

APPENDIX A: FINANCIAL TABLES Table A1Future Value Factors for One Dollar Compounded at r Percent for n Periods $FVF_{r}, n = (1+r)^n$

1,0,1	`														
Period	1%	2%	3%	4%	2%	%9	7%	%8	%6	10%	11%	12%	13%	14%	15%
1	1.010	1.020	1.030	1.040	1.050	1.060	1.070	1.080	1.090	1.100	1.110	1.120	1.130	1.140	1.150
2	1.020	1.040	1.061	1.082	1.103	1.124	1.145	1.166	1.188	1.210	1.232	1.254	1.277	1.300	1.323
з	1.030	1.061	1.093	1.125	1.158	1.191	1.225	1.260	1.295	1.331	1.368	1.405	1.443	1.482	1.521
4	1.041	1.082	1.126	1.170	1.216	1.262	1.311	1.360	1.412	1.464	1.518	1.574	1.630	1.689	1.749
5	1.051	1.104	1.159	1.217	1.276	1.338	1.403	1.469	1.539	1.611	1.685	1.762	1.842	1.925	2.011
9	1.062	1.126	1.194	1.265	1.340	1.419	1.501	1.587	1.677	1.772	1.870	1.974	2.082	2.195	2.313
7	1.072	1.149	1.230	1.316	1.407	1.504	1.606	1.714	1.828	1.949	2.076	2.211	2.353	2.502	2.660
∞	1.083	1.172	1.267	1.369	1.477	1.594	1.718	1.851	1.993	2.144	2.305	2.476	2.658	2.853	3.059
6	1.094	1.195	1.305	1.423	1.551	1.689	1.838	1.999	2.172	2.358	2.558	2.773	3.004	3.252	3.518
10	1.105	1.219	1.344	1.480	1.629	1.791	1.967	2.159	2.367	2.594	2.839	3.106	3.395	3.707	4.046
11	1.116	1.243	1.384	1.539	1.710	1.898	2.105	2.332	2.580	2.853	3.152	3.479	3.836	4.226	4.652
12	1.127	1.268	1.426	1.601	1.796	2.012	2.252	2.518	2.813	3.138	3.498	3.896	4.335	4.818	5.350
13	1.138	1.294	1.469	1.665	1.886	2.133	2.410	2.720	3.066	3.452	3.883	4.363	4.898	5.492	6.153
14	1.149	1.319	1.513	1.732	1.980	2.261	2.579	2.937	3.342	3.797	4.310	4.887	5.535	6.261	7.076
15	1.161	1.346	1.558	1.801	2.079	2.397	2.759	3.172	3.642	4.177	4.785	5.474	6.254	7.138	8.137
16	1.173	1.373	1.605	1.873	2.183	2.540	2.952	3.426	3.970	4.595	5.311	6.130	7.067	8.137	9.358
17	1.184	1.400	1.653	1.948	2.292	2.693	3.159	3.700	4.328	5.054	5.895	998.9	7.986	9.276	10.761
18	1.196	1.428	1.702	2.026	2.407	2.854	3.380	3.996	4.717	5.560	6.544	7.690	9.024	10.575	12.375
19	1.208	1.457	1.754	2.107	2.527	3.026	3.617	4.316	5.142	6.116	7.263	8.613	10.197	12.056	14.232
20	1.220	1.486	1.806	2.191	2.653	3.207	3.870	4.661	5.604	6.727	8.062	9.646	11.523	13.743	16.367
21	1.232	1.516	1.860	2.279	2.786	3.400	4.141	5.034	6.109	7.400	8.949	10.804	13.021	15.668	18.822
22	1.245	1.546	1.916	2.370	2.925	3.604	4.430	5.437	6.659	8.140	9.934	12.100	14.714	17.861	21.645
23	1.257	1.577	1.974	2.465	3.072	3.820	4.741	5.871	7.258	8.954	11.026	13.552	16.627	20.362	24.891
24	1.270	1.608	2.033	2.563	3.225	4.049	5.072	6.341	7.911	9.850	12.239	15.179	18.788	23.212	28.625
25	1.282	1.641	2.094	2.666	3.386	4.292	5.427	6.848	8.623	10.835	13.585	17.000	21.231	26.462	32.919
30	1.348	1.811	2.427	3.243	4.322	5.743	7.612	10.063	13.268	17.449	22.892	29.960	39.116	50.950	66.212
35	1.417	2.000	2.814	3.946	5.516	7.686	10.677	14.785	20.414	28.102	38.575	52.800	72.069	98.100	133.176
40	1.489	2.208	3.262	4.801	7.040	10.286	14.974	21.725	31.409	45.259	65.001	93.051	132.782	188.884	267.864
45	1.565	2.438	3.782	5.841	8.985	13.765	21.002	31.920	48.327	72.890	109.530	163.988	244.641	363.679	538.769
50	1.645	2.692	4.384	7.107	11.467	18.420	29.457	46.902	74.358	117.391	184.565	289.002	450.736	700.233	1083.657

Table A1 (continued) Future Value Factors for One Dollar Compounded at r Percent for n Periods

