

INSTITUTE OF ACTUARIES

A SHORT COLLECTION
OF
ACTUARIAL TABLES



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OF
ACTUARIAL TABLES**

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A SHORT COLLECTION
OF
ACTUARIAL TABLES

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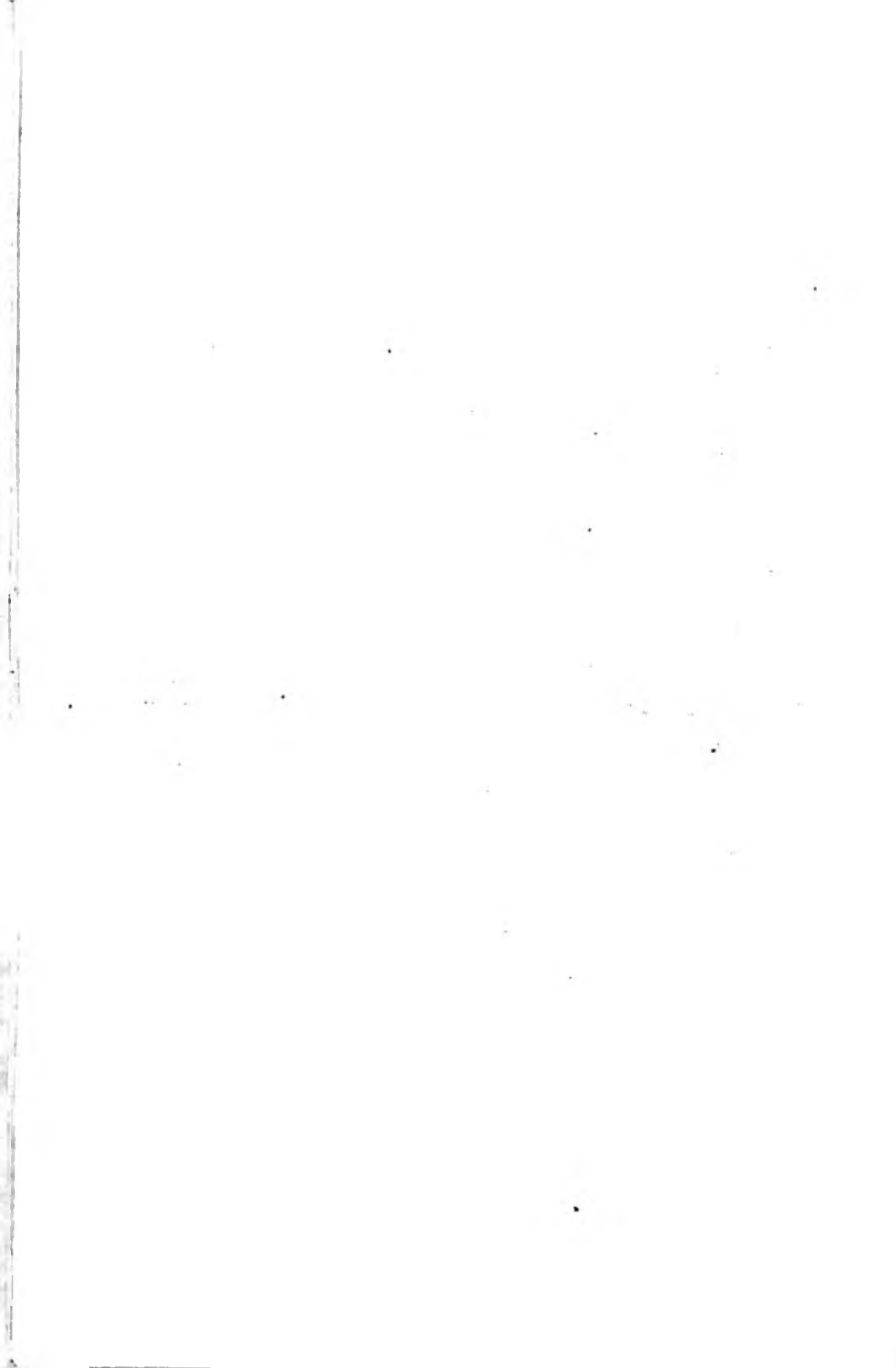
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P R E F A C E

THE following Tables have been printed, by the authority and under the superintendence of the Institute of Actuaries, in order that Candidates presenting themselves for examination may have the means of working out actuarial problems in the Examination Room. The particular Tables which are included have been selected as being, on the whole, the most suitable for the special purpose; but the Council of the Institute desire it to be distinctly understood that they do not express any opinion whatever as to the circumstances in which the Tables involving rates of mortality may be suitable for actual use in practice.

November, 1930



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Interest

EL No

HM

C

C2

SECTION I
COMPOUND INTEREST TABLES
VARIOUS RATES OF INTEREST

COMPOUND INTEREST TABLES

1 per cent.

n	$(1+i)^n$	v^n	s_n	σ_n	$(a_n)^{-1}$	n
1	1.010 00	.990 10	1.0000	0.9901	1.010 000	1
2	1.020 10	.980 30	2.0100	1.9704	0.507 512	2
3	1.030 30	.970 59	3.0301	2.9410	.340 022	3
4	1.040 60	.960 98	4.0604	3.9020	.256 281	4
5	1.051 01	.951 47	5.1010	4.8534	.206 040	5
6	1.061 52	.942 05	6.1520	5.7955	.172 548	6
7	1.072 14	.932 72	7.2135	6.7282	.148 628	7
8	1.082 86	.923 48	8.2857	7.6517	.130 690	8
9	1.093 69	.914 34	9.3685	8.5660	.116 740	9
10	1.104 62	.905 29	10.4622	9.4713	.105 582	10
11	1.115 67	.896 32	11.5668	10.3676	.096 454	11
12	1.126 83	.887 45	12.6825	11.2551	.088 849	12
13	1.138 09	.878 66	13.8093	12.1337	.082 415	13
14	1.149 47	.869 96	14.9474	13.0037	.076 901	14
15	1.160 97	.861 35	16.0969	13.8651	.072 124	15
16	1.172 58	.852 82	17.2579	14.7179	.067 945	16
17	1.184 30	.844 38	18.4304	15.5623	.064 258	17
18	1.196 15	.836 02	19.6147	16.3983	.060 982	18
19	1.208 11	.827 74	20.8109	17.2260	.058 052	19
20	1.220 19	.819 54	22.0190	18.0456	.055 415	20
21	1.232 39	.811 43	23.2392	18.8570	.053 031	21
22	1.244 72	.803 40	24.4716	19.6604	.050 864	22
23	1.257 16	.795 44	25.7163	20.4558	.048 886	23
24	1.269 73	.787 57	26.9735	21.2434	.047 073	24
25	1.282 43	.779 77	28.2432	22.0232	.045 407	25
26	1.295 26	.772 05	29.5256	22.7952	.043 869	26
27	1.308 21	.764 40	30.8209	23.5596	.042 446	27
28	1.321 29	.756 84	32.1291	24.3164	.041 124	28
29	1.334 50	.749 34	33.4504	25.0658	.039 895	29
30	1.347 85	.741 92	34.7849	25.8077	.038 748	30
31	1.361 33	.734 58	36.1327	26.5423	.037 676	31
32	1.374 94	.727 30	37.4941	27.2696	.036 671	32
33	1.388 69	.720 10	38.8690	27.9897	.035 727	33
34	1.402 58	.712 97	40.2577	28.7027	.034 840	34
35	1.416 60	.705 91	41.6603	29.4086	.034 004	35
36	1.430 77	.698 92	43.0769	30.1075	.033 214	36
37	1.445 08	.692 00	44.5076	30.7995	.032 468	37
38	1.459 53	.685 15	45.9527	31.4847	.031 761	38
39	1.474 12	.678 37	47.4123	32.1630	.031 092	39
40	1.488 86	.671 65	48.8864	32.8347	.030 456	40
41	1.503 75	.665 00	50.3752	33.4997	.029 851	41
42	1.518 79	.658 42	51.8790	34.1581	.029 276	42
43	1.533 98	.651 90	53.3978	34.8100	.028 727	43
44	1.549 32	.645 45	54.9318	35.4555	.028 204	44
45	1.564 81	.639 06	56.4811	36.0945	.027 705	45
46	1.580 46	.632 73	58.0459	36.7272	.027 228	46
47	1.596 26	.626 46	59.6263	37.3537	.026 771	47
48	1.612 23	.620 26	61.2226	37.9740	.026 334	48
49	1.628 35	.614 12	62.8348	38.5881	.025 915	49
50	1.644 63	.608 04	64.4632	39.1961	.025 513	50
60	1.816 70	.550 45	81.6697	44.9550	.022 244	60
70	2.006 76	.498 31	100.6763	50.1685	.019 933	70
80	2.216 72	.451 12	121.6715	54.8882	.018 219	80
90	2.448 63	.408 39	144.8633	59.1609	.016 903	90
100	2.704 81	.369 71	170.4814	63.0289	.015 866	100

COMPOUND INTEREST TABLES

 $1\frac{1}{4}$ per cent.

n	$(1+i)^n$	v^n	s_n	a_n	$(a_n)^{-1}$	n
1	1.012 50	.987 65	1.0000	0.9877	1.012 500	1
2	1.025 16	.975 46	2.0125	1.9631	0.509 394	2
3	1.037 97	.963 42	3.0377	2.9265	.341 701	3
4	1.050 95	.951 52	4.0756	3.8781	.257 861	4
5	1.064 08	.939 78	5.1266	4.8178	.207 562	5
6	1.077 38	.928 17	6.1907	5.7460	.174 034	6
7	1.090 85	.916 72	7.2680	6.6627	.150 089	7
8	1.104 49	.905 40	8.3589	7.5681	.132 133	8
9	1.118 29	.894 22	9.4634	8.4623	.118 171	9
10	1.132 27	.883 18	10.5817	9.3455	.107 003	10
11	1.146 42	.872 28	11.7139	10.2178	.097 868	11
12	1.160 75	.861 51	12.8604	11.0793	.090 258	12
13	1.175 26	.850 87	14.0211	11.9302	.083 821	13
14	1.189 95	.840 37	15.1964	12.7706	.078 305	14
15	1.204 83	.829 99	16.3863	13.6005	.073 526	15
16	1.219 89	.819 75	17.5912	14.4203	.069 347	16
17	1.235 14	.809 63	18.8111	15.2299	.065 660	17
18	1.250 58	.799 63	20.0462	16.0295	.062 385	18
19	1.266 21	.789 76	21.2968	16.8193	.059 455	19
20	1.282 04	.780 01	22.5630	17.5993	.056 820	20
21	1.298 06	.770 38	23.8450	18.3697	.054 438	21
22	1.314 29	.760 87	25.1431	19.1306	.052 272	22
23	1.330 72	.751 47	26.4574	19.8820	.050 297	23
24	1.347 35	.742 20	27.7881	20.6242	.048 487	24
25	1.364 19	.733 03	29.1354	21.3573	.046 822	25
26	1.381 25	.723 98	30.4996	22.0813	.045 287	26
27	1.398 51	.715 05	31.8809	22.7963	.043 867	27
28	1.415 99	.706 22	33.2794	23.5025	.042 549	28
29	1.433 69	.697 50	34.6954	24.2000	.041 322	29
30	1.451 61	.688 89	36.1291	24.8889	.040 179	30
31	1.469 76	.680 38	37.5807	25.5693	.039 109	31
32	1.488 13	.671 98	39.0504	26.2413	.038 108	32
33	1.506 73	.663 69	40.5386	26.9050	.037 168	33
34	1.525 57	.655 49	42.0453	27.5605	.036 284	34
35	1.544 64	.647 40	43.5709	28.2079	.035 451	35
36	1.563 94	.639 41	45.1155	28.8473	.034 665	36
37	1.583 49	.631 52	46.6794	29.4788	.033 923	37
38	1.603 29	.623 72	48.2629	30.1025	.033 220	38
39	1.623 33	.616 02	49.8662	30.7185	.032 554	39
40	1.643 62	.608 41	51.4896	31.3269	.031 921	40
41	1.664 16	.600 90	53.1332	31.9278	.031 321	41
42	1.684 97	.593 48	54.7973	32.5213	.030 749	42
43	1.706 03	.586 16	56.4823	33.1075	.030 205	43
44	1.727 35	.578 92	58.1883	33.6864	.029 686	44
45	1.748 95	.571 77	59.9157	34.2582	.029 190	45
46	1.770 81	.564 71	61.6646	34.8229	.028 717	46
47	1.792 94	.557 74	63.4354	35.3806	.028 264	47
48	1.815 35	.550 86	65.2284	35.9315	.027 831	48
49	1.838 05	.544 06	67.0437	36.4755	.027 416	49
50	1.861 02	.537 34	68.8818	37.0129	.027 018	50
60	2.107 18	.474 57	88.5745	42.0346	.023 790	60
70	2.385 90	.419 13	110.8720	46.4697	.021 519	70
80	2.701 49	.370 17	136.1188	50.3867	.019 847	80
90	3.058 81	.326 92	164.7050	53.8461	.018 571	90
100	3.463 40	.288 73	197.0723	56.9013	.017 574	100

E L No. 8

H^M

Q(NM)

Carlisle

Manchester
UnityConversion
Tables

COMPOUND INTEREST TABLES

 $1\frac{1}{2}$ per cent.

n	$(1+i)^n$	v^n	s_n	a_n	$(a_n)^{-1}$	n
1	1.015 00	.985 22	1.0000	0.9852	1.015 000	1
2	1.030 23	.970 66	2.0150	1.9559	0.511 278	2
3	1.045 68	.956 32	3.0452	2.9122	.343 383	3
4	1.061 36	.942 18	4.0909	3.8544	.259 445	4
5	1.077 28	.928 26	5.1523	4.7826	.209 089	5
6	1.093 44	.914 54	6.2296	5.6972	.175 525	6
7	1.109 84	.901 03	7.3230	6.5982	.151 556	7
8	1.126 49	.887 71	8.4328	7.4859	.133 584	8
9	1.143 39	.874 59	9.5593	8.3605	.119 610	9
10	1.160 54	.861 67	10.7027	9.2222	.108 434	10
11	1.177 95	.848 93	11.8633	10.0711	.099 294	11
12	1.195 62	.836 39	13.0412	10.9075	.091 680	12
13	1.213 55	.824 03	14.2368	11.7315	.085 240	13
14	1.231 76	.811 85	15.4504	12.5434	.079 723	14
15	1.250 23	.799 85	16.6821	13.3432	.074 944	15
16	1.268 99	.788 03	17.9324	14.1313	.070 765	16
17	1.288 02	.776 39	19.2014	14.9076	.067 080	17
18	1.307 34	.764 91	20.4894	15.6726	.063 806	18
19	1.326 95	.753 61	21.7967	16.4262	.060 878	19
20	1.346 86	.742 47	23.1237	17.1686	.058 246	20
21	1.367 06	.731 50	24.4705	17.9001	.055 865	21
22	1.387 56	.720 69	25.8376	18.6208	.053 703	22
23	1.408 38	.710 04	27.2251	19.3309	.051 731	23
24	1.429 50	.699 54	28.6335	20.0304	.049 924	24
25	1.450 95	.689 21	30.0630	20.7196	.048 263	25
26	1.472 71	.679 02	31.5140	21.3986	.046 732	26
27	1.494 80	.668 99	32.9867	22.0676	.045 315	27
28	1.517 22	.659 10	34.4815	22.7267	.044 001	28
29	1.539 98	.649 36	35.9987	23.3761	.042 779	29
30	1.563 08	.639 76	37.5387	24.0158	.041 639	30
31	1.586 53	.630 31	39.1018	24.6461	.040 574	31
32	1.610 32	.620 99	40.6883	25.2671	.039 577	32
33	1.634 48	.611 82	42.2986	25.8790	.038 641	33
34	1.659 00	.602 77	43.9331	26.4817	.037 762	34
35	1.683 88	.593 87	45.5921	27.0756	.036 934	35
36	1.709 14	.585 09	47.2760	27.6607	.036 152	36
37	1.734 78	.576 44	48.9851	28.2371	.035 414	37
38	1.760 80	.567 92	50.7199	28.8051	.034 716	38
39	1.787 21	.559 53	52.4807	29.3646	.034 055	39
40	1.814 02	.551 26	54.2679	29.9158	.033 427	40
41	1.841 23	.543 12	56.0819	30.4590	.032 831	41
42	1.868 85	.535 09	57.9231	30.9941	.032 264	42
43	1.896 88	.527 18	59.7920	31.5212	.031 725	43
44	1.925 33	.519 39	61.6889	32.0406	.031 210	44
45	1.954 21	.511 71	63.6142	32.5523	.030 720	45
46	1.983 53	.504 15	65.5684	33.0565	.030 251	46
47	2.013 28	.496 70	67.5519	33.5532	.029 803	47
48	2.043 48	.489 36	69.5652	34.0426	.029 375	48
49	2.074 13	.482 13	71.6087	34.5247	.028 965	49
50	2.105 24	.475 00	73.6828	34.9997	.028 572	50
60	2.443 22	.409 30	96.2147	39.3803	.025 393	60
70	2.835 46	.352 68	122.3638	43.1549	.023 172	70
80	3.290 66	.303 89	152.7109	46.4073	.021 548	80
90	3.818 95	.261 85	187.9299	49.2099	.020 321	90
100	4.432 05	.225 63	228.8030	51.6247	.019 371	100

