.2489	1.3048	1.4233	1.5513	1.6895	1.8385	1.9990	2.1719	2.3579	2.7731	3.5179
10	1.0511	1.1046	1.1605	1.2190	1.2801	1.3439	1.4802	1.6289	1.7908	1.9672	2.1589	2.3674	2.5937	3.1058	4.0456
11	1.0564	1.1157	1.1779	1.2434	1.3121	1.3842	1.5395	1.7103	1.8983	2.1049	2.3316	2.5804	2.8531	3.4785	4.6524
12	1.0617	1.1268	1.1956	1.2682	1.3449	1.4258	1.6010	1.7959	2.0122	2.2522	2.5182	2.8127	3.1384	3.8960	5.3503
13	1.0670	1.1381	1.2136	1.2936	1.3785	1.4685	1.6651	1.8856	2.1329	2.4098	2.7196	3.0658	3.4523	4.3635	6.1528
14	1.0723	1.1495	1.2318	1.3195	1.4130	1.5126	1.7317	1.9799	2.2609	2.5785	2.9372	3.3417	3.7975	4.8871	7.0757
15	1.0777	1.1610	1.2502	1.3459	1.4483	1.5580	1.8009	2.0789	2.3966	2.7590	3.1722	3.6425	4.1772	5.4736	8.1371
16	1.0831	1.1726	1.2690	1.3728	1.4845	1.6047	1.8730	2.1829	2.5404	2.9522	3.4259	3.9703	4.5950	6.1304	9.3576
17	1.0885	1.1843	1.2880	1.4002	1.5216	1.6528	1.9479	2.2920	2.6928	3.1588	3.7000	4.3276	5.0545	6.8660	10.7613
18	1.0939	1.1961	1.3073	1.4282	1.5597	1.7024	2.0258	2.4066	2.8543	3.3799	3.9960	4.7171	5.5599	7.6900	12.3755
19	1.0994	1.2081	1.3270	1.4568	1.5987	1.7535	2.1068	2.5270	3.0256	3.6165	4.3157	5.1417	6.1159	8.6128	14.2318
20	1.1049	1.2202	1.3469	1.4859	1.6386	1.8061	2.1911	2.6533	3.2071	3.8697	4.6610	5.6044	6.7275	9.6463	16.3665
25	1.1328	1.2824	1.4509	1.6406	1.8539	2.0938	2.6658	3.3864	4.2919	5.4274	6.8485	8.6231	10.8347	17.0001	32.9190
30	1.1614	1.3478	1.5631	1.8114	2.0976	2.4273	3.2434	4.3219	5.7435	7.6123	10.0627	13.2677	17.4494	29.9599	66.2118
35	1.1907	1.4166	1.6839	1.9999	2.3732	2.8139	3.9461	5.5160	7.6861	10.6766	14.7853	20.4140	28.1024	52.7996	133.1755
40	1.2208	1.4889	1.8140	2.2080	2.6851	3.2620	4.8010	7.0400	10.2857	14.9745	21.7245	31.4094	45.2593	93.0510	267.8635
50	1.2832	1.6446	2.1052	2.6916	3.4371	4.3839	7.1067	11.4674	18.4202	29.4570	46.9016	74.3575	117.3909	289.0022	1083.6574

The compounded, or future value of $\$1 = (1 + i)^N$ where i = the percent interest rate per compounding period and N = the number of compounding periods.

Assumes all payments are made at the end of each period.