$FVF_{r\%,n} = (1+r)^n$	$(1+r)^n$		-								
Period	16%	17%	18%	19%	20%	25%	30%	35%	40%	45%	%09
1	1.160	1.170	1.180	1.190	1.200	1.250	1.300	1.350	1.400	1.450	1.500
7	1.346	1.369	1.392	1.416	1.440	1.563	1.690	1.823	1.960	2.103	2.250
3	1.561	1.602	1.643	1.685	1.728	1.953	2.197	2.460	2.744	3.049	3.375
4	1.811	1.874	1.939	2.005	2.074	2.441	2.856	3.322	3.842	4.421	5.063
5	2.100	2.192	2.288	2.386	2.488	3.052	3.713	4.484	5.378	6.410	7.594
9	2.436	2.565	2.700	2.840	2.986	3.815	4.827	6.053	7.530	9.294	11.391
7	2.826	3.001	3.185	3.379	3.583	4.768	6.275	8.172	10.541	13.476	17.086
~	3.278	3.511	3.759	4.021	4.300	5.960	8.157	11.032	14.758	19.541	25.629
6	3.803	4.108	4.435	4.785	5.160	7.451	10.604	14.894	20.661	28.334	38.443
10	4.411	4.807	5.234	5.695	6.192	9.313	13.786	20.107	28.925	41.085	57.665
11	5.117	5.624	6.176	6.777	7.430	11.642	17.922	27.144	40.496	59.573	86.498
12	5.936	6.580	7.288	8.064	8.916	14.552	23.298	36.644	56.694	86.381	129.746
13	988.9	7.699	8.599	9.596	10.699	18.190	30.288	49.470	79.371	125.252	194.620
14	7.988	9.007	10.147	11.420	12.839	22.737	39.374	66.784	111.120	181.615	291.929
15	9.266	10.539	11.974	13.590	15.407	28.422	51.186	90.158	155.568	263.342	437.894
16	10.748	12.330	14.129	16.172	18.488	35.527	66.542	121.714	217.795	381.846	656.841
17	12.468	14.426	16.672	19.244	22.186	44.409	86.504	164.314	304.913	553.676	985.261
18	14.463	16.879	19.673	22.901	26.623	55.511	112.455	221.824	426.879	802.831	1477.892
19	16.777	19.748	23.214	27.252	31.948	68:388	146.192	299.462	597.630	1164.105	2216.838
20	19.461	23.106	27.393	32.429	38.338	86.736	190.050	404.274	836.683	1687.952	3325.257
21	22.574	27.034	32.324	38.591	46.005	108.420	247.065	545.769	1171.356	2447.530	4987.885
22	26.186	31.629	38.142	45.923	55.206	135.525	321.184	736.789	1639.898	3548.919	7481.828
23	30.376	37.006	45.008	54.649	66.247	169.407	417.539	994.665	2295.857	5145.932	11222.741
24	35.236	43.297	53.109	65.032	79.497	211.758	542.801	1342.797	3214.200	7461.602	16834.112
25	40.874	50.658	65.669	77.388	95.396	264.698	705.641	1812.776	4499.880	10819.322	25251.168
30	85.850	111.065	143.371	184.675	237.376	807.794	2619.996	8128.550	24201.432	69348.978	191751.059
35	180.314	243.503	327.997	440.701	590.668	2465.190	9727.860	36448.688	130161.112	444508.508	*
40	378.721	533.869	750.378	1051.668	1469.772	7523.164	36118.865	163437.135	700037.697	*	*
45	795.444	1170.479	1716.684	2509.651	3657.262	22958.874	134106.817	732857.577	*	*	*
50	1670.704	2566.215	3927.357	5988.914	9100.438	70064.923	497929.223	*	*	*	*
*Not show	n because of	*Not shown because of space limitations	ations.								

Table A2 Present Value Factors for One Dollar Discounted at r Percent for n Periods $PVF_{r^0_0,n} = 1/(1+r)^n$

	15%	0.870	0.756	0.658	0.572	0.497	0.432	0.376	0.327	0.284	0.247	0.215	0.187	0.163	0.141	0.123	0.107	0.093	0.081	0.070	0.061	0.053	0.046	0.040	0.035	0.030	0.015	800.0	0.004	0.002	0.001
	14%	0.877	0.769	0.675	0.592	0.519	0.456	0.400	0.351	0.308	0.270	0.237	0.208	0.182	0.160	0.140	0.123	0.108	0.095	0.083	0.073	0.064	0.056	0.049	0.043	0.038	0.020	0.010	0.005	0.003	0.001
	13%	0.885	0.783	0.693	0.613	0.543	0.480	0.425	0.376	0.333	0.295	0.261	0.231	0.204	0.181	0.160	0.141	0.125	0.1111	0.098	0.087	0.077	0.068	090.0	0.053	0.047	0.026	0.014	0.008	0.004	0.002
	12%	0.893	0.797	0.712	0.636	0.567	0.507	0.452	0.404	0.361	0.322	0.287	0.257	0.229	0.205	0.183	0.163	0.146	0.130	0.116	0.104	0.093	0.083	0.074	990.0	0.059	0.033	0.019	0.011	900.0	0.003
	11%	0.901	0.812	0.731	0.659	0.593	0.535	0.482	0.434	0.391	0.352	0.317	0.286	0.258	0.232	0.209	0.188	0.170	0.153	0.138	0.124	0.112	0.101	0.091	0.082	0.074	0.044	0.026	0.015	0.009	0.005
	10%	606.0	0.826	0.751	0.683	0.621	0.564	0.513	0.467	0.424	0.386	0.350	0.319	0.290	0.263	0.239	0.218	0.198	0.180	0.164	0.149	0.135	0.123	0.112	0.102	0.092	0.057	0.036	0.022	0.014	0.009
	%6	0.917	0.842	0.772	0.708	0.650	0.596	0.547	0.502	0.460	0.422	0.388	0.356	0.326	0.299	0.275	0.252	0.231	0.212	0.194	0.178	0.164	0.150	0.138	0.126	0.116	0.075	0.049	0.032	0.021	0.013
	8%	0.926	0.857	0.794	0.735	0.681	0.630	0.583	0.540	0.500	0.463	0.429	0.397	0.368	0.340	0.315	0.292	0.270	0.250	0.232	0.215	0.199	0.184	0.170	0.158	0.146	0.099	0.068	0.046	0.031	0.021
	7%	0.935	0.873	0.816	0.763	0.713	999.0	0.623	0.582	0.544	0.508	0.475	0.444	0.415	0.388	0.362	0.339	0.317	0.296	0.277	0.258	0.242	0.226	0.211	0.197	0.184	0.131	0.094	0.067	0.048	0.034
	%9	0.943	0.890	0.840	0.792	0.747	0.705	0.665	0.627	0.592	0.558	0.527	0.497	0.469	0.442	0.417	0.394	0.371	0.350	0.331	0.312	0.294	0.278	0.262	0.247	0.233	0.174	0.130	0.097	0.073	0.054
	5%	0.952	0.907	0.864	0.823	0.784	0.746	0.711	0.677	0.645	0.614	0.585	0.557	0.530	0.505	0.481	0.458	0.436	0.416	0.396	0.377	0.359	0.342	0.326	0.310	0.295	0.231	0.181	0.142	0.1111	0.087
	4%	0.962	0.925	0.889	0.855	0.822	0.790	0.760	0.731	0.703	9/90	0.650	0.625	0.601	0.577	0.555	0.534	0.513	0.494	0.475	0.456	0.439	0.422	0.406	0.390	0.375	0.308	0.253	0.208	0.171	0.141
	3%	0.971	0.943	0.915	0.888	0.863	0.837	0.813	0.789	0.766	0.744	0.722	0.701	0.681	0.661	0.642	0.623	0.605	0.587	0.570	0.554	0.538	0.522	0.507	0.492	0.478	0.412	0.355	0.307	0.264	0.228
(2%	0.980	0.961	0.942	0.924	906.0	0.888	0.871	0.853	0.837	0.820	0.804	0.788	0.773	0.758	0.743	0.728	0.714	0.700	989.0	0.673	0.660	0.647	0.634	0.622	0.610	0.552	0.500	0.453	0.410	0.372
$\Gamma V \Gamma_{r\%,n} - 1/(1 + \Gamma)$	1%	0.990	0.980	0.971	0.961	0.951	0.942	0.933	0.923	0.914	0.905	968.0	0.887	0.879	0.870	0.861	0.853	0.844	0.836	0.828	0.820	0.811	0.803	0.795	0.788	0.780	0.742	0.706	0.672	0.639	809.0
$\Gamma V \Gamma_{r\%,n}$	Period	1	7	ю	4	5	9	7	∞	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	30	35	40	45	50