COMPOUND INTEREST TABLES

1½ per cent.

n	$(1+i)^n$	v^n	a_n	a_n	$(a_n)^{-1}$	n
1	1.017 50	.982 80	1.0000	0.9828	1.017 500	1
2	1.035 31	.965 90	2.0175	1.9487	0.513 163	2
3	1.053 42	.949 29	3.0528	2.8980	.345 067	3
4	1.071 86	.932 96	4.1062	3.8309	.261 032	4
5	1.090 62	.916 91	5.1781	4.7479	.210 621	5
6	1.109 70	.901 14	6.2687	5.6490	.177 023	6
7	1.129 12	.885 64	7.3784	6.5346	.153 031	7
8	1.148 88	.870 41	8.5075	7.4051	.135 043	8
9	1.168 99	.855 44	9.6564	8.2605	.121 058	9
10	1.189 44	.840 73	10.8254	9.1012	.109 875	10
11	1.210 26	.826 27	12.0148	9.9275	.100 730	11
12	1.231 44	.812 06	13.2251	10.7395	.093 114	12
13	1.252 99	.798 09	14.4565	11.5376	.086 673	13
14	1.274 92	.784 36	15.7095	12.3220	.081 156	14
15	1.297 23	.770 87	16.9844	13.0929	.076 377	15
16	1.319 93	.757 62	18.2817	13.8505	.072 200	16
17	1.343 03	.744 59	19.6016	14.5951	.068 516	17
18	1.366 53	.731 78	20.9446	15.3269	.065 245	18
19	1.390 45	.719 19	22.3112	16.0461	.062 321	19
20	1.414 78	.706 82	23.7016	16.7529	.059 691	20
21	1.439 54	.694 67	25.1164	17.4475	.057 315	21
22	1.464 73	.682 72	26.5559	18.1303	.055 156	22
23	1.490 36	.670 98	28.0207	18.8012	.053 188	23
24	1.516 44	.659 44	29.5110	19.4607	.051 386	24
25	1.542 98	.648 10	31.0275	20.1088	.049 730	25
26	1.569 98	.636 95	32.5704	20.7457	.048 203	26
27	1.597 46	.625 99	34.1404	21.3717	.046 791	27
28	1.625 41	.615 23	35.7379	21.9870	.045 482	28
29	1.653 86	.604 65	37.3633	22.5916	.044 264	29
30	1.682 80	.594 25	39.0172	23.1858	.043 130	30
31	1.712 25	.584 03	40.7000	23.7699	.042 070	31
32	1.742 21	.573 98	42.4122	24.3439	.041 078	32
33	1.772 70	.564 11	44.1544	24.9080	.040 148	33
34	1.803 72	.554 41	45.9271	25.4624	.039 274	34
35	1.835 29	.544 87	47.7308	26.0073	.038 451	35
36	1.867 41	.535 50	49.5661	26.5428	.037 675	36
37	1.900 09	.526 29	51.4335	27.0690	.036 943	37
38	1.933 34	.517 24	53.3336	27.5863	.036 250	38
39	1.967 17	.508 34	55.2670	28.0946	.035 594	39
40	2.001 60	.499 60	57.2341	28.5942	.034 972	40
41	2.036 63	.491 01	59.2357	29.0852	.034 382	41
42	2.072 27	.482 56	61.2724	29.5678	.033 821	42
43	2.108 53	.474 26	63.3446	30.0421	.033 287	43
44	2.145 43	.466 11	65.4532	30.5082	.032 778	44
45	2.182 98	.458 09	67.5986	30.9663	.032 293	45
46	2.221 18	.450 21	69.7816	31.4165	.031 830	46
47	2.260 05	.442 47	72.0027	31.8589	.031 388	47
48	2.299 60	.434 86	74.2628	32.2938	.030 966	48
49	2.339 84	.427 38	76.5624	32.7212	.030 561	49
50	2.380 79	.420 03	78.9022	33.1412	.030 174	50
60	2.831 82	.353 13	104.6752	36.9640	.027 053	60
70	3.368 29	.296 89	135.3308	40.1779	.024 889	70
80	4.006 39	.249 60	171.7938	42.8799	.023 321	80
90	4.765 38	.209 85	215.1646	45.1516	.022 148	90
100	5.668 16	.176 42	266.7518	47.0615	.021 249	100

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H^m

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COMPOUND INTEREST TABLES 2 per cent.

n	$(1+i)^n$	v^n	s_n	a_n	$(a_n)^{-1}$	n
1	1.020 00	.980 39	1.0000	0.9804	1.020 000	1
2	1.040 40	.961 17	2.0200	1.9416	0.515 050	2
3	1.061 21	.942 32	3.0604	2.8839	.346 755	3
4	1.082 43	.923 85	4.1216	3.8077	.262 624	4
5	1.104 08	.905 73	5.2040	4.7135	.212 158	5
6	1.126 16	.887 97	6.3081	5.6014	.178 526	6
7	1.148 69	.870 56	7.4343	6.4720	.154 512	7
8	1.171 66	.853 49	8.5830	7.3255	.136 510	8
9	1.195 09	.836 76	9.7546	8.1622	.122 515	9
10	1.218 99	.820 35	10.9497	8.9826	.111 327	10
11	1.243 37	.804 26	12.1687	9.7868	.102 178	11
12	1.268 24	.788 49	13.4121	10.5753	.094 560	12
13	1.293 61	.773 03	14.6803	11.3484	.088 118	13
14	1.319 48	.757 88	15.9739	12.1062	.082 602	14
15	1.345 87	.743 01	17.2934	12.8493	.077 825	15
16	1.372 79	.728 45	18.6393	13.5777	.073 650	16
17	1.400 24	.714 16	20.0121	14.2919	.069 970	17
18	1.428 25	.700 16	21.4123	14.9920	.066 702	18
19	1.456 81	.686 43	22.8406	15.6785	.063 782	19
20	1.485 95	.672 97	24.2974	16.3514	.061 157	20
21	1.515 67	.659 78	25.7833	17.0112	.058 785	21
22	1.545 98	.646 84	27.2990	17.6580	.056 631	22
23	1.576 90	.634 16	28.8450	18.2922	.054 668	23
24	1.608 44	.621 72	30.4219	18.9139	.052 871	24
25	1.640 61	.609 53	32.0303	19.5235	.051 220	25
26	1.673 42	.597 58	33.6709	20.1210	.049 699	26
27	1.706 89	.585 86	35.3443	20.7069	.048 293	27
28	1.741 02	.574 37	37.0512	21.2813	.046 990	28
29	1.775 84	.563 11	38.7922	21.8444	.045 778	29
30	1.811 36	.552 07	40.5681	22.3965	.044 650	30
31	1.847 59	.541 25	42.3794	22.9377	.043 596	31
32	1.884 54	.530 63	44.2270	23.4683	.042 611	32
33	1.922 23	.520 23	46.1116	23.9886	.041 687	33
34	1.960 68	.510 03	48.0338	24.4986	.040 819	34
35	1.999 89	.500 03	49.9945	24.9986	.040 002	35
36	2.039 89	.490 22	51.9944	25.4888	.039 233	36
37	2.080 69	.480 61	54.0343	25.9695	.038 507	37
38	2.122 30	.471 19	56.1149	26.4406	.037 821	38
39	2.164 74	.461 95	58.2372	26.9026	.037 171	39
40	2.208 04	.452 89	60.4020	27.3555	.036 556	40
41	2.252 20	.444 01	62.6100	27.7995	.035 972	41
42	2.297 24	.435 30	64.8622	28.2348	.035 417	42
43	2.343 19	.426 77	67.1595	28.6616	.034 890	43
44	2.390 05	.418 40	69.5027	29.0800	.034 388	44
45	2.437 85	.410 20	71.8927	29.4902	.033 910	45
46	2.486 61	.402 15	74.3306	29.8923	.033 453	46
47	2.536 34	.394 27	76.8172	30.2866	.033 018	47
48	2.587 07	.386 54	79.3535	30.6731	.032 602	48
49	2.638 81	.378 96	81.9406	31.0521	.032 204	49
50	2.691 59	.371 53	84.5794	31.4236	.031 823	50
60	3.281 03	.304 78	114.0515	34.7609	.028 768	60
70	3.999 56	.250 03	149.9779	37.4986	.026 668	70
80	4.875 44	.205 11	193.7720	39.7445	.025 161	80
90	5.943 13	.168 26	247.1567	41.5860	.024 046	90
100	7.244 65	.138 03	312.2323	43.0984	.023 203	100

COMPOUND INTEREST TABLES

 $2\frac{1}{4}$ per cent.

n	$(1+i)^n$	v^n	s_n	a_n	$(a_n)^{-1}$	n
1	1.022 50	.978 00	1.0000	0.9780	1.022 500	1
2	1.045 51	.956 47	2.0225	1.9345	0.516 038	2
3	1.069 03	.935 43	3.0680	2.8699	.348 445	3
4	1.093 08	.914 84	4.1370	3.7847	.264 219	4
5	1.117 68	.894 71	5.2301	4.6795	.213 700	5
6	1.142 83	.875 02	6.3478	5.5545	.180 035	6
7	1.168 54	.855 77	7.4906	6.4102	.156 000	7
8	1.194 83	.836 94	8.6592	7.2472	.137 985	8
9	1.221 71	.818 52	9.8540	8.0657	.123 982	9
10	1.249 20	.800 51	11.0757	8.8662	.112 788	10
11	1.277 31	.782 90	12.3249	9.6491	.103 637	11
12	1.306 05	.765 67	13.6022	10.4148	.096 017	12
13	1.335 44	.748 82	14.9083	11.1636	.089 577	13
14	1.365 48	.732 34	16.2437	11.8959	.084 062	14
15	1.396 21	.716 23	17.6092	12.6122	.079 289	15
16	1.427 62	.700 47	19.0054	13.3126	.075 117	16
17	1.459 74	.685 05	20.4330	13.9977	.071 440	17
18	1.492 59	.669 98	21.8928	14.6677	.068 177	18
19	1.526 17	.655 23	23.3853	15.3229	.065 262	19
20	1.560 51	.640 82	24.9115	15.9637	.062 642	20
21	1.595 62	.626 72	26.4720	16.5904	.060 276	21
22	1.631 52	.612 92	28.0676	17.2034	.058 128	22
23	1.668 23	.599 44	29.6992	17.8028	.056 171	23
24	1.705 77	.586 25	31.3674	18.3890	.054 380	24
25	1.744 15	.573 35	33.0732	18.9624	.052 736	25
26	1.783 39	.560 73	34.8173	19.5231	.051 221	26
27	1.823 52	.548 39	36.6007	20.0715	.049 822	27
28	1.864 54	.536 32	38.4242	20.6078	.048 525	28
29	1.906 50	.524 52	40.2888	21.1323	.047 321	29
30	1.949 39	.512 98	42.1953	21.6453	.046 199	30
31	1.993 25	.501 69	44.1447	22.1470	.045 153	31
32	2.038 10	.490 65	46.1379	22.6377	.044 174	32
33	2.083 96	.479 86	48.1760	23.1175	.043 257	33
34	2.130 85	.469 30	50.2600	23.5868	.042 397	34
35	2.178 79	.458 97	52.3908	24.0458	.041 587	35
36	2.227 82	.448 87	54.5696	24.4947	.040 825	36
37	2.277 94	.438 99	56.7974	24.9337	.040 106	37
38	2.329 20	.429 33	59.0754	25.3630	.039 428	38
39	2.381 60	.419 89	61.4046	25.7829	.038 785	39
40	2.435 19	.410 65	63.7862	26.1935	.038 177	40
41	2.489 98	.401 61	66.2214	26.5951	.037 601	41
42	2.546 01	.392 77	68.7113	26.9879	.037 054	42
43	2.603 29	.384 13	71.2574	27.3720	.036 534	43
44	2.661 86	.375 68	73.8606	27.7477	.036 039	44
45	2.721 76	.367 41	76.5225	28.1151	.035 568	45
46	2.783 00	.359 32	79.2443	28.4744	.035 119	46
47	2.845 61	.351 42	82.0273	28.8259	.034 691	47
48	2.909 64	.343 69	84.8729	29.1695	.034 282	48
49	2.975 11	.336 12	87.7825	29.5057	.033 892	49
50	3.042 05	.328 73	90.7576	29.8344	.033 518	50
60	3.800 13	.263 15	124.4504	32.7490	.030 535	60
70	4.747 14	.210 65	166.5396	35.0821	.028 505	70
80	5.930 15	.168 63	219.1176	36.9498	.027 064	80
90	7.407 96	.134 99	284.7981	38.4449	.026 011	90
100	9.254 05	.108 06	366.8465	39.6417	.025 226	100

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COMPOUND INTEREST TABLES

 $2\frac{1}{2}$ per cent.