TABLE 5-A-2 Present Value of $1

	i														
N	0.5	1	1.5	2	2.5	3	4	5	6	7	8	9	10	12	15
1	0.9950	0.9901	0.9852	0.9804	0.9756	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.8929	0.8696
2	0.9901	0.9803	0.9707	0.9612	0.9518	0.9426	0.9246	0.9070	0.8900	0.8734	0.8573	0.8417	0.8264	0.7972	0.7561
3	0.9851	0.9706	0.9563	0.9423	0.9286	0.9151	0.8890	0.8638	0.8396	0.8163	0.7938	0.7722	0.7513	0.7118	0.6575
4	0.9802	0.9610	0.9422	0.9238	0.9060	0.8885	0.8548	0.8227	0.7921	0.7629	0.7350	0.7084	0.6830	0.6355	0.5718
5	0.9754	0.9515	0.9283	0.9057	0.8839	0.8626	0.8219	0.7835	0.7473	0.7130	0.6806	0.6499	0.6209	0.5674	0.4972
6	0.9705	0.9420	0.9145	0.8880	0.8623	0.8375	0.7903	0.7462	0.7050	0.6663	0.6302	0.5963	0.5645	0.5066	0.4323
7	0.9657	0.9327	0.9010	0.8706	0.8413	0.8131	0.7599	0.7107	0.6651	0.6227	0.5835	0.5470	0.5132	0.4523	0.3759
8	0.9609	0.9235	0.8877	0.8535	0.8207	0.7894	0.7307	0.6768	0.6274	0.5820	0.5403	0.5019	0.4665	0.4039	0.3269
9	0.9561	0.9143	0.8746	0.8368	0.8007	0.7664	0.7026	0.6446	0.5919	0.5439	0.5002	0.4604	0.4241	0.3606	0.2843
10	0.9513	0.9053	0.8617	0.8203	0.7812	0.7441	0.6756	0.6139	0.5584	0.5083	0.4632	0.4224	0.3855	0.3220	0.2472
11	0.9466	0.8963	0.8489	0.8043	0.7621	0.7224	0.6496	0.5847	0.5268	0.4751	0.4289	0.3875	0.3505	0.2875	0.2149
12	0.9419	0.8874	0.8364	0.7885	0.7436	0.7014	0.6246	0.5568	0.4970	0.4440	0.3971	0.3555	0.3186	0.2567	0.1869
13	0.9372	0.8787	0.8240	0.7730	0.7254	0.6810	0.6006	0.5303	0.4688	0.4150	0.3677	0.3262	0.2897	0.2292	0.1625
14	0.9326	0.8700	0.8118	0.7579	0.7077	0.6611	0.5775	0.5051	0.4423	0.3878	0.3405	0.2992	0.2633	0.2046	0.1413
15	0.9279	0.8613	0.7999	0.7430	0.6905	0.6419	0.5553	0.4810	0.4173	0.3624	0.3152	0.2745	0.2394	0.1827	0.1229
16	0.9233	0.8528	0.7880	0.7284	0.6736	0.6232	0.5339	0.4581	0.3936	0.3387	0.2919	0.2519	0.2176	0.1631	0.1069
17	0.9187	0.8444	0.7764	0.7142	0.6572	0.6050	0.5134	0.4363	0.3714	0.3166	0.2703	0.2311	0.1978	0.1456	0.0929
18	0.9141	0.8360	0.7649	0.7002	0.6412	0.5874	0.4936	0.4155	0.3503	0.2959	0.2502	0.2120	0.1799	0.1300	0.0808
19	0.9096	0.8277	0.7536	0.6864	0.6255	0.5703	0.4746	0.3957	0.3305	0.2765	0.2317	0.1945	0.1635	0.1161	0.0703
20	0.9051	0.8195	0.7425	0.6730	0.6103	0.5537	0.4564	0.3769	0.3118	0.2584	0.2145	0.1784	0.1486	0.1037	0.0611
25	0.8828	0.7798	0.6892	0.6095	0.5394	0.4776	0.3751	0.2953	0.2330	0.1842	0.1460	0.1160	0.0923	0.0588	0.0304
30	0.8610	0.7419	0.6398	0.5521	0.4767	0.4120	0.3083	0.2314	0.1741	0.1314	0.0994	0.0754	0.0573	0.0334	0.0151
35	0.8398	0.7059	0.5939	0.5000	0.4214	0.3554	0.2534	0.1813	0.1301	0.0937	0.0676	0.0490	0.0356	0.0189	0.0075
40	0.8191	0.6717	0.5513	0.4529	0.3724	0.3066	0.2083	0.1420	0.0972	0.0668	0.0460	0.0318	0.0221	0.0107	0.0037
50	0.7793	0.6080	0.4750	0.3715	0.2909	0.2281	0.1407	0.0872	0.0543	0.0339	0.0213	0.0134	0.0085	0.0035	0.0009

The discounted, or present value of $1 = $1/(1 + i)^N$ where i = the percent interest rate per discounting period and N = the number of compounding periods.

Assumes all payments are made at the end of each period.