Present Value Factors for One Dollar Discounted at r Percent for n Periods $PVF_{r^0,n} = 1/(1+r)^n$

$I V I^{r\%,n} = I$	-1/(1+1)										
Period	16%	17%	18%	19%	20%	25%	30%	35%	40%	45%	%09
1	0.862	0.855	0.847	0.840	0.833	0.800	0.769	0.741	0.714	0.690	0.667
2	0.743	0.731	0.718	0.706	0.694	0.640	0.592	0.549	0.510	0.476	0.444
3	0.641	0.624	609.0	0.593	0.579	0.512	0.455	0.406	0.364	0.328	0.296
4	0.552	0.534	0.516	0.499	0.482	0.410	0.350	0.301	0.260	0.226	0.198
5	0.476	0.456	0.437	0.419	0.402	0.328	0.269	0.223	0.186	0.156	0.132
9	0.410	0.390	0.370	0.352	0.335	0.262	0.207	0.165	0.133	0.108	0.088
7	0.354	0.333	0.314	0.296	0.279	0.210	0.159	0.122	0.095	0.074	0.059
~	0.305	0.285	0.266	0.249	0.233	0.168	0.123	0.091	0.068	0.051	0.039
6	0.263	0.243	0.225	0.209	0.194	0.134	0.094	0.067	0.048	0.035	0.026
10	0.227	0.208	0.191	0.176	0.162	0.107	0.073	0.050	0.035	0.024	0.017
11	0.195	0.178	0.162	0.148	0.135	0.086	0.056	0.037	0.025	0.017	0.012
12	0.168	0.152	0.137	0.124	0.112	690.0	0.043	0.027	0.018	0.012	0.008
13	0.145	0.130	0.116	0.104	0.093	0.055	0.033	0.020	0.013	0.008	0.005
14	0.125	0.1111	0.099	0.088	0.078	0.044	0.025	0.015	0.009	900.0	0.003
15	0.108	0.095	0.084	0.074	0.065	0.035	0.020	0.011	9000	0.004	0.002
16	0.093	0.081	0.071	0.062	0.054	0.028	0.015	0.008	0.005	0.003	0.002
17	0.080	690.0	090.0	0.052	0.045	0.023	0.012	900.0	0.003	0.002	0.001
18	0.069	0.059	0.051	0.044	0.038	0.018	0.009	0.005	0.002	0.001	0.001
19	0.060	0.051	0.043	0.037	0.031	0.014	0.007	0.003	0.002	0.001	*
20	0.051	0.043	0.037	0.031	0.026	0.012	0.005	0.002	0.001	0.001	*
21	0.044	0.037	0.031	0.026	0.022	0.009	0.004	0.002	0.001	*	*
22	0.038	0.032	0.026	0.022	0.018	0.007	0.003	0.001	0.001	*	*
23	0.033	0.027	0.022	0.018	0.015	900.0	0.002	0.001	*	*	*
24	0.028	0.023	0.019	0.015	0.013	0.005	0.002	0.001	*	*	*
25	0.024	0.020	0.016	0.013	0.010	0.004	0.001	0.001	*	*	*
30	0.012	0.009	0.007	0.005	0.004	0.001	*	*	*	*	*
35	9000	0.004	0.003	0.002	0.002	*	*	*	*	*	*
40	0.003	0.002	0.001	0.001	0.001	*	*	*	*	*	*
45	0.001	0.001	0.001	*	*	*	*	*	*	*	*
50	0.001	*	*	*	*	*	*	*	*	*	*
*PVF is zero to	*PVF is zero to three decimal places.	olaces.									
*PVF is zero to	*PVF is zero to three decimal places	olaces.									

Table A3 Future Value Factors for a One-Dollar Ordinary Annuity Compounded at r Percent for n Periods

		00	50	73	93	.42	54	29	.27	98.	04	49	.02	52	05	80	17	75	36	12	44	10	32	92	89	.63	45	70	90	28	16
	15%	1.0	2.1	3.4	4.9	6.7	8.7	11.067	13.7	16.7	20.3	24.3	29.0	34.3	40.5	47.5	55.7	65.0	75.8	88.2	102.4	118.8	137.6	159.2	184.1	212.7	434.745	881.170	1779.0	3585.128	7217.716
	14%	1.000	2.140	3.440	4.921	6.610	8.536	10.730	13.233	16.085	19.337	23.045	27.271	32.089	37.581	43.842	50.980	59.118	68.394	78.969	91.025	104.768	120.436	138.297	158.659	181.871	356.787	693.573	1342.025	2590.565	4994.521
	13%	1.000	2.130	3.407	4.850	6.480	8.323	10.405	12.757	15.416	18.420	21.814	25.650	29.985	34.883	40.417	46.672	53.739	61.725	70.749	80.947	92.470	105.491	120.205	136.831	155.620	293.199	546.681	1013.704	1874.165	3459.507
	12%	1.000	2.120	3.374	4.779	6.353	8.115	10.089	12.300	14.776	17.549	20.655	24.133	28.029	32.393	37.280	42.753	48.884	55.750	63.440	72.052	81.699	92.503	104.603	118.155	133.334	241.333	431.663	767.091	1358.230	2400.018
	11%	1.000	2.110	3.342	4.710	6.228	7.913	9.783	11.859	14.164	16.722	19.561	22.713	26.212	30.095	34.405	39.190	44.501	50.396	56.939	64.203	72.265	81.214	91.148	102.174	114.413	199.021	341.590	581.826	986.639	1668.771
	10%	1.000	2.100	3.310	4.641	6.105	7.716	9.487	11.436	13.579	15.937	18.531	21.384	24.523	27.975	31.772	35.950	40.545	45.599	51.159	57.275	64.002	71.403	79.543	88.497	98.347	164.494	271.024	442.593	718.905	1163.909
	%6	1.000	2.090	3.278	4.573	5.985	7.523	9.200	11.028	13.021	15.193	17.560	20.141	22.953	26.019	29.361	33.003	36.974	41.301	46.018	51.160	56.765	62.873	69.532	76.790	84.701	136.308	215.711	337.882	525.859	815.084
	%8							8.923																				_		386.506	٠,
	7%	1.000	2.070	3.215	4.440	5.751	7.153	8.654	10.260	11.978	13.816	15.784	17.888	20.141	22.550	25.129	27.888	30.840	33.999	37.379	40.995	44.865	49.006	53.436	58.177	63.249	94.461	138.237	199.635	285.749	406.529
	%9	1.000	2.060	3.184	4.375	5.637	6.975	8.394	6.897	11.491	13.181	14.972	16.870	18.882	21.015	23.276	25.673	28.213	30.906	33.760	36.786	39.993	43.392	46.996	50.816	54.865	79.058	111.435	154.762	212.744	290.336
	5%	1.000	2.050	3.153	4.310	5.526	6.802	8.142	9.549	11.027	12.578	14.207	15.917	17.713	19.599	21.579	23.657	25.840	28.132	30.539	33.066	35.719	38.505	41.430	44.502	47.727	66.439	90.320	120.800	159.700	209.348
	4%	1.000	2.040	3.122	4.246	5.416	6.633	7.898	9.214	10.583	12.006	13.486	15.026	16.627	18.292	20.024	21.825	23.698	25.645	27.671	29.778	31.969	34.248	36.618	39.083	41.646	56.085	73.652	95.026	121.029	152.667
" -1	3%	1.000	2.030	3.091	4.184	5.309	6.468	7.662	8.892	10.159	11.464	12.808	14.192	15.618	17.086	18.599	20.157	21.762	23.414	25.117	26.870	28.676	30.537	32.453	34.426	36.459	47.575	60.462	75.401	92.720	112.797
$\times \frac{(1+r)}{r}$	2%	1.000	2.020	3.060	4.122	5.204	6.308	7.434	8.583	9.755	10.950	12.169	13.412	14.680	15.974	17.293	18.639	20.012	21.412	22.841	24.297	25.783	27.299	28.845	30.422	32.030	40.568	49.994	60.402	71.893	84.579
$FVFA_{\nu_{0,n}} = PMT \times \frac{(1+r)^n - 1}{r}$	1%	1.000	2.010	3.030	4.060	5.101	6.152	7.214	8.286	698.6	10.462	11.567	12.683	13.809	14.947	16.097	17.258	18.430	19.615	20.811	22.019	23.239	24.472	25.716	26.973	28.243	34.785	41.660	48.886	56.481	64.463
FVFA _{r%} ,	Period	1	7	ю	4	S	9	7	∞	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	30	35	40	45	50