n	$(1+i)^n$	v^n	s_n	a_n	$(a_n)^{-1}$	n
1	1.025 00	.975 61	1.0000	0.9756	1.025 000	1
2	1.050 63	.951 81	2.0250	1.9274	0.518 827	2
3	1.076 89	.928 60	3.0756	2.8560	.350 137	3
4	1.103 81	.905 95	4.1525	3.7620	.265 818	4
5	1.131 41	.883 85	5.2563	4.6458	.215 247	5
6	1.159 69	.862 30	6.3877	5.5081	.181 550	6
7	1.188 60	.841 27	7.5474	6.3494	.157 495	7
8	1.218 40	.820 75	8.7361	7.1701	.139 467	8
9	1.248 86	.800 73	9.9545	7.9709	.125 457	9
10	1.280 08	.781 20	11.2034	8.7521	.114 259	10
11	1.312 09	.762 14	12.4835	9.5142	.105 106	11
12	1.344 89	.743 56	13.7956	10.2578	.097 487	12
13	1.378 51	.725 42	15.1404	10.9832	.091 048	13
14	1.412 97	.707 73	16.5190	11.6909	.085 537	14
15	1.448 30	.690 47	17.9319	12.3814	.080 766	15
16	1.484 51	.673 62	19.3802	13.0550	.076 599	16
17	1.521 62	.657 20	20.8647	13.7122	.072 928	17
18	1.559 66	.641 17	22.3863	14.3534	.069 670	18
19	1.598 65	.625 53	23.9460	14.9789	.066 761	19
20	1.638 62	.610 27	25.5447	15.5892	.064 147	20
21	1.679 58	.595 39	27.1833	16.1845	.061 787	21
22	1.721 57	.580 86	28.8629	16.7654	.059 647	22
23	1.764 61	.566 70	30.5844	17.3321	.057 696	23
24	1.808 73	.552 88	32.3490	17.8850	.055 913	24
25	1.853 94	.539 39	34.1578	18.4244	.054 276	25
26	1.900 29	.526 23	36.0117	18.9506	.052 769	26
27	1.947 80	.513 40	37.9120	19.4640	.051 377	27
28	1.996 50	.500 88	39.8598	19.9649	.050 088	28
29	2.046 41	.488 66	41.8563	20.4535	.048 891	29
30	2.097 57	.476 74	43.9027	20.9303	.047 778	30
31	2.150 01	.465 11	46.0003	21.3954	.046 739	31
32	2.203 76	.453 77	48.1503	21.8492	.045 768	32
33	2.258 85	.442 70	50.3540	22.2919	.044 859	33
34	2.315 32	.431 91	52.6129	22.7238	.044 007	34
35	2.373 21	.421 37	54.9282	23.1452	.043 206	35
36	2.432 54	.411 09	57.3014	23.5563	.042 452	36
37	2.493 35	.401 07	59.7339	23.9573	.041 741	37
38	2.555 68	.391 28	62.2273	24.3486	.041 070	38
39	2.619 57	.381 74	64.7830	24.7303	.040 436	39
40	2.685 06	.372 43	67.4026	25.1028	.039 836	40
41	2.752 19	.363 35	70.0876	25.4661	.039 268	41
42	2.821 00	.354 48	72.8398	25.8206	.038 729	42
43	2.891 52	.345 84	75.6608	26.1664	.038 217	43
44	2.963 81	.337 40	78.5523	26.5038	.037 730	44
45	3.037 90	.329 17	81.5161	26.8330	.037 268	45
46	3.113 85	.321 15	84.5540	27.1542	.036 827	46
47	3.191 70	.313 31	87.6679	27.4675	.036 407	47
48	3.271 49	.305 67	90.8596	27.7732	.036 006	48
49	3.353 28	.298 22	94.1311	28.0714	.035 623	49
50	3.437 11	.290 94	97.4843	28.3623	.035 258	50
60	4.399 79	.227 28	135.9916	30.9087	.032 353	60
70	5.632 10	.177 55	185.2841	32.8979	.030 397	70
80	7.209 57	.138 70	248.3827	34.4518	.029 026	80
90	9.228 86	.108 36	329.1542	35.6658	.028 038	90
100	11.813 72	.084 65	432.5486	36.6141	.027 312	100

COMPOUND INTEREST TABLES
3 per cent.

n	$(1+i)^n$	v^n	${}_1s_n$	a_n	$(a_n)^{-1}$	n
1	1.030 00	.970 87	1.0000	0.9709	1.030 000	1
2	1.060 90	.942 60	2.0300	1.9135	0.522 611	2
3	1.092 73	.915 14	3.0909	2.8286	.353 530	3
4	1.125 51	.888 49	4.1836	3.7171	.269 027	4
5	1.159 27	.862 61	5.3091	4.5797	.218 355	5
6	1.194 05	.837 48	6.4684	5.4172	.184 598	6
7	1.229 87	.813 09	7.6625	6.2303	.160 506	7
8	1.266 77	.789 41	8.8923	7.0197	.142 456	8
9	1.304 77	.766 42	10.1591	7.7861	.128 434	9
10	1.343 92	.744 09	11.4639	8.5302	.117 231	10
11	1.384 23	.722 42	12.8078	9.2526	.108 077	11
12	1.425 76	.701 38	14.1920	9.9540	.100 462	12
13	1.468 53	.680 95	15.6178	10.6350	.094 030	13
14	1.512 59	.661 12	17.0863	11.2961	.088 526	14
15	1.557 97	.641 86	18.5989	11.9379	.083 767	15
16	1.604 71	.623 17	20.1569	12.5611	.079 611	16
17	1.652 85	.605 02	21.7616	13.1661	.075 953	17
18	1.702 43	.587 39	23.4144	13.7535	.072 709	18
19	1.753 51	.570 29	25.1169	14.3238	.069 814	19
20	1.806 11	.553 68	26.8704	14.8775	.067 216	20
21	1.860 29	.537 55	28.6765	15.4150	.064 872	21
22	1.916 10	.521 89	30.5368	15.9369	.062 747	22
23	1.973 59	.506 69	32.4529	16.4436	.060 814	23
24	2.032 79	.491 93	34.4265	16.9355	.059 047	24
25	2.093 78	.477 61	36.4593	17.4131	.057 428	25
26	2.156 59	.463 69	38.5530	17.8768	.055 938	26
27	2.221 29	.450 19	40.7096	18.3270	.054 564	27
28	2.287 93	.437 08	42.9309	18.7641	.053 293	28
29	2.356 57	.424 35	45.2189	19.1885	.052 115	29
30	2.427 26	.411 99	47.5754	19.6004	.051 019	30
31	2.500 08	.399 99	50.0027	20.0004	.049 999	31
32	2.575 08	.388 34	52.5028	20.3888	.049 047	32
33	2.652 34	.377 03	55.0778	20.7658	.048 156	33
34	2.731 91	.366 04	57.7302	21.1318	.047 322	34
35	2.813 86	.355 38	60.4621	21.4872	.046 539	35
36	2.898 28	.345 03	63.2759	21.8323	.045 804	36
37	2.985 23	.334 98	66.1742	22.1672	.045 112	37
38	3.074 78	.325 23	69.1594	22.4925	.044 459	38
39	3.167 03	.315 75	72.2342	22.8082	.043 844	39
40	3.262 04	.306 56	75.4013	23.1148	.043 262	40
41	3.359 90	.297 63	78.6633	23.4124	.042 712	41
42	3.460 70	.288 96	82.0232	23.7014	.042 192	42
43	3.564 52	.280 54	85.4839	23.9819	.041 698	43
44	3.671 45	.272 37	89.0484	24.2543	.041 230	44
45	3.781 60	.264 44	92.7199	24.5187	.040 785	45
46	3.895 04	.256 74	96.5015	24.7754	.040 363	46
47	4.011 90	.249 26	100.3965	25.0247	.039 961	47
48	4.132 25	.242 00	104.4084	25.2667	.039 578	48
49	4.256 22	.234 95	108.5406	25.5017	.039 213	49
50	4.383 91	.228 11	112.7969	25.7298	.038 865	50
60	5.891 60	.169 73	163.0534	27.6756	.036 133	60
70	7.917 82	.126 30	230.5941	29.1234	.034 337	70
80	10.640 89	.093 98	321.3630	30.2008	.033 112	80
90	14.300 47	.069 93	443.3489	31.0024	.032 256	90
100	19.218 63	.052 03	607.2877	31.5989	.031 647	100

COMPOUND INTEREST TABLES

 $3\frac{1}{2}$ per cent.

n	$(1+i)^n$	v^n	$s_{\overline{n} i}$	$a_{\overline{n} i}$	$(a_{\overline{n} i})^{-1}$	n
1	1.035 00	.966 18	1.0000	0.9662	1.035 000	1
2	1.071 23	.933 51	2.0350	1.8997	0.526 400	2
3	1.108 72	.901 94	3.1062	2.8016	.356 934	3
4	1.147 52	.871 44	4.2149	3.6731	.272 251	4
5	1.187 69	.841 97	5.3625	4.5151	.221 481	5
6	1.229 26	.813 50	6.5502	5.3286	.187 668	6
7	1.272 28	.785 99	7.7794	6.1145	.163 544	7
8	1.316 81	.759 41	9.0517	6.8740	.145 477	8
9	1.362 90	.733 73	10.3685	7.6077	.131 446	9
10	1.410 60	.708 92	11.7314	8.3166	.120 241	10
11	1.459 97	.684 95	13.1420	9.0016	.111 092	11
12	1.511 07	.661 78	14.6020	9.6633	.103 484	12
13	1.563 96	.639 40	16.1130	10.3027	.097 062	13
14	1.618 69	.617 78	17.6770	10.9205	.091 571	14
15	1.675 35	.596 89	19.2957	11.5174	.086 825	15
16	1.733 99	.576 71	20.9710	12.0941	.082 685	16
17	1.794 68	.557 20	22.7050	12.6513	.079 043	17
18	1.857 49	.538 36	24.4997	13.1897	.075 817	18
19	1.922 50	.520 16	26.3572	13.7098	.072 940	19
20	1.989 79	.502 57	28.2797	14.2124	.070 361	20
21	2.059 43	.485 57	30.2695	14.6980	.068 037	21
22	2.131 51	.469 15	32.3289	15.1671	.065 932	22
23	2.206 11	.453 29	34.4604	15.6204	.064 019	23
24	2.283 33	.437 96	36.6665	16.0584	.062 273	24
25	2.363 24	.423 15	38.9499	16.4815	.060 674	25
26	2.445 96	.408 84	41.3131	16.8904	.059 205	26
27	2.531 57	.395 01	43.7591	17.2854	.057 852	27
28	2.620 17	.381 65	46.2906	17.6670	.056 603	28
29	2.711 88	.368 75	48.9108	18.0358	.055 445	29
30	2.806 79	.356 28	51.6227	18.3920	.054 371	30
31	2.905 03	.344 23	54.4295	18.7363	.053 372	31
32	3.006 71	.332 59	57.3345	19.0689	.052 442	32
33	3.111 94	.321 34	60.3412	19.3902	.051 572	33
34	3.220 86	.310 48	63.4532	19.7007	.050 760	34
35	3.333 59	.299 98	66.6740	20.0007	.049 998	35
36	3.450 27	.289 83	70.0076	20.2905	.049 284	36
37	3.571 03	.280 03	73.4579	20.5705	.048 613	37
38	3.696 01	.270 56	77.0289	20.8411	.047 982	38
39	3.825 37	.261 41	80.7249	21.1025	.047 388	39
40	3.959 26	.252 57	84.5503	21.3551	.046 827	40
41	4.097 83	.244 03	88.5095	21.5991	.046 298	41
42	4.241 26	.235 78	92.6074	21.8349	.045 798	42
43	4.389 70	.227 81	96.8486	22.0627	.045 325	43
44	4.543 34	.220 10	101.2383	22.2828	.044 878	44
45	4.702 36	.212 66	105.7817	22.4955	.044 453	45
46	4.866 94	.205 47	110.4840	22.7009	.044 051	46
47	5.037 28	.198 52	115.3510	22.8994	.043 669	47
48	5.213 59	.191 81	120.3883	23.0912	.043 306	48
49	5.396 06	.185 32	125.6018	23.2766	.042 962	49
50	5.584 93	.179 05	130.9979	23.4556	.042 634	50
60	7.878 09	.126 93	196.5169	24.9447	.040 089	60
70	11.112 83	.089 99	288.9379	26.0004	.038 461	70
80	15.675 74	.063 79	419.3068	26.7488	.037 385	80
90	22.112 18	.045 22	603.2050	27.2793	.036 658	90
100	31.191 41	.032 06	862.6117	27.6554	.036 159	100

COMPOUND INTEREST TABLES

4 per cent.

n	$(1+i)^n$	v^n	s_n	a_n	$(a_n)^{-1}$	n
1	1.040 00	.961 54	1.0000	0.9615	1.040 000	1
2	1.081 60	.924 56	2.0400	1.8861	0.530 196	2
3	1.124 86	.889 00	3.1216	2.7751	.360 349	3
4	1.169 86	.854 80	4.2465	3.6299	.275 490	4
5	1.216 65	.821 93	5.4163	4.4518	.224 627	5
6	1.265 32	.790 31	6.6330	5.2421	.190 762	6
7	1.315 93	.759 92	7.8983	6.0021	.166 610	7
8	1.368 57	.730 69	9.2142	6.7327	.148 528	8
9	1.423 31	.702 59	10.5828	7.4353	.134 493	9
10	1.480 24	.675 56	12.0061	8.1109	.123 291	10
11	1.539 45	.649 58	13.4864	8.7605	.114 149	11
12	1.601 03	.624 60	15.0258	9.3851	.106 552	12
13	1.665 07	.600 57	16.6268	9.9856	.100 144	13
14	1.731 68	.577 48	18.2919	10.5631	.094 669	14
15	1.800 94	.555 26	20.0236	11.1184	.089 941	15
16	1.872 98	.533 91	21.8245	11.6523	.085 820	16
17	1.947 90	.513 37	23.6975	12.1657	.082 199	17
18	2.025 82	.493 63	25.6454	12.6593	.078 993	18
19	2.106 85	.474 64	27.6712	13.1339	.076 139	19
20	2.191 12	.456 39	29.7781	13.5903	.073 582	20
21	2.278 77	.438 83	31.9692	14.0292	.071 280	21
22	2.369 92	.421 96	34.2480	14.4511	.069 199	22
23	2.464 72	.405 73	36.6179	14.8568	.067 309	23
24	2.563 30	.390 12	39.0826	15.2470	.065 587	24
25	2.665 84	.375 12	41.6459	15.6221	.064 012	25
26	2.772 47	.360 69	44.3117	15.9828	.062 567	26
27	2.883 37	.346 82	47.0842	16.3296	.061 239	27
28	2.998 70	.333 48	49.9676	16.6631	.060 013	28
29	3.118 65	.320 65	52.9663	16.9837	.058 880	29
30	3.243 40	.308 32	56.0849	17.2920	.057 830	30
31	3.373 13	.296 46	59.3283	17.5885	.056 855	31
32	3.508 06	.285 06	62.7015	17.8736	.055 949	32
33	3.648 38	.274 09	66.2095	18.1476	.055 104	33
34	3.794 32	.263 55	69.8579	18.4112	.054 315	34
35	3.946 09	.253 42	73.6522	18.6646	.053 577	35
36	4.103 93	.243 67	77.5983	18.9083	.052 887	36
37	4.268 09	.234 30	81.7022	19.1426	.052 240	37
38	4.438 81	.225 29	85.9703	19.3679	.051 632	38
39	4.616 37	.216 62	90.4091	19.5845	.051 061	39
40	4.801 02	.208 29	95.0255	19.7928	.050 523	40
41	4.993 06	.200 28	99.8265	19.9931	.050 017	41
42	5.192 78	.192 57	104.8196	20.1856	.049 540	42
43	5.400 50	.185 17	110.0124	20.3708	.049 090	43
44	5.616 52	.178 05	115.4129	20.5488	.048 665	44
45	5.841 18	.171 20	121.0294	20.7200	.048 262	45
46	6.074 82	.164 61	126.8706	20.8847	.047 882	46
47	6.317 82	.158 28	132.9454	21.0429	.047 522	47
48	6.570 53	.152 19	139.2632	21.1951	.047 181	48
49	6.833 35	.146 34	145.8337	21.3415	.046 857	49
50	7.106 68	.140 71	152.6671	21.4822	.046 550	50
60	10.519 63	.095 06	237.9907	22.6235	.044 202	60
70	15.571 62	.064 22	364.2905	23.3945	.042 745	70
80	23.049 80	.043 38	551.2450	23.9154	.041 814	80
90	34.119 33	.029 31	827.9833	24.2673	.041 208	90
100	50.504 95	.019 80	1237.6237	24.5050	.040 808	100