TABLE 5-A-3 Future Value of an Annuity of $1

	i														
N	**0.5**	**1**	**1.5**	**2**	**2.5**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**12**	**15**
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	2.0050	2.0100	2.0150	2.0200	2.0250	2.0300	2.0400	2.0500	2.0600	2.0700	2.0800	2.0900	2.1000	2.1200	2.1500
3	3.0150	3.0301	3.0452	3.0604	3.0756	3.0909	3.1216	3.1525	3.1836	3.2149	3.2464	3.2781	3.3100	3.3744	3.4725
4	4.0301	4.0604	4.0909	4.1216	4.1525	4.1836	4.2465	4.3101	4.3746	4.4399	4.5061	4.5731	4.6410	4.7793	4.9934
5	5.0503	5.1010	5.1523	5.2040	5.2563	5.3091	5.4163	5.5256	5.6371	5.7507	5.8666	5.9847	6.1051	6.3528	6.7424
6	6.0755	6.1520	6.2296	6.3081	6.3877	6.4684	6.6330	6.8019	6.9753	7.1533	7.3359	7.5233	7.7156	8.1152	8.7537
7	7.1059	7.2135	7.3230	7.4343	7.5474	7.6625	7.8983	8.1420	8.3938	8.6540	8.9228	9.2004	9.4872	10.0890	11.0668
8	8.1414	8.2857	8.4328	8.5830	8.7361	8.8923	9.2142	9.5491	9.8975	10.2598	10.6366	11.0285	11.4359	12.2997	13.7268
9	9.1821	9.3685	9.5593	9.7546	9.9545	10.1591	10.5828	11.0266	11.4913	11.9780	12.4876	13.0210	13.5795	14.7757	16.7858
10	10.2280	10.4622	10.7027	10.9497	11.2034	11.4639	12.0061	12.5779	13.1808	13.8164	14.4866	15.1929	15.9374	17.5487	20.3037
11	11.2792	11.5668	11.8633	12.1687	12.4835	12.8078	13.4864	14.2068	14.9716	15.7836	16.6455	17.5603	18.5312	20.6546	24.3493
12	12.3356	12.6825	13.0412	13.4121	13.7956	14.1920	15.0258	15.9171	16.8699	17.8885	18.9771	20.1407	21.3843	24.1331	29.0017
13	13.3972	13.8093	14.2368	14.6803	15.1404	15.6178	16.6268	17.7130	18.8821	20.1406	21.4953	22.9534	24.5227	28.0291	34.3519
14	14.4642	14.9474	15.4504	15.9739	16.5190	17.0863	18.2919	19.5986	21.0151	22.5505	24.2149	26.0192	27.9750	32.3926	40.5047
15	15.5365	16.0969	16.6821	17.2934	17.9319	18.5989	20.0236	21.5786	23.2760	25.1290	27.1521	29.3609	31.7725	37.2797	47.5804
16	16.6142	17.2579	17.9324	18.6393	19.3802	20.1569	21.8245	23.6575	25.6725	27.8881	30.3243	33.0034	35.9497	42.7533	55.7175
17	17.6973	18.4304	19.2014	20.0121	20.8647	21.7616	23.6975	25.8404	28.2129	30.8402	33.7502	36.9737	40.5447	48.8837	65.0751
18	18.7858	19.6147	20.4894	21.4123	22.3863	23.4144	25.6454	28.1324	30.9057	33.9990	37.4502	41.3013	45.5992	55.7497	75.8364
19	19.8797	20.8109	21.7967	22.8406	23.9460	25.1169	27.6712	30.5390	33.7600	37.3790	41.4463	46.0185	51.1591	63.4397	88.2118
20	20.9791	22.0190	23.1237	24.2974	25.5447	26.8704	29.7781	33.0660	36.7856	40.9955	45.7620	51.1601	57.2750	72.0524	102.4436
25	26.5591	28.2432	30.0630	32.0303	34.1578	36.4593	41.6459	47.7271	54.8645	63.2490	73.1059	84.7009	98.3471	133.3339	212.7930
30	32.2800	34.7849	37.5387	40.5681	43.9027	47.5754	56.0849	66.4388	79.0582	94.4608	113.2832	136.3075	164.4940	241.3327	434.7451
35	38.1454	41.6603	45.5921	49.9945	54.9282	60.4621	73.6522	90.3203	111.4348	138.2369	172.3168	215.7108	271.0244	431.6635	881.1702
40	44.1588	48.8864	54.2679	60.4020	67.4026	75.4013	95.0255	120.7998	154.7620	199.6351	259.0565	337.8824	442.5926	767.0914	1779.0903
50	56.6452	64.4632	73.6828	84.5794	97.4843	112.7969	152.6671	209.3480	290.3359	406.5289	573.7702	815.0836	1163.9085	2400.0182	7217.7163

The compounded, or future value of an annuity of $1 = $ $\frac{[(1 + i)^N - 1]}{i}$

Note: N = number of compounding periods; i = percent interest rate per compounding period.