Table A3 (continued) Future Value Factors for a One-Dollar Ordinary Annuity Compounded at r Percent for n Periods

$FVFA_{r\%}$	$FVFA_{r,\emptyset,n} = PMT \times \frac{(1+r)}{r}$	(1+1) -1 r									
Period	16%	17%	18%	19%	20%	25%	30%	35%	40%	45%	20%
1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2	2.160	2.170	2.180	2.190	2.200	2.250	2.300	2.350	2.400	2.450	2.500
3	3.506	3.539	3.572	3.606	3.640	3.813	3.990	4.173	4.360	4.553	4.750
4	5.066	5.141	5.215	5.291	5.368	5.766	6.187	6.633	7.104	7.601	8.125
5	6.877	7.014	7.154	7.297	7.442	8.207	9.043	9.954	10.946	12.022	13.188
9	8.977	9.207	9.442	9.683	9.930	11.259	12.756	14.438	16.324	18.431	20.781
7	11.414	11.772	12.142	12.523	12.916	15.073	17.583	20.492	23.853	27.725	32.172
∞	14.240	14.773	15.327	15.902	16.499	19.842	23.858	28.664	34.395	41.202	49.258
6	17.519	18.285	19.086	19.923	20.799	25.802	32.015	39.696	49.153	60.743	74.887
10	21.321	22.393	23.521	24.709	25.959	33.253	42.619	54.590	69.814	89.077	113.330
11	25.733	27.200	28.755	30.404	32.150	42.566	56.405	74.697	98.739	130.162	170.995
12	30.850	32.824	34.931	37.180	39.581	54.208	74.327	101.841	139.235	189.735	257.493
13	36.786	39.404	42.219	45.244	48.497	09.760	97.625	138.485	195.929	276.115	387.239
14	43.672	47.103	50.818	54.841	59.196	86.949	127.913	187.954	275.300	401.367	581.859
15	51.660	56.110	60.965	66.261	72.035	109.687	167.286	254.738	386.420	582.982	873.788
16	60.925	66.649	72.939	79.850	87.442	138.109	218.472	344.897	541.988	846.324	1311.682
17	71.673	78.979	87.068	96.022	105.931	173.636	285.014	466.611	759.784	1228.170	1968.523
18	84.141	93.406	103.740	115.266	128.117	218.045	371.518	630.925	1064.697	1781.846	2953.784
19	98.603	110.285	123.414	138.166	154.740	273.556	483.973	852.748	1491.576	2584.677	4431.676
20	115.380	130.033	146.628	165.418	186.688	342.945	630.165	1152.210	2089.206	3748.782	6648.513
21	134.841	153.139	174.021	197.847	225.026	429.681	820.215	1556.484	2925.889	5436.734	9973.770
22	157.415	180.172	206.345	236.438	271.031	538.101	1067.280	2102.253	4097.245	7884.264	14961.655
23	183.601	211.801	244.487	282.362	326.237	673.626	1388.464	2839.042	5737.142	11433.182	22443.483
24	213.978	248.808	289.494	337.010	392.484	843.033	1806.003	3833.706	8032.999	16579.115	33666.224
25	249.214	292.105	342.603	402.042	471.981	1054.791	2348.803	5176.504	11247.199	24040.716	50500.337
30	530.312	647.439	790.948	966.712	1181.882	3227.174	8729.985	23221.570	60501.081	154106.618	383500.118
35	1120.713	1426.491	1816.652	2314.214	2948.341	9856.761	32422.868	104136.251	325400.279	987794.463	*
40	2360.757	3134.522	4163.213	5529.829	7343.858	30088.655	120392.883	466960.385	*	*	*
45	4965.274	6879.291	9531.577	13203.424	18281.310	91831.496	447019.389	*	*	*	*
50	10435.649	15089.502	21813.094	31515.336	45497.191	280255.693	*	*	*	*	*
*NI - 1 - 1	4 4 4 4 4										

Table A4 Present Value Factors for a One-Dollar Ordinary Annuity Discounted at r Percent for n Periods