COMPOUND INTEREST TABLES

 $4\frac{1}{2}$ per cent.

n	$(1+i)^n$	v^n	s_n	a_n	$(a_n)^{-1}$	n
1	1.045 00	.956 94	1.0000	0.9569	1.045 000	1
2	1.092 03	.915 73	2.0450	1.8727	0.533 998	2
3	1.141 17	.876 30	3.1370	2.7490	.363 773	3
4	1.192 52	.838 56	4.2782	3.5875	.278 744	4
5	1.246 18	.802 45	5.4707	4.3900	.227 792	5
6	1.302 26	.767 90	6.7169	5.1579	.193 878	6
7	1.360 86	.734 83	8.0192	5.8927	.169 701	7
8	1.422 10	.703 19	9.3800	6.5959	.151 610	8
9	1.486 10	.672 90	10.8021	7.2688	.137 574	9
10	1.552 97	.643 93	12.2882	7.9127	.126 379	10
11	1.622 85	.616 20	13.8412	8.5289	.117 248	11
12	1.695 88	.589 66	15.4640	9.1186	.109 666	12
13	1.772 20	.564 27	17.1599	9.6829	.103 275	13
14	1.851 94	.539 97	18.9321	10.2228	.097 820	14
15	1.935 28	.516 72	20.7841	10.7395	.093 114	15
16	2.022 37	.494 47	22.7193	11.2340	.089 015	16
17	2.113 38	.473 18	24.7417	11.7072	.085 418	17
18	2.208 48	.452 80	26.8551	12.1600	.082 237	18
19	2.307 86	.433 30	29.0636	12.5933	.079 407	19
20	2.411 71	.414 64	31.3714	13.0079	.076 876	20
21	2.520 24	.396 79	33.7831	13.4047	.074 601	21
22	2.633 65	.379 70	36.3034	13.7844	.072 546	22
23	2.752 17	.363 35	38.9370	14.1478	.070 682	23
24	2.876 01	.347 70	41.6892	14.4955	.068 987	24
25	3.005 43	.332 73	44.5652	14.8282	.067 439	25
26	3.140 68	.318 40	47.5706	15.1466	.066 021	26
27	3.282 01	.304 69	50.7113	15.4513	.064 719	27
28	3.429 70	.291 57	53.9933	15.7429	.063 521	28
29	3.584 04	.279 02	57.4230	16.0219	.062 415	29
30	3.745 32	.267 00	61.0071	16.2889	.061 392	30
31	3.913 86	.255 50	64.7524	16.5444	.060 443	31
32	4.089 98	.244 50	68.6662	16.7889	.059 563	32
33	4.274 03	.233 97	72.7562	17.0229	.058 745	33
34	4.466 36	.223 90	77.0303	17.2468	.057 982	34
35	4.667 35	.214 25	81.4966	17.4610	.057 270	35
36	4.877 38	.205 03	86.1640	17.6660	.056 606	36
37	5.096 86	.196 20	91.0413	17.8622	.055 984	37
38	5.326 22	.187 75	96.1382	18.0500	.055 402	38
39	5.565 90	.179 67	101.4044	18.2297	.054 856	39
40	5.816 36	.171 93	107.0303	18.4016	.054 343	40
41	6.078 10	.164 53	112.8467	18.5661	.053 862	41
42	6.351 62	.157 44	118.9248	18.7235	.053 409	42
43	6.637 44	.150 66	125.2764	18.8742	.052 982	43
44	6.936 12	.144 17	131.9138	19.0184	.052 581	44
45	7.248 25	.137 96	138.8500	19.1563	.052 202	45
46	7.574 42	.132 02	146.0982	19.2884	.051 845	46
47	7.915 27	.126 34	153.6726	19.4147	.051 507	47
48	8.271 46	.120 90	161.5879	19.5356	.051 189	48
49	8.643 67	.115 69	169.8594	19.6513	.050 887	49
50	9.032 64	.110 71	178.5030	19.7620	.050 602	50
60	14.027 41	.071 29	289.4980	20.6380	.048 454	60
70	21.784 14	.045 90	461.8697	21.2021	.047 165	70
80	33.830 10	.029 56	729.5577	21.5653	.046 371	80
90	52.537 11	.019 03	1145.2690	21.7992	.045 873	90
100	81.588 52	.012 26	1790.8560	21.9498	.045 558	100

COMPOUND INTEREST TABLES 5 per cent.

n	$(1+i)^n$	v^n	$s_{\overline{n} }$	$a_{\overline{n} }$	$(a_{\overline{n} })^{-1}$	n
1	1.050 00	.952 38	1.0000	0.9524	1.050 000	1
2	1.102 50	.907 03	2.0500	1.8504	0.537 805	2
3	1.157 63	.863 84	3.1525	2.7232	.367 209	3
4	1.215 51	.822 70	4.3101	3.5460	.282 012	4
5	1.276 28	.783 53	5.5256	4.3295	.230 975	5
6	1.340 10	.746 22	6.8019	5.0757	.197 017	6
7	1.407 10	.710 68	8.1420	5.7864	.172 820	7
8	1.477 46	.676 84	9.5491	6.4632	.154 722	8
9	1.551 33	.644 61	11.0266	7.1078	.140 690	9
10	1.628 89	.613 91	12.5779	7.7217	.129 505	10
11	1.710 34	.584 68	14.2068	8.3064	.120 389	11
12	1.795 86	.556 84	15.9171	8.8633	.112 825	12
13	1.885 65	.530 32	17.7130	9.3936	.106 456	13
14	1.979 93	.505 07	19.5986	9.8986	.101 024	14
15	2.078 93	.481 02	21.5786	10.3797	.096 342	15
16	2.182 87	.458 11	23.6575	10.8378	.092 270	16
17	2.292 02	.436 30	25.8404	11.2741	.088 699	17
18	2.406 62	.415 52	28.1324	11.6896	.085 546	18
19	2.526 95	.395 73	30.5390	12.0853	.082 745	19
20	2.653 30	.376 89	33.0660	12.4622	.080 243	20
21	2.785 96	.358 94	35.7193	12.8212	.077 996	21
22	2.925 26	.341 85	38.5052	13.1630	.075 971	22
23	3.071 52	.325 57	41.4305	13.4886	.074 137	23
24	3.225 10	.310 07	44.5020	13.7986	.072 471	24
25	3.386 35	.295 30	47.7271	14.0939	.070 952	25
26	3.555 67	.281 24	51.1135	14.3752	.069 564	26
27	3.733 46	.267 85	54.6691	14.6430	.068 292	27
28	3.920 13	.255 09	58.4026	14.8981	.067 123	28
29	4.116 14	.242 95	62.3227	15.1411	.066 046	29
30	4.321 94	.231 38	66.4388	15.3725	.065 051	30
31	4.538 04	.220 36	70.7608	15.5928	.064 132	31
32	4.764 94	.209 87	75.2988	15.8027	.063 280	32
33	5.003 19	.199 87	80.0638	16.0025	.062 490	33
34	5.253 35	.190 35	85.0670	16.1929	.061 755	34
35	5.516 02	.181 29	90.3203	16.3742	.061 072	35
36	5.791 82	.172 66	95.8363	16.5469	.060 434	36
37	6.081 41	.164 44	101.6281	16.7113	.059 840	37
38	6.385 48	.156 61	107.7095	16.8679	.059 284	38
39	6.704 75	.149 15	114.0950	17.0170	.058 765	39
40	7.039 99	.142 05	120.7998	17.1591	.058 278	40
41	7.391 99	.135 28	127.8398	17.2944	.057 822	41
42	7.761 59	.128 84	135.2318	17.4232	.057 395	42
43	8.149 67	.122 70	142.9933	17.5459	.056 993	43
44	8.557 15	.116 86	151.1430	17.6628	.056 616	44
45	8.985 01	.111 30	159.7002	17.7741	.056 262	45
46	9.434 26	.106 00	168.6852	17.8801	.055 928	46
47	9.905 97	.100 95	178.1194	17.9810	.055 614	47
48	10.401 27	.096 14	188.0254	18.0772	.055 318	48
49	10.921 33	.091 56	198.4267	18.1687	.055 040	49
50	11.467 40	.087 20	209.3480	18.2559	.054 777	50
60	18.679 19	.053 54	353.5837	18.9293	.052 828	60
70	30.426 43	.032 87	588.5285	19.3427	.051 600	70
80	49.561 44	.020 18	971.2288	19.5965	.051 030	80
90	80.730 37	.012 39	1594.6073	19.7523	.050 647	90
100	131.501 26	.007 60	2610.0252	19.8479	.050 383	100

No. 8

[NXX]

Liste

Manchester
UnityConversion
Tables

COMPOUND INTEREST TABLES

6 per cent.

n	$(1+i)^n$	v^n	s_n	a_n	$(a_n)^{-1}$	n
1	1.060 00	.943 40	1.0000	0.9434	1.060 000	1
2	1.123 60	.890 00	2.0600	1.8334	0.545 437	2
3	1.191 02	.839 62	3.1836	2.6730	.374 110	3
4	1.262 48	.792 09	4.3746	3.4651	.288 591	4
5	1.338 23	.747 26	5.6371	4.2124	.237 396	5
6	1.418 52	.704 96	6.9753	4.9173	.203 363	6
7	1.503 63	.665 06	8.3938	5.5824	.179 135	7
8	1.593 85	.627 41	9.8975	6.2098	.161 036	8
9	1.689 48	.591 90	11.4913	6.8017	.147 022	9
10	1.790 85	.558 39	13.1808	7.3601	.135 868	10
11	1.898 30	.526 79	14.9716	7.8869	.126 793	11
12	2.012 20	.496 97	16.8699	8.3838	.119 277	12
13	2.132 93	.468 84	18.8821	8.8527	.112 960	13
14	2.260 90	.442 30	21.0151	9.2950	.107 585	14
15	2.396 56	.417 27	23.2760	9.7122	.102 963	15
16	2.540 35	.393 65	25.6725	10.1059	.098 952	16
17	2.692 77	.371 36	28.2129	10.4773	.095 445	17
18	2.854 34	.350 34	30.9057	10.8276	.092 357	18
19	3.025 60	.330 51	33.7600	11.1581	.089 621	19
20	3.207 14	.311 80	36.7856	11.4699	.087 185	20
21	3.399 56	.294 16	39.9927	11.7641	.085 005	21
22	3.603 54	.277 51	43.3923	12.0416	.083 046	22
23	3.819 75	.261 80	46.9958	12.3034	.081 278	23
24	4.048 93	.246 98	50.8156	12.5504	.079 679	24
25	4.291 87	.233 00	54.8645	12.7834	.078 227	25
26	4.549 38	.219 81	59.1564	13.0032	.076 904	26
27	4.822 35	.207 37	63.7058	13.2105	.075 697	27
28	5.111 69	.195 63	68.5281	13.4062	.074 593	28
29	5.418 39	.184 56	73.6398	13.5907	.073 580	29
30	5.743 49	.174 11	79.0582	13.7648	.072 649	30
31	6.088 10	.164 25	84.8017	13.9291	.071 792	31
32	6.453 39	.154 96	90.8898	14.0840	.071 002	32
33	6.840 59	.146 19	97.3432	14.2302	.070 273	33
34	7.251 03	.137 91	104.1838	14.3681	.069 598	34
35	7.686 09	.130 11	111.4348	14.4982	.068 974	35
36	8.147 25	.122 74	119.1209	14.6210	.068 395	36
37	8.636 09	.115 79	127.2681	14.7368	.067 857	37
38	9.154 25	.109 24	135.9042	14.8460	.067 358	38
39	9.703 51	.103 06	145.0585	14.9491	.066 894	39
40	10.285 72	.097 22	154.7620	15.0463	.066 462	40
41	10.902 86	.091 72	165.0477	15.1380	.066 059	41
42	11.557 03	.086 53	175.9505	15.2245	.065 683	42
43	12.250 45	.081 63	187.5076	15.3062	.065 333	43
44	12.985 48	.077 01	199.7580	15.3832	.065 006	44
45	13.764 61	.072 65	212.7435	15.4558	.064 700	45
46	14.590 49	.068 54	226.5081	15.5244	.064 415	46
47	15.465 92	.064 66	241.0986	15.5890	.064 148	47
48	16.393 87	.061 00	256.5645	15.6500	.063 898	48
49	17.377 50	.057 55	272.9584	15.7076	.063 664	49
50	18.420 15	.054 29	290.3359	15.7619	.063 444	50
60	32.987 69	.030 31	533.1282	16.1614	.061 876	60
70	59.075 93	.016 93	967.9322	16.3845	.061 033	70
80	105.795 99	.009 45	1746.5999	16.5091	.060 573	80
90	189.464 51	.005 28	3141.0752	16.5787	.060 318	90
100	339.302 08	.002 95	5638.3681	16.6175	.060 177	100

COMPOUND INTEREST TABLES

7 per cent.