Assumes all payments are made at the end of each period.

TABLE 5-A-4 Present Value of an Annuity of $1

	i														
N	**0.5**	**1**	**1.5**	**2**	**2.5**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**12**	**15**
1	0.9950	0.9901	0.9852	0.9804	0.9756	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.8929	0.8696
2	1.9851	1.9704	1.9559	1.9416	1.9274	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1.6901	1.6257
3	2.9702	2.9410	2.9122	2.8839	2.8560	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4018	2.2832
4	3.9505	3.9020	3.8544	3.8077	3.7620	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.0373	2.8550
5	4.9259	4.8534	4.7826	4.7135	4.6458	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6048	3.3522
6	5.8964	5.7955	5.6972	5.6014	5.5081	5.4172	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859	4.3553	4.1114	3.7845
7	6.8621	6.7282	6.5982	6.4720	6.3494	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.5638	4.1604
8	7.8230	7.6517	7.4859	7.3255	7.1701	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	4.9676	4.4873
9	8.7791	8.5660	8.3605	8.1622	7.9709	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.3282	4.7716
10	9.7304	9.4713	9.2222	8.9826	8.7521	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.6502	5.0188
11	10.6770	10.3676	10.0711	9.7868	9.5142	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	5.9377	5.2337
12	11.6189	11.2551	10.9075	10.5753	10.2578	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.1944	5.4206
13	12.5562	12.1337	11.7315	11.3484	10.9832	10.6350	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.4235	5.5831
14	13.4887	13.0037	12.5434	12.1062	11.6909	11.2961	10.5631	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.6282	5.7245
15	14.4166	13.8651	13.3432	12.8493	12.3814	11.9379	11.1184	10.3797	9.7122	9.1079	8.5595	8.0607	7.6061	6.8109	5.8474
16	15.3399	14.7179	14.1313	13.5777	13.0550	12.5611	11.6523	10.8378	10.1059	9.4466	8.8514	8.3126	7.8237	6.9740	5.9542
17	16.2586	15.5623	14.9076	14.2919	13.7122	13.1661	12.1657	11.2741	10.4773	9.7632	9.1216	8.5436	8.0216	7.1196	6.0472
18	17.1728	16.3983	15.6726	14.9920	14.3534	13.7535	12.6593	11.6896	10.8276	10.0591	9.3719	8.7556	8.2014	7.2497	6.1280
19	18.0824	17.2260	16.4262	15.6785	14.9789	14.3238	13.1339	12.0853	11.1581	10.3356	9.6036	8.9501	8.3649	7.3658	6.1982
20	18.9874	18.0456	17.1686	16.3514	15.5892	14.8775	13.5903	12.4622	11.4699	10.5940	9.8181	9.1285	8.5136	7.4694	6.2593
25	23.4456	22.0232	20.7196	19.5235	18.4244	17.4131	15.6221	14.0939	12.7834	11.6536	10.6748	9.8226	9.0770	7.8431	6.4641
30	27.7941	25.8077	24.0158	22.3965	20.9303	19.6004	17.2920	15.3725	13.7648	12.4090	11.2578	10.2737	9.4269	8.0552	6.5660
35	32.0354	29.4086	27.0756	24.9986	23.1452	21.4872	18.6646	16.3742	14.4982	12.9477	11.6546	10.5668	9.6442	8.1755	6.6166
40	36.1722	32.8347	29.9158	27.3555	25.1028	23.1148	19.7928	17.1591	15.0463	13.3317	11.9246	10.7574	9.7791	8.2438	6.6418
50	44.1428	39.1961	34.9997	31.4236	28.3623	25.7298	21.4822	18.2559	15.7619	13.8007	12.2335	10.9617	9.9148	8.3045	6.6605

The discounted, or present value of an annuity of $1 = $ $\frac{1 - [1/(1 + i)^N]}{i}$

Note: N = number of discounting periods; i = percent interest rate per discounting period.

Assumes all payments are made at the end of each period.