	15%	0.870	1.626	2.283	2.855	3.352	3.784	4.160	4.487	4.772	5.019	5.234	5.421	5.583	5.724	5.847	5.954	6.047	6.128	6.198	6.259	6.312	6.359	6.399	6.434	6.464	995.9	6.617	6.642	6.654	6.661
	14%	0.877	1.647	2.322	2.914	3.433	3.889	4.288	4.639	4.946	5.216	5.453	5.660	5.842	6.002	6.142	6.265	6.373	6.467	6.550	6.623	289.9	6.743	6.792	6.835	6.873	7.003	7.070	7.105	7.123	7.133
	13%	0.885	1.668	2.361	2.974	3.517	3.998	4.423	4.799	5.132	5.426	5.687	5.918	6.122	6.302	6.462	6.604	6.729	6.840	6.938	7.025	7.102	7.170	7.230	7.283	7.330	7.496	7.586	7.634	7.661	7.675
	12%	0.893	1.690	2.402	3.037	3.605	4.111	4.564	4.968	5.328	5.650	5.938	6.194	6.424	6.628	6.811	6.974	7.120	7.250	7.366	7.469	7.562	7.645	7.718	7.784	7.843	8.055	8.176	8.244	8.283	8.304
	11%	0.901	1.713	2.444	3.102	3.696	4.231	4.712	5.146	5.537	5.889	6.207	6.492	6.750	6.982	7.191	7.379	7.549	7.702	7.839	7.963	8.075	8.176	8.266	8.348	8.422	8.694	8.855	8.951	800.6	9.042
	10%	0.909	1.736	2.487	3.170	3.791	4.355	4.868	5.335	5.759	6.145	6.495	6.814	7.103	7.367	2.606	7.824	8.022	8.201	8.365	8.514	8.649	8.772	8.883	8.985	9.077	9.427	9.644	9.779	9.863	9.915
	%6	0.917	1.759	2.531	3.240	3.890	4.486	5.033	5.535	5.995	6.418	6.805	7.161	7.487	7.786	8.061	8.313	8.544	8.756	8.950	9.129	9.292	9.442	9.580	9.707	9.823	10.274	10.567	10.757	10.881	10.962
	%8	0.926	1.783	2.577	3.312	3.993	4.623	5.206	5.747	6.247	6.710	7.139	7.536	7.904	8.244	8.559	8.851	9.122	9.372	9.604	9.818	10.017	10.201	10.371	10.529	10.675	11.258	11.655	11.925	12.108	12.233
	7%	0.935	1.808	2.624	3.387	4.100	4.767	5.389	5.971	6.515	7.024	7.499	7.943	8.358	8.745	9.108	9.447	9.763	10.059	10.336	10.594	10.836	11.061	11.272	11.469	11.654	12.409	12.948	13.332	13.606	13.801
,	%9	0.943	1.833	2.673	3.465	4.212	4.917	5.582	6.210	6.802	7.360	7.887	8.384	8.853	9.295	9.712	10.106	10.477	10.828	11.158	11.470	11.764	12.042	12.303	12.550	12.783	13.765	14.498	15.046	15.456	15.762
.	2%	0.952	1.859	2.723	3.546	4.329	5.076	5.786	6.463	7.108	7.722	8.306	8.863	9.394	668.6	10.380	10.838	11.274	11.690	12.085	12.462	12.821	13.163	13.489	13.799	14.094	15.372	16.374	17.159	17.774	18.256
	4%	0.962	1.886	2.775	3.630	4.452	5.242	6.002	6.733	7.435	8.111	8.760	9.385	986.6	10.563	11.118	11.652	12.166	12.659	13.134	13.590	14.029	14.451	14.857	15.247	15.622	17.292	18.665	19.793	20.720	21.482
$\frac{1}{(1+r)^n} \bigg]$	3%	0.971	1.913	2.829	3.717	4.580	5.417	6.230	7.020	7.786	8.530	9.253	9.954	10.635	11.296	11.938	12.561	13.166	13.754	14.324	14.877	15.415	15.937	16.444	16.936	17.413	19.600	21.487	23.115	24.519	25.730
× (1)	2%	0.980	1.942	2.884	3.808	4.713	5.601	6.472	7.325	8.162	8.983	9.787	10.575	11.348	12.106	12.849	13.578	14.292	14.992	15.678	16.351	17.011	17.658	18.292	18.914	19.523	22.396	24.999	27.355	29.490	31.424
$=\frac{PMT}{r}$	1%	0.660	1.970	2.941	3.902	4.853	5.795	6.728	7.652	8.566	9.471	10.368	11.255	12.134	13.004	13.865	14.718	15.562	16.398	17.226	18.046	18.857	19.660	20.456	21.243	22.023	25.808	29.409	32.835	36.095	39.196
$PVFA_{r^{0,n}} = 0$	Period	1	2	3	4	5	9	7	∞	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	30	35	40	45	50

Table A4 (continued) Present Value Factors for a One-Dollar Ordinary Annuity Discounted at r Percent for n Periods