n	$(1+i)^n$	v^n	$s_{\overline{n} }$	$a_{\overline{n} }$	$(a_{\overline{n} })^{-1}$	n
1	1.070 00	.934 58	1.0000	0.9346	1.070 000	1
2	1.144 90	.873 44	2.0700	1.8080	0.553 092	2
3	1.225 04	.816 30	3.2149	2.6243	.381 052	3
4	1.310 80	.762 90	4.4399	3.3872	.295 228	4
5	1.402 55	.712 99	5.7507	4.1002	.243 891	5
6	1.500 73	.666 34	7.1533	4.7665	.209 796	6
7	1.605 78	.622 75	8.6540	5.3893	.185 553	7
8	1.718 19	.582 01	10.2598	5.9713	.167 468	8
9	1.838 46	.543 93	11.9780	6.5152	.153 486	9
10	1.967 15	.508 35	13.8164	7.0236	.142 378	10
11	2.104 85	.475 09	15.7836	7.4987	.133 357	11
12	2.252 19	.444 01	17.8885	7.9427	.125 902	12
13	2.409 84	.414 96	20.1406	8.3577	.119 051	13
14	2.578 53	.387 82	22.5505	8.7455	.114 345	14
15	2.759 03	.362 45	25.1290	9.1079	.109 795	15
16	2.952 16	.338 73	27.8881	9.4466	.105 858	16
17	3.158 82	.316 57	30.8402	9.7632	.102 425	17
18	3.379 93	.295 86	33.9990	10.0591	.099 413	18
19	3.616 53	.276 51	37.3790	10.3356	.096 753	19
20	3.869 68	.258 42	40.9955	10.5940	.094 393	20
21	4.140 56	.241 51	44.8652	10.8355	.092 289	21
22	4.430 40	.225 71	49.0057	11.0612	.090 406	22
23	4.740 53	.210 95	53.4361	11.2722	.088 714	23
24	5.072 37	.197 15	58.1767	11.4693	.087 189	24
25	5.427 43	.184 25	63.2490	11.6536	.085 811	25
26	5.807 35	.172 20	68.6765	11.8258	.084 561	26
27	6.213 87	.160 93	74.4838	11.9867	.083 426	27
28	6.648 84	.150 40	80.6977	12.1371	.082 392	28
29	7.114 26	.140 56	87.3465	12.2777	.081 449	29
30	7.612 26	.131 37	94.4608	12.4090	.080 586	30
31	8.145 11	.122 77	102.0730	12.5318	.079 797	31
32	8.715 27	.114 74	110.2182	12.6466	.079 073	32
33	9.325 34	.107 23	118.9334	12.7538	.078 408	33
34	9.978 11	.100 22	128.2588	12.8540	.077 797	34
35	10.676 58	.093 66	138.2369	12.9477	.077 234	35
36	11.423 94	.087 54	148.9135	13.0352	.076 715	36
37	12.223 62	.081 81	160.3374	13.1170	.076 237	37
38	13.079 27	.076 46	172.5610	13.1935	.075 795	38
39	13.994 82	.071 46	185.6403	13.2649	.075 387	39
40	14.974 46	.066 78	199.6351	13.3317	.075 009	40
41	16.022 67	.062 41	214.6096	13.3941	.074 660	41
42	17.144 26	.058 33	230.6322	13.4524	.074 336	42
43	18.344 35	.054 51	247.7765	13.5070	.074 036	43
44	19.628 46	.050 95	266.1209	13.5579	.073 758	44
45	21.002 45	.047 61	285.7493	13.6055	.073 500	45
46	22.472 62	.044 50	306.7518	13.6500	.073 260	46
47	24.045 71	.041 59	329.2244	13.6916	.073 037	47
48	25.728 91	.038 87	353.2701	13.7305	.072 831	48
49	27.529 93	.036 32	378.9990	13.7668	.072 639	49
50	29.457 03	.033 95	406.5289	13.8007	.072 460	50
60	57.946 43	.017 26	813.5204	14.0392	.071 229	60
70	113.989 39	.008 77	1 614.1342	14.1604	.070 620	70
80	224.234 39	.004 46	3 189.0627	14.2220	.070 314	80
90	441.102 98	.002 27	6 287.1854	14.2533	.070 159	90
100	867.716 33	.001 15	12 381.6618	14.2693	.070 081	100

E L No. 8

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Compound Interest Constants

i	d	v	$j_{(2)}$	$j_{(4)}$	δ	$\log_{10}(1+i)$
·0100	·009 901	·990 099	·009 975	·009 963	·009 950	·004 321 4
·0125	·012 346	·987 654	·012 461	·012 442	·012 422	·005 395 0
·0150	·014 778	·985 222	·014 944	·014 916	·014 889	·006 466 0
·0175	·017 199	·982 801	·017 424	·017 386	·017 349	·007 534 4
·0200	·019 608	·980 392	·019 901	·019 852	·019 803	·008 600 2
·0225	·022 005	·977 995	·022 375	·022 312	·022 251	·009 663 3
·0250	·024 390	·975 610	·024 846	·024 769	·024 693	·010 723 9
·0300	·029 126	·970 874	·029 778	·029 668	·029 559	·012 837 2
·0350	·033 816	·966 184	·034 699	·034 550	·034 401	·014 940 3
·0400	·038 462	·961 538	·039 608	·039 414	·039 221	·017 033 3
·0450	·043 062	·956 938	·044 505	·044 260	·044 017	·019 116 3
·0500	·047 619	·952 381	·049 390	·049 089	·048 790	·021 189 3
·0600	·056 604	·943 396	·059 126	·058 695	·058 269	·025 305 9
·0700	·065 421	·934 579	·068 816	·068 234	·067 659	·029 383 8

0 350
9 900

75581
86173

7 5 57 121

Values of $\frac{i}{j_{(p)}}$ for given Values of i and p

i	$p=2$	$p=4$	$p=12$	$p=\infty$
·0100	1·002 49	1·003 73	1·004 50	1·004 99
·0125	1·003 11	1·004 66	1·005 66	1·006 24
·0150	1·003 73	1·005 60	1·006 85	1·007 48
·0175	1·004 36	1·006 53	1·007 97	1·008 73
·0200	1·004 97	1·007 48	1·009 12	1·009 97
·0225	1·005 60	1·008 41	1·010 24	1·011 21
·0250	1·006 21	1·009 33	1·011 41	1·012 45
·0300	1·007 44	1·011 18	1·013 68	1·014 93
·0350	1·008 67	1·013 03	1·015 94	1·017 40
·0400	1·009 90	1·014 88	1·018 20	1·019 87
·0450	1·011 13	1·016 72	1·020 46	1·022 33
·0500	1·012 35	1·018 56	1·022 71	1·024 80
·0600	1·014 78	1·022 23	1·027 21	1·029 71
·0700	1·017 20	1·025 88	1·031 69	1·034 61

0 375

1·01395

1·026878

SECTION II

ENGLISH LIFE TABLE

No. 8. MALES

EL No. 8

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ENGLISH LIFE TABLE NO. 8—MALES

Age x	l_x	d_x	p_x	q_x	μ_x	L_x	T_x	e_x	Age x
0	1 000 000	120 441	.879 56	.120 44	.4709 44	911 428	51 495 315	51.50	0
1	879 559	30 115	.965 76	.034 24	.0662 08	864 501	50 583 887	57.51	1
2	849 444	11 353	.986 64	.013 37	.015 99	843 768	49 719 386	58.53	2
3	838 091	6 856	.991 82	.008 18	.009 19	834 663	48 875 618	58.32	3
4	831 235	4 959	.994 03	.005 97	.006 75	828 755	48 040 955	57.80	4
5	826 276	4 038	.995 11	.004 89	.005 33	824 257	47 212 200	57.14	5
6	822 238	3 262	.996 03	.003 97	.004 41	820 607	46 387 943	56.42	6
7	818 976	2 630	.996 79	.003 21	.003 57	817 661	45 567 336	55.64	7
8	816 346	2 141	.997 33	.002 62	.002 89	815 276	44 749 675	54.82	8
9	814 205	1 791	.997 80	.002 20	.002 39	813 309	43 934 399	53.96	9
10	812 414	1 570	.998 07	.001 93	.002 04	811 629	43 121 090	53.08	10
1	810 844	1 468	.998 19	.001 81	.001 85	810 110	42 309 461	52.18	1
2	809 376	1 469	.998 18	.001 82	.001 79	808 642	41 499 351	51.27	2
3	807 907	1 556	.998 07	.001 93	.001 86	807 129	40 690 709	50.37	3
4	806 351	1 705	.997 89	.002 11	.002 01	805 498	39 883 580	49.46	4
15	804 646	1 888	.997 65	.002 35	.002 23	803 702	39 078 082	48.57	15
6	802 758	2 077	.997 41	.002 59	.002 47	801 720	38 274 380	47.68	6
7	800 681	2 236	.997 21	.002 79	.002 69	799 563	37 472 660	46.80	7
8	798 445	2 414	.996 98	.003 02	.002 91	797 238	36 673 097	45.93	8
9	796 031	2 596	.996 74	.003 26	.003 15	794 733	35 875 859	45.07	9
20	793 435	2 762	.996 52	.003 48	.003 38	792 054	35 081 126	44.21	20
1	790 673	2 895	.996 34	.003 66	.003 59	789 225	34 289 072	43.37	1
2	787 778	2 980	.996 22	.003 78	.003 74	786 288	33 499 847	42.53	2
3	784 798	3 031	.996 14	.003 86	.003 83	783 283	32 713 559	41.68	3
4	781 767	3 068	.996 08	.003 92	.003 90	780 233	31 930 276	40.84	4
25	778 699	3 112	.996 00	.004 00	.003 96	777 143	31 150 043	40.00	25
6	775 587	3 184	.995 89	.004 11	.004 05	773 995	30 372 900	39.16	6
7	772 403	3 280	.995 75	.004 25	.004 18	770 763	29 598 905	38.32	7
8	769 123	3 388	.995 60	.004 40	.004 33	767 429	28 828 142	37.48	8
9	765 735	3 508	.995 42	.004 58	.004 50	763 981	28 060 713	36.65	9
30	762 227	3 647	.995 22	.004 78	.004 69	760 403	27 296 732	35.81	30
1	758 580	3 806	.994 98	.005 02	.004 91	756 677	26 536 329	34.98	1
2	754 774	3 987	.994 72	.005 28	.005 16	752 781	25 779 652	34.16	2
3	750 787	4 190	.994 42	.005 58	.005 44	748 692	25 026 871	33.33	3
4	746 597	4 406	.994 10	.005 90	.005 75	744 394	24 278 179	32.52	4
35	742 191	4 633	.993 76	.006 24	.006 09	739 874	23 533 785	31.71	35
6	737 558	4 864	.993 41	.006 59	.006 44	735 126	22 793 911	30.90	6
7	732 694	5 091	.993 05	.006 95	.006 79	730 149	22 058 785	30.11	7
8	727 603	5 319	.992 69	.007 31	.007 15	724 943	21 328 636	29.31	8
9	722 284	5 557	.992 31	.007 69	.007 53	719 506	20 603 693	28.53	9
40	716 727	5 813	.991 89	.008 11	.007 93	713 820	19 884 187	27.74	40
1	710 914	6 097	.991 42	.008 58	.008 37	707 866	19 170 367	26.97	1
2	704 817	6 408	.990 91	.009 09	.008 87	701 613	18 462 501	26.20	2
3	698 409	6 736	.990 36	.009 64	.009 41	695 041	17 760 888	25.43	3
4	691 673	7 083	.989 76	.010 24	.009 98	688 131	17 065 847	24.67	4
45	684 590	7 452	.989 11	.010 89	.010 61	680 864	16 377 716	23.92	45
6	677 138	7 842	.988 42	.011 58	.011 29	673 217	15 696 852	23.15	6
7	669 296	8 242	.987 69	.012 31	.012 01	665 175	15 023 635	22.45	7
8	661 054	8 647	.986 92	.013 08	.012 77	656 731	14 358 460	21.72	8
9	652 407	9 074	.986 09	.013 91	.013 57	647 870	13 701 729	21.00	9
50	643 333	9 537	.985 18	.014 82	.014 45	638 564	13 053 859	20.29	50
1	633 796	10 051	.984 14	.015 86	.015 44	628 771	12 415 295	19.59	1
2	623 745	10 610	.982 99	.017 01	.016 55	618 440	11 786 524	18.90	2
3	613 135	11 199	.981 73	.018 27	.017 78	607 535	11 168 084	18.22	3
4	601 936	11 816	.980 37	.019 63	.019 11	596 028	10 560 549	17.55	4

ENGLISH LIFE TABLE NO. 8—MALES

Age x	l_x	d_x	p_x	q_x	μ_x	L_x	T_x	e_x	Age x
55	590 120	12 458	·978 89	·021 11	·020 56	583 891	9 964 521	16·89	55
6	577 662	13 122	·977 28	·022 72	·022 14	571 101	9 380 630	16·24	6
7	564 540	13 798	·975 56	·024 44	·023 84	557 641	8 809 520	15·61	7
8	550 742	14 477	·973 71	·026 29	·025 67	543 594	8 251 888	14·98	8
9	536 265	15 162	·971 73	·028 27	·027 63	528 684	7 708 384	14·37	9
60	521 103	15 850	·969 58	·030 42	·029 76	513 173	7 179 700	13·78	60
1	505 253	16 540	·967 26	·032 74	·032 06	496 983	6 666 522	13·19	1
2	488 713	17 206	·964 79	·035 21	·034 54	480 110	6 169 539	12·62	2
3	471 507	17 834	·962 18	·037 82	·037 17	462 590	5 689 429	12·07	3
4	453 673	18 441	·959 35	·040 65	·039 98	444 452	5 226 839	11·52	4
65	435 232	19 043	·956 25	·043 75	·043 06	425 711	4 782 387	10·99	65
6	416 189	19 646	·952 80	·047 20	·046 48	406 366	4 356 676	10·47	6
7	396 543	20 232	·948 98	·051 02	·050 30	386 427	3 950 310	9·96	7
8	376 311	20 766	·944 82	·055 18	·054 50	365 928	3 563 883	9·47	8
9	355 545	21 237	·940 27	·059 73	·059 10	344 926	3 197 955	9·00	9
70	334 308	21 629	·935 30	·064 70	·064 15	323 494	2 853 029	8·53	70
1	312 679	21 927	·929 87	·070 13	·069 70	301 715	2 529 535	8·09	1
2	290 752	22 134	·923 87	·076 13	·075 83	279 685	2 227 820	7·66	2
3	268 618	22 223	·917 27	·082 73	·082 65	257 507	1 948 135	7·25	3
4	246 395	22 146	·910 12	·089 88	·090 16	235 322	1 690 628	6·86	4
75	224 249	21 866	·902 49	·097 51	·098 29	213 316	1 455 366	6·49	75
6	202 383	21 359	·894 46	·105 54	·106 97	191 703	1 241 990	6·14	6
7	181 024	20 647	·885 94	·114 06	·116 20	170 701	1 050 287	5·80	7
8	160 377	19 758	·876 80	·123 20	·126 16	150 498	879 586	5·49	8
9	140 619	18 684	·867 13	·132 87	·136 90	131 277	729 088	5·19	9
80	121 935	17 436	·857 01	·142 99	·148 34	113 217	597 811	4·90	80
1	104 499	16 035	·846 55	·153 45	·160 36	96 481	484 594	4·64	1
2	88 464	14 526	·835 81	·164 19	·172 88	81 201	388 113	4·39	2
3	73 938	12 963	·824 67	·175 33	·185 96	67 457	306 912	4·15	3
4	60 975	11 397	·813 06	·186 94	·199 70	55 276	239 455	3·93	4
85	49 578	9 873	·800 89	·199 11	·214 33	44 642	184 179	3·72	85
6	39 705	8 416	·788 04	·211 96	·229 92	35 497	139 537	3·51	6
7	31 289	7 079	·773 74	·226 26	·246 97	27 719	104 010	3·33	7
8	24 210	5 861	·757 92	·242 08	·266 50	21 280	76 291	3·15	8
9	18 349	4 741	·741 60	·258 40	·287 97	15 978	55 011	3·00	9
90	13 608	3 728	·726 05	·273 95	·309 77	11 744	39 033	2·87	90
1	9 880	2 838	·712 73	·287 27	·329 99	8 461	27 280	2·76	1
2	7 042	2 097	·702 29	·297 71	·346 81	5 994	18 828	2·67	2
3	4 945	1 510	·694 68	·305 32	·359 69	4 190	12 834	2·60	3
4	3 435	1 067	·689 16	·310 84	·368 61	2 901	8 644	2·52	4
95	2 368	748	·684 36	·315 64	·375 63	1 994	5 743	2·43	95
6	1 620	521	·678 26	·321 74	·383 28	1 360	3 749	2·32	6
7	1 099	365	·668 25	·331 75	·394 15	916	2 389	2·18	7
8	734	256	·651 26	·348 74	·413 94	606	1 473	2·01	8
9	478	180	·624 08	·375 92	·440 83	388	867	1·82	9
100	298	124	·583 95	·416 05	·500 56	236	479	1·61	100
1	174	82	·529 27	·470 73	·580 46	133	243	1·40	1
2	92	50	·460 51	·539 49	·701 09	67	110	1·20	2
3	42	26	·380 81	·619 19	·871 03	29	43	1·02	3
4	16	11	·296 01	·703 99	·1·067 71	11	14	·87	4
105	5	4	·213 69	·786 31	1·300 00	3	3	·75	105
6	1	1	·141 41	·858 59				·65	6

NOTE:—This table is printed as originally published, except that the values of p_x and q_x have been cut down from seven to five places of decimals. From age 82 onwards, owing to the reduction in the number of figures in the l_x and d_x columns (all decimals having been discarded in the construction of the table) the division of d_x by l_x does not exactly reproduce the tabulated value of q_x to five places of decimals.

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ENGLISH LIFE TABLE NO. 8—MALES
Commutation Table. 3 per cent.

Age <i>x</i>	<i>D_x</i>	<i>N_x</i>	<i>S_x</i>	<i>C_x</i>	<i>M_x</i>	<i>R_x</i>	Age <i>x</i>
0	1 000 000	23 293 788	526 785 873	116 933	321 541	7 950 534	0
1	853 941	22 293 788	503 492 085	28 386.3	204 608	7 628 993	1
2	800 682	21 439 847	481 198 297	10 389.6	176 222	7 424 385	2
3	766 972	20 639 165	459 758 450	6 091.47	165 832	7 248 163	3
4	738 541	19 872 193	439 119 285	4 277.68	159 741	7 082 331	4
5	712 753	19 133 652	419 247 092	3 381.76	155 463	6 922 590	5
6	688 611	18 420 899	400 113 440	2 652.30	152 081	6 767 127	6
7	665 902	17 732 288	381 692 541	2 076.15	149 429	6 615 046	7
8	644 431	17 066 386	363 960 253	1 640.90	147 353	6 465 617	8
9	624 020	16 421 955	346 893 867	1 332.67	145 712	6 318 264	9
10	604 512	15 797 935	330 471 912	1 134.20	144 379	6 172 552	10
11	585 771	15 193 423	314 673 977	1 029.63	143 245	6 028 173	11
12	567 680	14 607 652	299 480 554	1 000.32	142 215	5 884 928	12
13	550 145	14 039 972	284 872 902	1 028.70	141 215	5 742 713	13
14	533 093	13 489 827	270 832 930	1 094.37	140 186	5 601 498	14
15	516 472	12 956 734	257 343 103	1 176.54	139 092	5 461 312	15
16	500 252	12 440 262	244 386 369	1 256.62	137 915	5 322 220	16
17	484 425	11 940 010	231 946 107	1 313.41	136 658	5 184 305	17
18	469 002	11 455 585	220 006 097	1 376.67	135 345	5 047 647	18
19	453 965	10 986 583	208 550 512	1 437.34	133 968	4 912 302	19
20	439 306	10 532 618	197 563 929	1 484.71	132 531	4 778 334	20
21	425 026	10 093 312	187 031 311	1 510.88	131 046	4 645 803	21
22	411 135	9 668 286	176 937 999	1 509.94	129 535	4 514 757	22
23	397 651	9 257 151	167 269 713	1 491.05	128 025	4 385 222	23
24	384 578	8 859 500	158 012 562	1 465.29	126 534	4 257 197	24
25	371 911	8 474 922	149 153 062	1 443.02	125 069	4 130 663	25
26	359 636	8 103 011	140 678 140	1 433.40	123 626	4 005 594	26
27	347 727	7 743 375	132 575 129	1 433.61	122 193	3 881 968	27
28	336 166	7 395 648	124 831 754	1 437.69	120 759	3 759 775	28
29	324 937	7 059 482	117 436 106	1 445.25	119 321	3 639 016	29
30	314 027	6 734 545	110 376 624	1 458.75	117 876	3 519 695	30
31	303 422	6 420 518	103 642 079	1 478.01	116 417	3 401 819	31
32	293 107	6 117 096	97 221 561	1 503.20	114 939	3 285 402	32
33	283 066	5 823 989	91 104 465	1 533.73	113 436	3 170 463	33
34	273 288	5 540 923	85 280 476	1 565.82	111 902	3 057 027	34
35	263 762	5 267 635	79 739 553	1 598.54	110 336	2 945 125	35
36	254 481	5 003 873	74 471 918	1 629.36	108 737	2 834 789	36
37	245 440	4 749 392	69 468 045	1 655.73	107 108	2 726 052	37
38	236 636	4 503 952	64 718 653	1 679.49	105 452	2 618 944	38
39	228 064	4 267 316	60 214 701	1 703.54	103 773	2 513 492	39
40	219 718	4 039 252	55 947 385	1 730.11	102 069	2 409 719	40
41	211 588	3 819 534	51 908 133	1 761.78	100 339	2 307 650	41
42	203 663	3 607 946	48 088 599	1 797.72	98 577.4	2 207 311	42
43	195 934	3 404 283	44 480 653	1 834.70	96 779.7	2 108 734	43
44	188 392	3 208 349	41 076 370	1 873.02	94 945.0	2 011 954	44
45	181 032	3 019 957	37 868 021	1 913.20	93 072.0	1 917 009	45
46	173 846	2 838 925	34 848 064	1 954.69	91 158.8	1 823 937	46
47	166 828	2 665 079	32 009 139	1 994.55	89 204.1	1 732 778	47
48	159 974	2 498 251	29 344 060	2 031.62	87 209.5	1 643 574	48
49	153 283	2 338 277	26 845 809	2 069.84	85 177.9	1 556 364	49
50	146 749	2 184 994	24 507 532	2 112.09	83 108.1	1 471 186	50
51	140 362	2 038 245	22 322 538	2 161.09	80 996.0	1 388 078	51
52	134 113	1 897 883	20 284 293	2 214.84	78 834.9	1 307 082	52
53	127 992	1 763 770	18 386 410	2 269.70	76 620.1	1 228 247	53
54	121 994	1 635 778	16 622 640	2 325.00	74 350.4	1 151 627	54

ENGLISH LIFE TABLE NO. 8—MALES

Commutation Table. 3 per cent.

Age <i>x</i>	<i>D_x</i>	<i>N_x</i>	<i>S_x</i>	<i>C_x</i>	<i>M_x</i>	<i>R_x</i>	Age <i>x</i>
55	116 116	1 513 784	14 986 862	2 379 93	72 025 4	1 077 277	55
6	110 354	1 397 668	13 473 078	2 433 76	69 645 5	1 005 252	6
7	104 706	1 287 314	12 075 410	2 484 60	67 211 7	933 606	7
8	99 172 0	1 182 608	10 788 096	2 530 94	64 727 1	868 394	8
9	93 752 6	1 083 436	9 605 488	2 573 49	62 196 2	803 667	9
60	88 448 4	989 683	8 522 052	2 611 91	59 622 7	741 471	60
1	83 260 3	901 235	7 532 369	2 646 23	57 010 8	681 848	1
2	78 189 0	817 975	6 631 134	2 672 60	54 364 6	624 837	2
3	73 239 1	739 786	5 813 159	2 689 47	51 692 0	570 472	3
4	68 416 5	666 547	5 073 373	2 700 01	49 002 5	518 780	4
65	63 723 8	598 131	4 406 826	2 706 94	46 302 5	469 777	65
6	59 160 8	534 407	3 808 695	2 711 31	43 595 6	423 474	6
7	54 726 3	475 246	3 274 288	2 710 86	40 884 3	379 878	7
8	50 421 5	420 520	2 799 042	2 701 37	38 173 4	338 994	8
9	46 251 5	370 099	2 378 522	2 682 18	35 472 0	300 821	9
70	42 222 2	323 847	2 008 423	2 652 12	32 789 8	265 349	70
1	38 340 3	281 624	1 684 576	2 610 35	30 137 7	232 559	1
2	34 613 3	243 284	1 402 952	2 558 25	27 527 3	202 421	2
3	31 046 9	208 671	1 159 668	2 493 72	24 969 0	174 894	3
4	27 648 9	177 624	950 997	2 412 70	22 475 3	149 925	4
75	24 430 9	149 975	773 373	2 312 81	20 062 6	127 450	75
6	21 406 5	125 544	623 398	2 193 38	17 749 8	107 387	6
7	18 589 6	104 138	497 854	2 058 51	15 556 4	89 636 9	7
8	15 089 6	85 548 1	393 716	1 912 50	13 497 9	74 080 5	8
9	13 611 4	69 558 5	308 168	1 755 87	11 585 4	60 582 6	9
80	11 459 1	55 947 1	238 609	1 590 86	9 820 57	48 997 2	80
1	9 534 48	44 488 0	182 662	1 420 42	8 238 71	39 167 6	1
2	7 836 35	34 953 5	138 174	1 249 27	6 818 26	30 928 9	2
3	6 358 84	27 117 1	103 220	1 082 38	5 569 02	24 110 6	3
4	5 091 25	20 758 3	76 103 2	923 904	4 486 64	18 541 6	4
85	4 019 07	15 667 1	55 344 9	777 048	3 562 74	14 055 0	85
6	3 124 95	11 648 0	39 677 8	643 083	2 785 69	10 492 3	6
7	2 390 86	8 523 03	28 029 8	525 166	2 142 61	7 706 62	7
8	1 796 05	6 132 17	19 506 8	422 142	1 617 44	5 564 01	8
9	1 321 60	4 336 12	13 374 6	331 528	1 195 30	3 946 57	9
90	951 578	3 014 52	9 038 48	253 098	863 776	2 751 27	90
1	670 764	2 062 94	6 023 96	187 063	610 678	1 887 49	1
2	461 164	1 392 18	3 961 02	134 195	423 615	1 276 81	2
3	316 449	928 014	2 568 84	93 816 1	289 420	853 196	3
4	213 416	611 565	1 640 83	64 361 8	195 604	563 776	4
95	142 838	398 149	1 029 26	43 805 4	131 242	368 172	95
6	94 872 7	255 311	631 106	29 622 9	87 436 5	236 930	6
7	62 486 6	160 438	375 795	20 148 6	57 813 0	149 493	7
8	40 518 0	97 951 4	215 357	13 720 0	37 665 0	91 678 9	8
9	25 617 8	57 433 4	117 406	9 365 90	23 945 0	54 013 9	9
100	15 505 8	31 815 6	59 972 1	6 264 11	14 579 1	30 068 9	100
1	8 789 96	16 309 8	28 156 5	4 021 77	8 314 97	15 489 8	1
2	4 512 23	7 519 83	11 846 7	2 380 85	4 293 20	7 174 81	2
3	1 999 91	3 007 60	4 326 86	1 202 01	1 912 35	2 881 61	3
4	739 696	1 007 69	1 319 26	493 724	710 339	969 261	4
105	224 420	267 997	311 574	174 308	216 615	258 922	105
6	043 577	043 577	043 577	042 307	042 307	042 307	6

HM

Q(NM)

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ENGLISH LIFE TABLE NO. 8—MALES

3 per cent.

Age x	a_x	A_x	P_x	Age x	a_x	A_x	P_x
1	25.107	.239 60	.009 18	55	12.037	.620 29	.047 58
2	25.777	.220 09	.008 22	6	11.665	.631 11	.049 83
3	25.910	.216 22	.008 03	7	11.295	.641 91	.052 21
4	25.907	.216 29	.008 04	8	10.925	.652 68	.054 73
5	25.845	.218 12	.008 13	9	10.556	.663 41	.057 41
6	25.751	.220 85	.008 26	60	10.189	.674 10	.060 24
7	25.629	.224 40	.008 43	1	9.824	.684 73	.063 26
8	25.483	.228 66	.008 63	2	9.462	.695 30	.066 46
9	25.316	.233 51	.008 87	3	9.101	.705 80	.069 87
10	25.133	.238 84	.009 14	4	8.742	.716 24	.073 52
1	24.937	.244 54	.009 43	65	8.386	.726 61	.077 41
2	24.732	.250 52	.009 74	6	8.033	.736 90	.081 58
3	24.520	.256 69	.010 06	7	7.684	.747 07	.086 03
4	24.305	.262 97	.010 39	8	7.340	.757 09	.090 78
15	24.087	.269 31	.010 74	9	7.002	.766 94	.095 84
6	23.868	.275 69	.011 09	70	6.670	.776 60	.101 25
7	23.648	.282 10	.011 45	1	6.345	.786 06	.107 01
8	23.425	.288 58	.011 81	2	6.029	.795 28	.113 15
9	23.201	.295 11	.012 19	3	5.721	.804 23	.119 66
20	22.976	.301 68	.012 58	4	5.424	.812 88	.126 53
1	22.748	.308 32	.012 98	75	5.139	.821 20	.133 77
2	22.516	.315 07	.013 40	6	4.865	.829 18	.141 38
3	22.280	.321 95	.013 83	7	4.602	.836 83	.149 38
4	22.037	.329 02	.014 28	8	4.350	.844 17	.157 78
25	21.788	.336 29	.014 76	9	4.110	.851 15	.166 56
6	21.531	.343 75	.015 26	80	3.882	.857 80	.175 69
7	21.269	.351 40	.015 78	1	3.666	.864 10	.185 19
8	21.000	.359 22	.016 33	2	3.460	.870 08	.195 07
9	20.726	.367 21	.016 90	3	3.264	.875 79	.205 37
30	20.446	.375 37	.017 50	4	3.077	.881 25	.216 14
1	20.160	.383 68	.018 13	85	2.898	.886 46	.227 40
2	19.870	.392 14	.018 79	6	2.727	.891 44	.239 16
3	19.575	.400 74	.019 48	7	2.565	.896 17	.251 39
4	19.275	.409 47	.020 20	8	2.414	.900 55	.263 76
35	18.971	.418 32	.020 95	9	2.281	.904 43	.275 66
6	18.663	.427 29	.021 73	90	2.168	.907 73	.286 54
7	18.351	.436 39	.022 55	1	2.076	.910 42	.296 02
8	18.033	.445 63	.023 41	2	1.999	.912 64	.304 28
9	17.711	.455 02	.024 32	3	1.933	.914 59	.311 87
40	17.384	.464 55	.025 27	4	1.866	.916 54	.319 84
1	17.052	.474 22	.026 27	95	1.787	.918 82	.329 63
2	16.715	.484 02	.027 32	6	1.691	.921 62	.342 47
3	16.375	.493 94	.028 43	7	1.568	.925 22	.360 35
4	16.030	.503 98	.029 59	8	1.417	.929 59	.384 53
45	15.682	.514 12	.030 82	9	1.242	.934 70	.416 92
6	15.330	.524 37	.032 11	100	1.052	.940 24	.458 24
7	14.975	.534 71	.033 47	1	.856	.945 96	.509 81
8	14.617	.545 15	.034 91	2	.667	.951 46	.570 92
9	14.255	.555 69	.036 43	3	.504	.956 22	.635 84
50	13.889	.566 33	.038 04	4	.362	.960 31	.704 92
1	13.521	.577 05	.039 74	105	.194	.965 22	.808 27
2	13.151	.587 82	.041 51	6		.970 86	.970 86
3	12.780	.598 63	.043 44				
4	12.409	.609 46	.045 45				

ENGLISH LIFE TABLE NO. 8—MALES
3 per cent.