16% 17% 18% 19% 20% 23% 36% 46% 45% 50% 1882 1884 19% 20% 23% 30% 38% 40% 45% 50% 1685 1884 1584 1584 1584 1584 1169 1111 2178 1586 1584 1589 1589 1589 1499 1490 1724 1169 1111 2278 2248 2589 2589 2589 2589 1886 1589 1490 1770 3884 3592 3489 340 356 2951 2589 2589 1889 140 177 140 4404 430 440 433 440 433 291 2643 238 178 140 4484 430 4446 443 432 291 2643 238 291 180 1724 1160 1770 4430 4451	$PVFA_{\nu, \emptyset, n} = \frac{PMT}{r} \times \left[$	$\left[1 - \frac{1}{(1+r)^n}\right]$									
0.847 0.849 0.833 0.800 0.769 0.741 0.704 0.690 1.566 1.547 1.528 1.940 1.361 1.299 1.124 1.165 2.160 2.639 2.889 2.362 2.186 1.589 1.165 2.600 2.639 2.889 2.362 2.186 1.589 1.789 2.600 2.639 2.889 2.362 2.166 1.589 1.165 2.600 3.408 3.406 2.891 2.683 2.216 1.896 1.789 1.165 3.408 3.401 2.861 2.921 2.643 2.220 2.035 1.893 1.893 1.894 1.780 4.078 3.496 3.837 3.299 2.243 2.263 2.041 2.041 2.041 4.494 4.437 3.463 3.019 2.663 2.379 2.144 2.168 4.907 4.116 4.432 3.572 3.49 2.449 2.144	٠,٥	17%	18%	19%	20%	25%	30%	35%	40%	45%	20%
1.566 1.547 1.528 1.440 1.361 1.289 1.224 1.165 2.174 2.140 2.106 1.367 1.589 1.249 1.165 2.680 2.693 2.892 2.436 2.200 2.035 1.493 3.482 3.408 2.991 2.689 2.436 2.200 2.035 1.876 3.482 3.406 3.605 3.161 2.802 2.508 2.168 1.983 4.078 3.544 3.837 3.239 2.925 2.538 2.163 1.983 4.078 4.163 4.192 3.401 2.588 2.243 2.109 4.404 4.339 4.192 3.571 3.025 2.588 2.144 2.144 4.506 4.436 4.192 3.715 3.025 2.418 2.144 2.168 4.506 4.436 4.327 3.626 3.147 2.722 2.418 2.188 5.008 4.811 3.827		0.855	0.847	0.840	0.833	0.800	692.0	0.741	0.714	0.690	0.667
2.174 2.140 2.106 1.952 1.816 1.696 1.589 1.493 2.600 2.639 2.589 2.662 2.166 1.997 1.849 1.720 3.127 3.058 2.931 2.962 2.268 2.035 1.876 3.408 3.408 3.406 3.161 2.802 2.508 2.035 1.876 4.078 3.954 3.837 3.529 2.925 2.588 2.168 1.887 4.078 3.954 4.031 3.463 3.092 2.758 2.216 2.109 4.078 4.486 4.327 3.56 3.147 2.752 2.414 2.109 4.084 4.327 3.656 3.147 2.752 2.449 2.168 4.703 4.611 4.439 3.725 3.149 2.479 2.494 2.116 4.910 4.715 3.859 3.288 2.834 2.499 2.216 5.022 4.936 4.715		1.585	1.566	1.547	1.528	1.440	1.361	1.289	1.224	1.165	1.111
2.690 2.639 2.589 2.362 2.166 1.997 1.849 1.720 3.127 3.058 2.991 2.689 2.496 2.202 2.035 1.876 3.498 3.410 3.326 2.951 2.643 2.203 2.053 1.876 4.078 3.66 3.605 3.11 2.982 2.263 2.057 4.078 3.634 3.837 3.329 2.925 2.598 2.331 2.108 4.039 4.163 4.031 3.463 3.019 2.665 2.379 2.144 4.494 4.339 4.192 3.571 3.022 2.438 2.148 2.148 4.494 4.486 4.327 3.656 3.147 2.456 2.149 2.148 4.500 4.811 3.463 3.249 2.459 2.469 2.148 5.008 4.802 4.611 3.824 3.249 2.449 2.148 5.022 4.834 3.549		2.210	2.174	2.140	2.106	1.952	1.816	1.696	1.589	1.493	1.407
3.199 3.127 3.088 2.991 2.689 2.436 2.220 2.035 1.876 3.589 3.408 3.410 3.326 2.951 2.643 2.385 2.168 1.883 3.922 3.408 3.410 3.326 2.951 2.643 2.368 1.883 4.207 4.078 3.954 3.837 3.329 2.925 2.598 2.168 4.451 4.303 4.163 4.031 3.463 3.019 2.665 2.379 2.144 4.659 4.494 4.339 4.192 3.571 3.019 2.665 2.379 2.144 2.168 4.886 4.494 4.439 3.725 3.190 2.745 2.444 2.168 4.988 4.715 4.533 3.780 3.283 2.849 2.449 2.148 5.118 4.910 4.715 4.533 3.780 3.283 2.849 2.214 5.229 5.028 4.801 4.611		2.743	2.690	2.639	2.589	2.362	2.166	1.997	1.849	1.720	1.605
3.498 3.410 3.326 2.951 2.643 2.385 2.168 1.983 3.812 3.706 3.665 3.161 2.802 2.568 2.163 2.057 4.078 3.954 3.837 3.329 2.925 2.538 2.057 4.031 4.031 3.463 3.019 2.665 2.331 2.109 4.056 4.486 4.327 3.656 3.147 2.752 2.438 2.184 4.656 4.486 4.327 3.656 3.147 2.752 2.438 2.186 4.656 4.486 4.327 3.656 3.147 2.752 2.438 2.186 4.793 4.611 4.439 3.725 3.190 2.779 2.456 2.104 5.008 4.802 4.611 3.824 3.249 2.478 2.104 5.008 4.802 4.611 3.824 3.284 2.494 2.494 5.102 4.903 4.812 3.928		3.199	3.127	3.058	2.991	2.689	2.436	2.220	2.035	1.876	1.737
3.812 3.706 3.605 3.161 2.802 2.508 2.053 2.057 4.078 3.954 3.837 3.329 2.925 2.598 2.331 2.109 4.303 4.163 4.031 3.463 3.019 2.665 2.379 2.109 4.494 4.339 4.192 3.571 3.092 2.715 2.414 2.109 4.656 4.486 4.327 3.656 3.147 2.732 2.414 2.108 4.910 4.715 4.439 3.780 3.223 2.799 2.469 2.108 5.008 4.801 4.675 3.854 3.249 2.814 2.478 2.210 5.024 4.802 4.611 3.824 3.249 2.484 2.210 5.025 4.870 4.675 3.887 3.283 2.844 2.498 2.216 5.026 4.939 4.773 3.910 3.293 2.484 2.498 2.216 5.162		3.589	3.498	3.410	3.326	2.951	2.643	2.385	2.168	1.983	1.824
4,078 3,954 3,837 3,29 2,925 2,598 2,331 2,109 4,303 4,163 4,031 3,463 3,019 2,665 2,379 2,104 4,494 4,339 4,192 3,571 3,092 2,715 2,414 2,108 4,656 4,486 4,327 3,656 3,147 2,732 2,418 2,188 4,910 4,715 4,533 3,726 3,199 2,469 2,469 2,186 5,008 4,802 4,611 3,824 3,249 2,484 2,219 5,008 4,802 4,611 3,824 3,249 2,484 2,210 5,002 4,876 4,675 3,887 3,283 2,849 2,484 2,214 5,022 4,930 4,775 3,910 3,295 2,849 2,499 2,216 5,024 4,930 4,812 3,928 3,341 2,498 2,218 5,16 4,909 4,841		3.922	3.812	3.706	3.605	3.161	2.802	2.508	2.263	2.057	1.883