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Age x	d_x	A_x	$(\infty) P_x$	Age x	d_x	A_x	$(\infty) P_x$
1	25.599	.243 32	.009 50	55	12.533	.629 54	.050 23
2	26.273	.223 40	.008 51	6	12.161	.640 53	.052 67
3	26.407	.219 44	.008 31	7	11.791	.651 47	.055 25
4	26.404	.219 53	.008 32	8	11.420	.662 44	.058 01
5	26.342	.221 36	.008 41	9	11.051	.673 35	.060 93
6	26.248	.224 14	.008 54	60	10.684	.684 19	.064 04
7	26.126	.227 74	.008 72	1	10.319	.694 98	.067 35
8	25.980	.232 06	.008 93	2	9.957	.705 68	.070 87
9	25.813	.237 00	.009 18	3	9.595	.716 38	.074 67
10	25.630	.242 41	.009 46	4	9.236	.726 99	.078 71
1	25.434	.248 20	.009 76	65	8.880	.737 52	.083 05
2	25.229	.254 26	.010 08	6	8.527	.747 95	.087 71
3	25.017	.260 52	.010 42	7	8.177	.758 29	.092 74
4	24.802	.266 88	.010 76	8	7.833	.768 46	.098 11
15	24.584	.273 32	.011 12	9	7.495	.778 45	.103 86
6	24.365	.279 80	.011 49	70	7.162	.788 30	.110 07
7	24.145	.286 30	.011 86	1	6.837	.797 90	.116 70
8	23.922	.292 89	.012 25	2	6.520	.807 28	.123 82
9	23.698	.299 51	.012 63	3	6.212	.816 38	.131 42
20	23.473	.306 16	.013 04	4	5.914	.825 19	.139 54
1	23.245	.312 90	.013 46	75	5.628	.833 64	.148 13
2	23.013	.319 76	.013 89	6	5.354	.841 74	.157 22
3	22.777	.326 74	.014 35	7	5.090	.849 55	.166 90
4	22.534	.333 92	.014 82	8	4.837	.857 02	.177 18
25	22.285	.341 28	.015 31	9	4.596	.864 15	.188 02
6	22.028	.348 88	.015 83	80	4.367	.870 91	.199 43
7	21.766	.356 62	.016 39	1	4.150	.877 33	.211 41
8	21.497	.364 57	.016 96	2	3.943	.883 45	.224 06
9	21.223	.372 67	.017 56	3	3.746	.889 27	.237 39
30	20.943	.380 95	.018 19	4	3.558	.894 83	.251 50
1	20.657	.389 40	.018 85	85	3.378	.900 15	.266 48
2	20.367	.397 97	.019 54	6	3.205	.905 26	.282 46
3	20.072	.406 69	.020 26	7	3.042	.910 08	.299 17
4	19.772	.415 56	.021 02	8	2.889	.914 60	.316 58
35	19.468	.424 55	.021 81	9	2.755	.918 56	.333 42
6	19.160	.433 65	.022 63	90	2.640	.921 96	.349 23
7	18.848	.442 87	.023 50	1	2.546	.924 74	.363 22
8	18.530	.452 28	.024 41	2	2.468	.927 05	.375 63
9	18.208	.461 79	.025 37	3	2.401	.929 03	.386 94
40	17.881	.471 46	.026 37	4	2.333	.931 04	.399 08
1	17.549	.481 27	.027 42	95	2.253	.933 40	.414 30
2	17.212	.491 23	.028 54	6	2.157	.936 24	.434 05
3	16.872	.501 28	.029 71	7	2.033	.939 91	.462 33
4	16.527	.511 48	.030 95	8	1.880	.944 43	.502 36
45	16.179	.521 76	.032 25	9	1.702	.949 69	.557 99
6	15.827	.532 17	.033 62	100	1.508	.955 42	.633 57
7	15.472	.542 67	.035 07	1	1.305	.961 42	.736 74
8	15.113	.553 28	.036 61	2	1.106	.967 31	.874 62
9	14.751	.563 98	.038 24	3	.929	.972 54	
50	14.385	.574 79	.039 96	4	.771	.977 21	
1	14.017	.585 67	.041 79	105	.583	.982 77	
2	13.647	.596 61	.043 72				
3	13.276	.607 57	.045 76				
4	12.905	.618 54	.047 93				

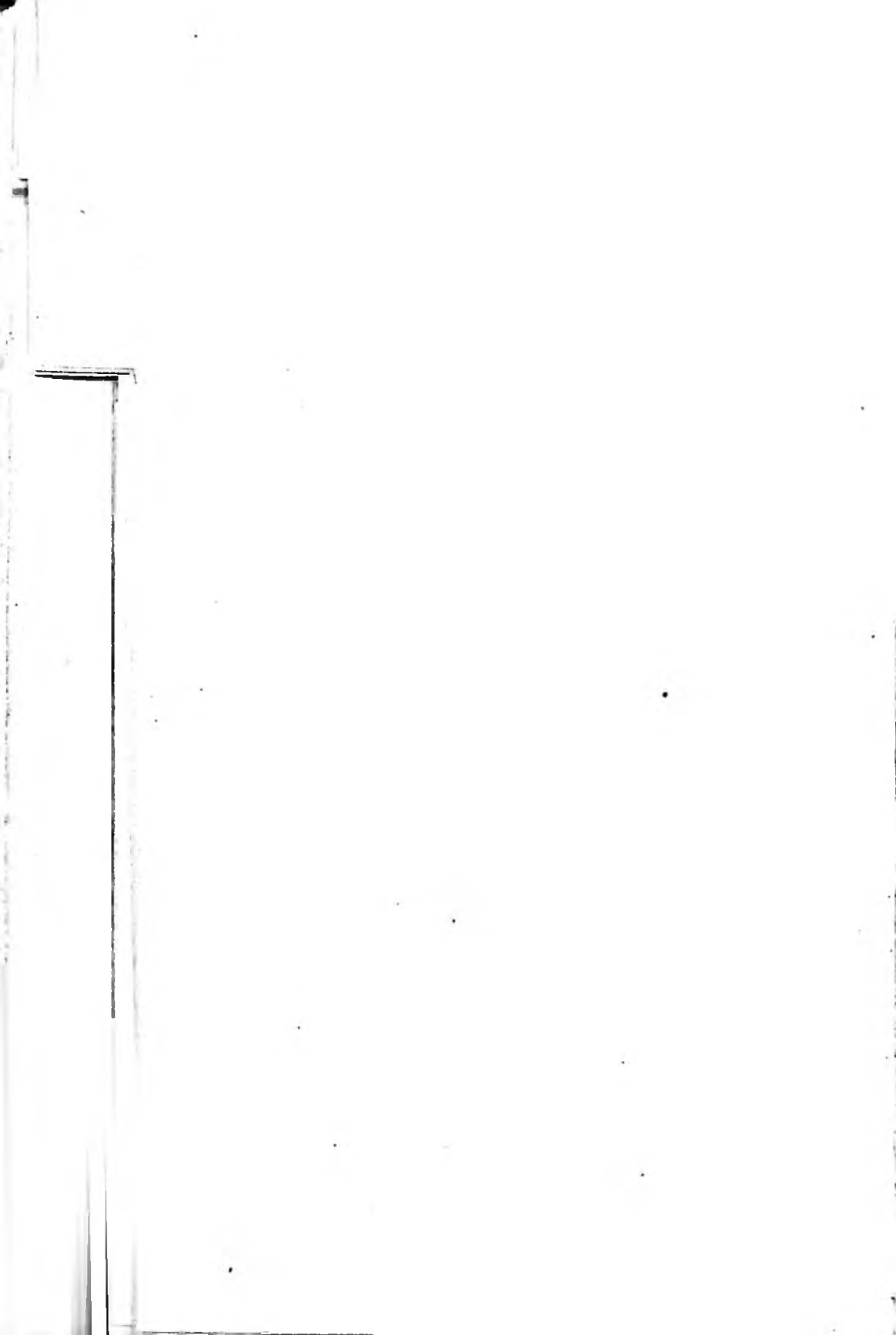
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SECTION III

INSTITUTE OF ACTUARIES' EXPERIENCE

HEALTHY MALES

H^M TABLE (MAKEHAM GRADUATION)

GRADUATION FUNCTIONS
(Applicable from age 28 upwards)

Constant	Common Logarithm	Napierian Logarithm
c	0.039 656 86	0.091 313 3
g	1.999 543 2	1.998 948 2
s	1.997 310 673	1.993 807 7
k	5.040 472 3	9.503 531 0

Modulus of Common Logarithms, $\cdot 434\ 294\ 482 = \frac{1}{2.302\ 585\ 09}$

Base of Napierian Logarithms, $2.718\ 281\ 828$.

$$A = .0065$$

$$B = .000096$$

$$C = 1.0956$$

H^M

$Q(NM)$

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H^M TABLE (MAKEHAM GRADUATION) *The Life Table*

Age x	l_x	d_x	q_x	p_x	μ_x	L_x $=\frac{1}{2}(l_x + l_{x+1})$	T_x $=\sum L_x$	e_x $=\frac{T_x}{l_x}$	Age x
0	127 283	14 358	·112 80	·887 20	...	120 104	6 082 031	47·784	0
1	112 925	3 962	·035 08	·964 92	·079 01	110 944	5 961 927	52·796	1
2	108 963	2 375	·021 39	·978 21	·023 66	107 776	5 850 983	53·697	2
3	106 588	1 646	·015 44	·984 56	·017 87	105 765	5 743 207	53·881	3
4	104 942	1 325	·012 63	·987 37	·013 79	104 279	5 637 442	53·719	4
5	103 617	1 061	·010 24	·989 76	·011 42	103 087	5 533 163	53·401	5
6	102 556	852	·008 30	·991 70	·009 25	102 130	5 430 076	52·948	6
7	101 704	683	·006 72	·993 28	·007 48	101 362	5 327 946	52·387	7
8	101 021	557	·005 51	·994 49	·006 07	100 743	5 226 584	51·738	8
9	100 464	464	·004 62	·995 38	·005 02	100 232	5 125 841	51·022	9
10	100 000	408	·004 09	·995 91	·004 28	99 796	5 025 609	50·257	10
1	99 592	369	·003 70	·996 30	·003 88	99 408	4 925 813	49·460	1
2	99 223	346	·003 47	·996 53	·003 59	99 050	4 826 405	48·643	2
3	98 877	337	·003 42	·996 58	·003 42	98 708	4 727 355	47·810	3
4	98 540	337	·003 42	·996 58	·003 40	98 372	4 628 647	46·973	4
15	98 203	360	·003 65	·996 35	·003 53	98 023	4 530 275	46·132	15
6	97 843	384	·003 93	·996 07	·003 78	97 651	4 432 252	45·299	6
7	97 459	425	·004 37	·995 63	·004 14	97 246	4 334 601	44·476	7
8	97 034	465	·004 78	·995 22	·004 58	96 802	4 237 355	43·669	8
9	96 569	508	·005 26	·994 74	·005 04	96 315	4 140 553	42·877	9
20	96 061	548	·005 72	·994 28	·005 50	95 787	4 044 238	42·101	20
1	95 513	582	·006 08	·993 92	·005 92	95 222	3 948 451	41·339	1
2	94 931	609	·006 43	·993 57	·006 29	94 626	3 853 229	40·590	2
3	94 322	631	·006 68	·993 32	·006 59	94 007	3 758 603	39·849	3
4	93 691	647	·006 91	·993 09	·006 82	93 367	3 664 596	39·114	4
25	93 044	658	·007 07	·992 93	·007 01	92 715	3 571 229	38·382	25
6	92 386	664	·007 20	·992 80	·007 16	92 054	3 478 514	37·652	6
7	91 722	673	·007 32	·992 68	·007 29	91 386	3 386 460	36·921	7
8	91 049	678	·007 46	·992 54	·007 42	90 710	3 295 074	36·189	8
9	90 371	686	·007 59	·992 41	·007 55	90 028	3 204 364	35·458	9
30	89 685	691	·007 71	·992 29	·007 68	89 339	3 114 336	34·726	30
1	88 994	700	·007 87	·992 13	·007 82	88 644	3 024 997	33·991	1
2	88 294	709	·008 03	·991 97	·007 98	87 940	2 936 353	33·257	2
3	87 585	719	·008 21	·991 79	·008 15	87 225	2 848 413	32·521	3
4	86 866	729	·008 39	·991 61	·008 33	86 502	2 761 188	31·787	4
35	86 137	742	·008 62	·991 38	·008 54	85 766	2 674 686	31·051	35
6	85 395	756	·008 85	·991 15	·008 76	85 017	2 588 920	30·317	6
7	84 639	770	·009 10	·990 90	·009 01	84 254	2 503 903	29·584	7
8	83 866	786	·009 37	·990 63	·009 28	83 476	2 419 649	28·850	8
9	83 083	806	·009 69	·990 31	·009 57	82 680	2 336 173	28·118	9
40	82 277	823	·010 01	·989 99	·009 90	81 865	2 253 493	27·389	40
1	81 454	846	·010 38	·989 62	·010 25	81 031	2 171 628	26·661	1
2	80 608	871	·010 81	·989 19	·010 64	80 173	2 090 597	25·935	2
3	79 737	895	·011 22	·988 78	·011 06	79 289	2 010 424	25·214	3
4	78 842	924	·011 72	·988 28	·011 53	78 380	1 931 135	24·493	4
45	77 918	954	·012 24	·987 76	·012 04	77 441	1 852 755	23·778	45
6	76 964	986	·012 81	·987 19	·012 60	76 471	1 775 314	23·066	6
7	75 978	1 021	·013 45	·986 55	·013 21	75 468	1 698 843	22·360	7
8	74 957	1 061	·014 15	·985 85	·013 88	74 426	1 623 375	21·658	8
9	73 896	1 101	·014 90	·985 10	·014 62	73 346	1 548 949	20·961	9

NOTE :—(i) This Table does not follow Makeham's Law of Mortality below age 18.

(ii) The method employed in the construction of the Table at the younger ages does not give a suitable value for μ_0 , and this value is therefore omitted.