4.303 4.163 4.031 3.463 3.019 2.665 2.379 2.144 4.494 4.339 4.192 3.571 3.092 2.715 2.414 2.168 4.656 4.486 4.327 3.656 3.147 2.752 2.438 2.185 4.793 4.611 4.439 3.725 3.190 2.779 2.469 2.106 5.008 4.802 4.611 3.824 3.23 2.749 2.204 5.008 4.876 4.675 3.887 3.249 2.814 2.216 5.002 4.876 4.675 3.887 3.283 2.840 2.494 2.214 5.022 4.990 4.775 3.910 3.295 2.840 2.494 2.216 5.222 4.990 4.775 3.912 3.283 2.844 2.494 2.216 5.374 5.127 4.841 3.924 3.31 2.844 2.494 2.216 5.374 5.101		4.207	4.078	3.954	3.837	3.329	2.925	2.598	2.331	2.109	1.922
4.494 4.339 4.192 3.571 3.092 2.715 2.414 2.168 4.656 4.486 4.327 3.656 3.147 2.752 2.438 2.185 4.703 4.611 4.439 3.725 3.190 2.779 2.456 2.196 4.910 4.715 4.533 3.780 3.223 2.799 2.469 2.106 5.008 4.802 4.611 3.854 3.249 2.814 2.478 2.216 5.092 4.876 4.675 3.887 3.283 2.834 2.484 2.216 5.022 4.990 4.775 3.910 3.283 2.844 2.499 2.216 5.222 4.990 4.775 3.942 3.311 2.848 2.496 2.216 5.316 5.070 4.843 3.942 3.311 2.848 2.496 2.216 5.353 5.101 4.870 3.963 3.320 2.853 2.498 2.221		4.451	4.303	4.163	4.031	3.463	3.019	2.665	2.379	2.144	1.948
4.656 4.486 4.327 3.656 3.147 2.752 2.438 2.185 4.793 4.611 4.439 3.725 3.190 2.779 2.456 2.196 4.710 4.715 4.533 3.780 3.223 2.799 2.469 2.106 5.008 4.802 4.611 3.824 3.249 2.814 2.478 2.210 5.022 4.876 4.675 3.887 3.283 2.844 2.478 2.210 5.022 4.876 4.775 3.910 3.295 2.840 2.492 2.216 5.222 4.990 4.775 3.942 3.311 2.848 2.216 5.316 5.070 4.843 3.942 3.311 2.848 2.216 5.324 5.101 4.870 3.942 3.31 2.848 2.494 2.211 5.346 5.127 4.891 3.942 3.31 2.852 2.498 2.221 5.341 5.149		4.659	4.494	4.339	4.192	3.571	3.092	2.715	2.414	2.168	1.965
4988 4.793 4.611 4439 3.725 3.190 2.779 2.456 2.196 5.118 4.910 4.715 4.533 3.780 3.223 2.799 2.469 2.104 5.229 5.008 4.802 4.611 3.824 3.249 2.844 2.484 2.214 5.324 5.022 4.938 4.775 3.910 3.283 2.849 2.484 2.214 5.405 5.222 4.990 4.775 3.91 3.283 2.844 2.495 2.216 5.584 5.273 4.812 3.928 3.304 2.844 2.495 2.218 5.628 5.353 5.101 4.870 3.942 3.316 2.886 2.221 5.628 5.334 5.149 4.891 3.942 3.316 2.889 2.221 5.628 5.344 5.149 4.891 3.962 3.312 2.849 2.218 5.628 5.349 5.349 2.844		4.836	4.656	4.486	4.327	3.656	3.147	2.752	2.438	2.185	1.977
5.118 4.910 4.715 4.533 3.780 3.223 2.799 2.469 2.204 5.229 5.008 4.802 4.611 3.824 3.249 2.814 2.478 2.210 5.324 5.092 4.876 4.675 3.887 3.268 2.834 2.484 2.214 5.405 5.162 4.938 4.730 3.887 3.283 2.834 2.489 2.216 5.475 5.222 4.990 4.775 3.910 3.285 2.840 2.492 2.216 5.534 5.232 4.812 3.942 3.311 2.849 2.496 2.216 5.584 5.316 4.870 3.942 3.316 2.849 2.496 2.218 5.665 5.349 5.101 4.870 3.942 3.316 2.852 2.498 2.221 5.686 5.410 5.149 4.909 3.962 3.324 2.854 2.499 2.222 5.746 5.451		4.988	4.793	4.611	4.439	3.725	3.190	2.779	2.456	2.196	1.985
5.2295.0084.8024.6113.8243.2492.8142.4782.2105.3245.0924.8764.6753.8593.2682.8252.4842.2145.4055.1624.9384.7303.8873.2832.8342.4892.2165.4755.2224.9904.7753.9103.2952.8402.4922.2165.5345.2134.8123.9283.3042.8442.4942.2185.5845.3165.0704.8433.9423.3112.8482.4962.2205.6285.3535.1014.8703.9543.3162.8502.4972.2215.6365.4105.1494.9093.9703.3202.8532.4982.2225.7465.4515.1824.9483.9853.3252.8542.4992.2225.7465.4515.1824.9483.9853.3292.8552.4992.2225.8285.5395.2514.9483.9853.3322.8572.5002.2225.8715.5485.5544.9973.9993.3332.8572.5002.2225.8715.5545.5614.9994.0003.3332.8572.5002.2225.8805.5545.5544.9994.0003.3332.8572.5002.222		5.118	4.910	4.715	4.533	3.780	3.223	2.799	2.469	2.204	1.990
5.324 5.092 4.876 4.675 3.859 3.268 2.825 2.484 2.114 5.405 5.162 4.938 4.730 3.887 3.283 2.834 2.489 2.116 5.475 5.222 4.990 4.775 3.910 3.295 2.840 2.492 2.216 5.534 5.232 4.812 3.928 3.304 2.849 2.496 2.218 5.584 5.316 5.070 4.843 3.942 3.311 2.848 2.496 2.219 5.628 5.384 5.101 4.870 3.954 3.316 2.849 2.496 2.219 5.628 5.384 5.101 4.870 3.954 3.316 2.896 2.499 2.221 5.605 5.410 5.149 4.909 3.976 3.325 2.854 2.499 2.221 5.746 5.451 5.182 4.948 3.985 3.329 2.854 2.499 2.222 5.879		5.229	5.008	4.802	4.611	3.824	3.249	2.814	2.478	2.210	1.993
5.4055.1624.9384.7303.8873.2832.8342.4892.2165.4755.2224.9904.7753.9103.2952.8402.4922.2185.5345.2734.8123.9283.3042.8442.4942.2195.5845.3165.0704.8433.9423.3112.8482.4962.2195.6285.3535.1014.8703.9543.3162.8502.4972.2215.6855.3845.1274.8913.9633.3202.8522.4982.2215.6965.4105.1494.9093.9703.3232.8532.4982.2225.725.4465.4514.9253.9463.3252.8542.4992.2225.7465.4675.1954.9483.9853.3292.8542.4992.2225.8585.5175.2354.9793.9953.3332.8572.5002.2225.8715.5485.2544.9973.9993.3332.8572.5002.2225.8805.5545.2614.9994.0003.3332.8572.5002.2225.8805.5545.2624.9994.0003.3332.8572.5002.222		5.324	5.092	4.876	4.675	3.859	3.268	2.825	2.484	2.214	1.995
5.4755.2224.9904.7753.9103.2952.8402.4922.2185.5345.2735.0334.8123.9283.3042.8442.4942.2195.5845.3165.0704.8433.9423.3112.8482.4962.2105.6285.3845.1014.8703.9543.3162.8502.4972.2215.6965.4105.1494.9093.9763.3232.8532.4982.2225.7235.4325.1674.9253.9763.3252.8542.4992.2225.7465.4515.1824.9373.9813.3252.8542.4992.2225.7465.4675.1954.9483.9853.3292.8552.4992.2225.8585.5395.2514.9923.9983.3332.8572.5002.2225.8715.2845.2614.9973.9993.3332.8572.5002.2225.8715.5525.2614.9994.0003.3332.8572.5002.2225.8805.5545.2624.9994.0003.3332.8572.5002.222		5.405	5.162	4.938	4.730	3.887	3.283	2.834	2.489	2.216	1.997
5.5345.2735.0334.8123.9283.3042.8442.4942.2195.6285.3165.0704.8433.9423.3112.8482.4962.2205.6285.3845.1014.8703.9543.3162.8502.4972.2215.6965.4105.1274.8913.9633.3202.8522.4982.2215.6965.4105.1494.9093.9763.3232.8532.4982.2225.7465.4515.1824.9373.9813.3252.8542.4992.2225.7465.4675.1954.9483.9853.3292.8552.4992.2225.8595.5175.2354.9793.9953.3332.8572.5002.2225.8715.5284.9973.9993.3332.8572.5002.2225.8715.5255.2614.9994.0003.3332.8572.5002.2225.8805.5545.2624.9994.0003.3332.8572.5002.222		5.475	5.222	4.990	4.775	3.910	3.295	2.840	2.492	2.218	1.998
5.3165.0704.8433.9423.3112.8482.4962.2205.3845.1014.8703.9543.3162.8502.4972.2215.3845.1274.8913.9633.3202.8522.4982.2215.4105.1494.9093.9703.3232.8542.4992.2225.4515.1824.9373.9813.3252.8542.4992.2225.4515.1824.9483.9853.3272.8552.4992.2225.4675.1954.9483.9853.3322.8572.5002.2225.5175.2354.9973.9983.3332.8572.5002.2225.5485.2584.9974.0003.3332.8572.5002.2225.5545.2614.9994.0003.3332.8572.5002.2225.5545.2624.9994.0003.3332.8572.5002.222		5.534	5.273	5.033	4.812	3.928	3.304	2.844	2.494	2.219	1.999
5.6285.3535.1014.8703.9543.3162.8502.4972.2215.6655.3845.1274.8913.9633.3202.8522.4982.2215.6965.4105.1494.9093.9763.3232.8532.4982.2225.7235.4325.1674.9253.9763.3252.8542.4992.2225.7465.4515.1824.9373.9813.3272.8552.4992.2225.8295.5175.2354.9793.9953.3322.8572.5002.2225.8585.5395.2514.9973.9993.3332.8572.5002.2225.8775.5525.2614.9994.0003.3332.8572.5002.2225.8805.5545.2624.9994.0003.3332.8572.5002.222		5.584	5.316	5.070	4.843	3.942	3.311	2.848	2.496	2.220	1.999
5.6655.3845.1274.8913.9633.3202.8522.4982.2215.6965.4105.1494.9093.9703.3232.8542.4982.2225.7235.4325.1674.9253.9763.3252.8542.4992.2225.7465.4515.1824.9373.9813.3272.8552.4992.2225.8295.4575.1954.9483.9853.3292.8562.4992.2225.8585.5395.2514.9923.9983.3332.8572.5002.2225.8715.5485.2584.9973.9993.3332.8572.5002.2225.8715.5525.2614.9994.0003.3332.8572.5002.2225.8805.5545.2624.9994.0003.3332.8572.5002.222		5.628	5.353	5.101	4.870	3.954	3.316	2.850	2.497	2.221	1.999
5.6965.4105.1494.9093.9703.3232.8532.4982.2225.7235.4325.1674.9253.9763.3252.8542.4992.2225.7465.4515.1824.9373.9813.3272.8552.4992.2225.7665.4675.1954.9483.9853.3292.8562.4992.2225.8295.5175.2354.9793.9953.3332.8572.5002.2225.8715.5485.2584.9973.9993.3332.8572.5002.2225.8715.5525.2614.9994.0003.3332.8572.5002.2225.8805.5545.2624.9994.0003.3332.8572.5002.222		5.665	5.384	5.127	4.891	3.963	3.320	2.852	2.498	2.221	2.000
5.7235.4325.1674.9253.9763.3252.8542.4992.2225.7465.4515.1824.9373.9813.3272.8552.4992.2225.7665.4675.1954.9483.9853.3292.8562.4992.2225.8295.5175.2354.9793.9953.3322.8572.5002.2225.8545.5284.9973.9993.3332.8572.5002.2225.8715.5525.2614.9994.0003.3332.8572.5002.2225.8805.5545.2624.9994.0003.3332.8572.5002.222		5.696	5.410	5.149	4.909	3.970	3.323	2.853	2.498	2.222	2.000
5.7465.4515.1824.9373.9813.3272.8552.4992.2225.7665.4675.1954.9483.9853.3292.8562.4992.2225.8295.5175.2354.9793.9953.3322.8572.5002.2225.8585.5395.2514.9973.9983.3332.8572.5002.2225.8715.5485.2614.9994.0003.3332.8572.5002.2225.8715.5545.2624.9994.0003.3332.8572.5002.222		5.723	5.432	5.167	4.925	3.976	3.325	2.854	2.499	2.222	2.000
5.7665.4675.1954.9483.9853.3292.8562.4992.2225.8295.5175.2354.9793.9953.3322.8572.5002.2225.8585.5395.2514.9923.9983.3332.8572.5002.2225.8715.5485.2584.9973.9993.3332.8572.5002.2225.8775.5525.2614.9994.0003.3332.8572.5002.2225.8805.5545.2624.9994.0003.3332.8572.5002.222		5.746	5.451	5.182	4.937	3.981	3.327	2.855	2.499	2.222	2.000
5.8295.5175.2354.9793.9953.3322.8572.5002.2225.8585.5395.2514.9923.9983.3332.8572.5002.2225.8715.5485.2584.9973.9993.3332.8572.5002.2225.8775.5525.2614.9994.0003.3332.8572.5002.2225.8805.5545.2624.9994.0003.3332.8572.5002.222		5.766	5.467	5.195	4.948	3.985	3.329	2.856	2.499	2.222	2.000
5.8585.5395.2514.9923.9983.3332.8572.5002.2225.8715.5485.2584.9973.9993.3332.8572.5002.2225.8775.5525.2614.9994.0003.3332.8572.5002.2225.8805.2624.9994.0003.3332.8572.5002.222		5.829	5.517	5.235	4.979	3.995	3.332	2.857	2.500	2.222	2.000
5.871 5.548 5.258 4.997 3.999 3.333 2.857 2.500 2.222 5.877 5.552 5.261 4.999 4.000 3.333 2.857 2.500 2.222 5.880 5.262 4.999 4.000 3.333 2.857 2.500 2.222		5.858	5.539	5.251	4.992	3.998	3.333	2.857	2.500	2.222	2.000
5.552 5.261 4.999 4.000 3.333 2.857 2.500 2.222 5.554 5.262 4.999 4.000 3.333 2.857 2.500 2.222		5.871	5.548	5.258	4.997	3.999	3.333	2.857	2.500	2.222	2.000
5.880 5.554 5.262 4.999 4.000 3.333 2.857 2.500 2.222	_,	5.877	5.552	5.261	4.999	4.000	3.333	2.857	2.500	2.222	2.000
		5.880	5.554	5.262	4.999	4.000	3.333	2.857	2.500	2.222	2.000