H^M TABLE (MAKEHAM GRADUATION)

The Life Table

Age x	l_x	d_x	q_x	p_x	μ_x	L_x $=\frac{1}{2}(l_x + l_{x+1})$	T_x $=\sum L_x$	e_x $=\frac{T_x}{l_x}$	Age x
50	72 795	1 144	015 72	984 28	015 42	72 223	1 475 603	20.271	50
1	71 651	1 193	016 65	983 35	016 31	71 054	1 403 380	19.587	1
2	70 458	1 243	017 64	982 36	017 27	69 837	1 332 326	18.909	2
3	69 215	1 296	018 73	981 27	018 33	68 507	1 262 489	18.240	3
4	67 919	1 353	019 92	980 08	019 50	67 242	1 193 922	17.579	4
55	66 566	1 414	021 23	978 77	020 77	65 859	1 126 680	16.926	55
6	65 152	1 475	022 65	977 35	022 16	64 415	1 060 821	16.282	6
7	63 677	1 541	024 20	975 80	023 69	62 906	996 406	15.648	7
8	62 136	1 612	025 93	974 07	025 36	61 330	933 500	15.023	8
9	60 524	1 682	027 79	972 21	027 19	59 683	872 170	14.410	9
60	58 842	1 755	029 83	970 17	029 20	57 965	812 487	13.808	60
1	57 087	1 830	032 06	967 94	031 40	56 172	754 522	13.217	1
2	55 257	1 906	034 51	965 49	033 81	54 304	698 350	12.638	2
3	53 351	1 983	037 17	962 83	036 45	52 359	644 046	12.072	3
4	51 368	2 059	040 07	959 93	039 34	50 339	591 687	11.519	4
65	49 309	2 133	043 27	956 73	042 51	48 242	541 348	10.979	65
6	47 176	2 204	046 72	953 28	045 99	46 074	493 106	10.452	6
7	44 972	2 273	050 53	949 47	049 79	43 836	447 032	9.940	7
8	42 699	2 334	054 66	945 34	053 96	41 532	403 196	9.443	8
9	40 365	2 388	059 17	940 83	058 53	39 171	361 664	8.960	9
70	37 977	2 434	064 10	935 90	063 53	36 760	322 493	8.492	70
1	35 543	2 468	069 43	930 57	069 01	34 309	285 733	8.039	1
2	33 075	2 490	075 28	924 72	075 02	31 830	251 424	7.602	2
3	30 585	2 496	081 60	918 40	081 60	29 337	219 594	7.180	3
4	28 089	2 487	088 56	911 44	088 81	26 845	190 257	6.773	4
75	25 602	2 459	096 04	903 96	096 71	24 373	163 412	6.383	75
6	23 143	2 412	104 22	895 78	105 36	21 937	139 039	6.008	6
7	20 731	2 343	113 03	886 97	114 85	19 559	117 102	5.649	7
8	18 388	2 255	122 62	877 38	125 23	17 261	97 543	5.305	8
9	16 133	2 146	133 04	866 96	136 62	15 060	80 282	4.976	9
80	13 987	2 018	144 26	855 74	149 09	12 978	65 222	4.663	80
1	11 960	1 873	156 49	843 51	162 75	11 033	52 244	4.365	1
2	10 096	1 712	169 58	830 42	177 72	9 240	41 211	4.082	2
3	8 384	1 540	183 68	816 32	194 12	7 614	31 971	3.813	3
4	6 844	1 361	198 86	801 14	212 09	6 164	24 357	3.559	4
85	5 483	1 180	215 22	784 78	231 77	4 893	18 193	3.318	85
6	4 303	1 002	232 85	767 15	253 43	3 802	13 300	3.091	6
7	3 301	830	251 45	748 55	276 97	2 886	9 498	2.877	7
8	2 471	671	271 55	728 45	302 86	2 135	6 612	2.676	8
9	1 800	527	292 77	707 23	331 23	1 537	4 477	2.487	9
90	1 273	402	315 79	684 21	362 30	1 072	2 940	2.310	90
1	871	296	339 84	660 16	396 35	723	1 868	2.145	1
2	575	209	363 48	636 52	433 66	470	1 145	1.992	2
3	366	144	393 45	606 55	474 53	294	675	1.844	3
4	222	93	418 91	581 09	519 30	176	381	1.716	4
95	129	58	449 61	550 39	568 36	100	205	1.593	95
6	71	34	478 88	521 12	622 11	54	105	1.486	6
7	37	18	486 49	513 51	681 00	28	51	1.392	7
8	19	10	526 31	473 69	745 52	14	23	1.237	8
9	9	5	555 55	444 45	816 21	6	9	1.056	9
100	4	3	750 00	250 00	893 66	3	3	0.750	100
1	1	1	1 000 00	000 00	978 51	0	...	0.500	1
2	0	...	...	...	...	...	...	0.000	2

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H^M TABLE (MAKEHAM GRADUATION)
Elementary Values derived from the Life Table

Age x	$\log l_x$	$\Delta \log l_x$ $= \log p_x$	$\log \mu_x$	Age x	$\log l_x$	$\Delta \log l_x$ $= \log p_x$	$\log \mu_x$
0	5.104 77	1.948 02	...	50	4.862 10	1.993 12	2.188 08
1	.052 79	.984 49	2.897 68	1	.855 22	.992 71	.212 45
2	.037 28	.990 43	.374 01	2	.847 93	.992 27	.237 29
3	.027 71	.993 24	.252 12	3	.840 20	.991 79	.263 16
4	.020 95	.994 48	.139 56	4	.831 99	.991 26	.290 03
5	.015 43	.995 53	.057 67	55	.823 25	.990 68	.317 44
6	.010 96	.996 38	3.966 14	6	.813 93	.990 05	.345 57
7	.007 34	.997 07	.873 90	7	.803 98	.989 36	.374 57
8	.004 41	.997 60	.783 19	8	.793 34	.988 59	.404 15
9	.002 01	.997 99	.700 70	9	.781 93	.987 76	.434 41
10	.000 00	.998 22	.631 44	60	.769 69	.986 85	.465 38
1	4.998 22	.998 39	.588 83	1	.756 54	.985 85	.496 93
2	.996 61	.998 49	.555 09	2	.742 39	.984 75	.529 05
3	.995 10	.998 51	.534 03	3	.727 14	.983 55	.561 70
4	.993 61	.998 51	.531 48	4	.710 69	.982 24	.594 83
15	.992 12	.998 41	.547 77	65	.692 93	.980 79	.628 49
6	.990 53	.998 29	.577 49	6	.673 72	.979 22	.662 66
7	.988 82	.998 10	.617 00	7	.652 94	.977 48	.697 14
8	.986 92	.997 92	.660 87	8	.630 42	.975 59	.732 07
9	.984 84	.997 71	.702 43	9	.606 01	.973 51	.767 38
20	.982 55	.997 51	.740 36	70	.579 52	.971 23	.802 98
1	.980 06	.997 35	.772 32	1	.550 75	.968 75	.838 91
2	.977 41	.997 20	.798 65	2	.519 50	.966 01	.875 18
3	.974 61	.997 09	.818 89	3	.485 51	.963 03	.911 69
4	.971 70	.996 99	.833 78	4	.448 54	.959 73	.948 46
25	.968 69	.996 92	.845 72	75	.408 27	.956 15	.985 47
6	.965 61	.996 86	.854 91	6	.364 42	.952 20	1.022 68
7	.962 47	.996 81	.862 73	7	.316 62	.947 91	.060 13
8	.959 28	.996 75	.870 40	8	.264 53	.943 19	.097 71
9	.956 03	.996 69	.877 95	9	.207 72	.938 00	.135 51
30	.952 72	.996 64	.885 36	80	.145 72	.932 34	.173 45
1	.949 36	.996 57	.893 21	1	.078 06	.926 09	.211 52
2	.945 93	.996 50	.902 00	2	.004 15	.919 30	.249 74
3	.942 43	.996 42	.911 16	3	3.923 45	.911 86	.288 07
4	.938 85	.996 34	.920 65	4	.835 31	.903 71	.326 52
35	.935 19	.996 24	.931 46	85	.739 02	.894 75	.365 06
6	.931 43	.996 14	.942 50	6	.633 77	.884 88	.403 70
7	.927 57	.996 03	.954 72	7	.518 65	.874 22	.442 43
8	.923 60	.995 91	.967 55	8	.392 87	.862 40	.481 24
9	.919 51	.995 77	.980 91	9	.255 27	.849 56	.520 13
40	.915 28	.995 63	.995 64	90	.104 83	.835 19	.559 07
1	.910 91	.995 47	2.010 72	1	2.940 02	.819 65	.598 08
2	.906 38	.995 28	.026 94	2	.759 67	.803 81	.637 15
3	.901 66	.995 10	.043 76	3	.563 48	.782 87	.676 26
4	.896 76	.994 88	.061 83	4	.346 35	.764 24	.715 42
45	.891 64	.994 65	.080 63	95	.110 59	.740 67	.754 62
6	.886 29	.994 40	.100 37	6	1.851 26	.716 94	.793 87
7	.880 69	.994 12	.120 90	7	.568 20	.710 55	.833 15
8	.874 81	.993 81	.142 39	8	.278 75	.675 49	.872 46
9	.868 62	.993 48	.164 95	9	0.954 24	.647 82	.911 80
				100	.602 06	.397 94	.951 17
				1	.000 00	...	.990 57

H^M TABLE (MAKEHAM GRADUATION)
Curtate Expectations of Life. Joint Lives. Equal Ages

Age x	Two Lives e_{xx}	Three Lives e_{xxx}	Four Lives e_{xxxx}	Age x	Two Lives e_{xx}	Three Lives e_{xxx}	Four Lives e_{xxxx}
0	30.716	21.291	15.270	50	13.874	10.891	9.014
1	38.023	29.488	23.646	1	13.321	10.421	8.604
2	39.839	31.823	26.278	2	12.776	9.959	8.201
3	40.634	32.997	27.699	3	12.239	9.505	7.806
4	40.919	33.576	28.479	4	11.710	9.060	7.419
5	40.972	33.881	28.964	55	11.191	8.623	7.042
6	40.824	33.944	29.182	6	10.682	8.197	6.673
7	40.512	33.803	29.171	7	10.183	7.780	6.313
8	40.061	33.494	28.968	8	9.694	7.374	5.963
9	39.507	33.054	28.616	9	9.217	6.978	5.623
10	38.874	32.516	28.151	60	8.752	6.594	5.295
1	38.194	31.918	27.616	1	8.298	6.221	4.976
2	37.477	31.275	27.029	2	7.857	5.860	4.669
3	36.740	30.603	26.407	3	7.429	5.511	4.373
4	35.992	29.920	25.772	4	7.013	5.174	4.089
15	35.240	29.229	25.128	65	6.611	4.849	3.815
6	34.499	28.552	24.499	6	6.222	4.537	3.554
7	33.771	27.891	23.887	7	5.847	4.238	3.303
8	33.069	27.260	23.309	8	5.486	3.951	3.064
9	32.387	26.654	22.760	9	5.139	3.677	2.837
20	31.730	26.080	22.246	70	4.806	3.415	2.621
1	31.096	25.531	21.761	1	4.486	3.166	2.416
2	30.478	25.003	21.299	2	4.181	2.929	2.222
3	29.874	24.492	20.856	3	3.889	2.704	2.038
4	29.277	23.989	20.422	4	3.611	2.491	1.865
25	28.686	23.493	19.996	75	3.347	2.289	1.702
6	28.095	22.998	19.571	6	3.095	2.099	1.550
7	27.504	22.503	19.147	7	2.858	1.921	1.407
8	26.912	22.004	18.716	8	2.632	1.752	1.273
9	26.317	21.504	18.285	9	2.419	1.594	1.147
30	25.722	21.000	17.851	80	2.219	1.447	1.031
1	25.123	20.493	17.412	1	2.030	1.308	0.923
2	24.522	19.985	16.971	2	1.853	1.180	.823
3	23.921	19.474	16.528	3	1.687	1.060	.731
4	23.319	18.962	16.082	4	1.532	0.949	.646
35	22.715	18.448	15.633	85	1.386	.847	.567
6	22.111	17.933	15.184	6	1.251	.751	.495
7	21.508	17.418	14.733	7	1.125	.664	.430
8	20.906	16.902	14.282	8	1.008	.584	.371
9	20.302	16.386	13.830	9	0.900	.510	.317
40	19.702	15.872	13.380	90	.800	.443	.269
1	19.102	15.358	12.929	1	.708	.382	.226
2	18.505	14.846	12.480	2	.625	.329	.189
3	17.911	14.338	12.035	3	.543	.275	.152
4	17.321	13.832	11.590	4	.477	.234	.125
45	16.734	13.330	11.150	95	.413	.194	.099
6	16.151	12.832	10.713	6	.363	.163	.079
7	15.573	12.338	10.280	7	.335	.151	.073
8	15.001	11.850	9.852	8	.271	.116	.052
9	14.434	11.367	9.430	9	.210	.089	.039
				100	.063	.016	.004
				1	.000	.000	.000

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H^M TABLE (MAKEHAM GRADUATION)

Commutation Table. 3 per cent.

Age x	D _x	N _x	S _x	C _x	M _x	R _x	Age x
0	127 283	2 815 304	61 758 474	13 940	45 284	1 016 517	0
1	109 636	2 688 021	58 943 170	3 734·6	31 344·2	971 233·2	1
2	102 708	2 578 385	56 255 149	2 173·5	27 609·6	939 889·0	2
3	97 544	2 475 677	53 676 764	1 462·4	25 436·1	912 279·4	3
4	93 240	2 378 133	51 201 087	1 143·0	23 973·7	886 843·3	4
5	89 380	2 284 893	48 822 054	888·59	22 830·68	862 869·57	5
6	85 889	2 195 513	46 538 061	692·76	21 942·09	840 038·89	6
7	82 695	2 109 624	44 342 548	539·16	21 249·33	818 096·80	7
8	79 746	2 026 929	42 232 924	426·89	20 710·17	796 847·47	8
9	76 996	1 947 183	40 205 995	345·26	20 283·28	776 137·30	9
10	74 410	1 870 187	38 258 812	294·75	19 938·02	755 854·02	10
1	71 947	1 795 777	36 388 625	258·81	19 643·27	735 916·00	1
2	69 592	1 723 830	34 592 848	235·61	19 384·46	716 272·73	2
3	67 332	1 654 238	32 869 018	222·80	19 148·85	696 888·27	3
4	65 146	1 586 906	31 214 780	216·31	18 926·05	677 739·42	4
15	63 032	1 521 760	29 627 874	224·34	18 709·74	658 813·37	15
6	60 972	1 458 728	28 106 114	232·33	18 485·40	640 103·63	6
7	58 964	1 397 756	26 647 386	249·64	18 253·07	621 618·23	7
8	56 997	1 338 792	25 249 630	265·18	18 003·43	603 365·16	8
9	55 072	1 281 795	23 910 838	281·27	17 738·25	585 361·73	9
20	53 188	1 226 723	22 629 043	294·58	17 456·98	567 623·48	20
1	51 343	1 173 535	21 402 320	303·74	17 162·40	550 166·50	1
2	49 544	1 122 192	20 228 785	308·57	16 858·66	533 004·10	2
3	47 791	1 072 648	19 106 593	310·41	16 550·09	516 145·44	3
4	46 090	1 024 857	18 033 945	309·01	16 239·68	499 595·35	4
25	44 439	978 767	17 009 088	305·11	15 930·67	483 355·67	25
6	42 839	934 328	16 030 321	298·92	15 625·56	467 425·00	6
7	41 291	891 489	15 095 993	294·16	15 326·64	451 799·44	7
8	39 796	850 198	14 204 504	287·71	15 032·48	436 472·80	8
9	38 349	810 402	13 354 306	282·62	14 744·77	421 440·32	9
30	36 949	772 053	12 543 904	276·39	14 462·15	406 695·55	30
1	35 597	735 104	11 771 851	271·84	14 185·76	392 233·40	1
2	34 288	699 507	11 036 747	267·31	13 913·92	378 047·61	2
3	33 022	665 219	10 337 240	263·18	13 646·61	364 133·72	3
4	31 797	632 197	9 672 021	259·08	13 383·43	350 487·11	4
35	30 612	600 400	9 039 824	256·01	13 124·35	337 103·68	35
6	29 464	569 788	8 439 424	253·24	12 868·34	323 979·33	6
7	28 352	540 324	7 869 636	250·43	12 615·10	311 110·90	7
8	27 277	511 972	7 329 312	248·18	12 364·67	298 495·80	8
9	26 234	484 695	6 817 340	247·09	12 116·49	286 131·22	9
40	25 223	458 461	6 332 645	244·95	11 869·40	274 014·73	40
1	24 243	433 238	5 874 184	244·46	11 624·45	262 145·33	1
2	23 293	408 995	5 440 946	244·35	11 379·99	250 520·88	2
3	22 370	385 702	5 031 951	243·77	11 135·64	239 140·89	3
4	21 474	363 332	4 646 249	244·34	10 891·87	228 005·25	4
45	20 604	341 858	4 282 917	244·93	10 647·53	217 113·38	45
6	19 760	321 254	3 941 059	245·77	10 402·60	206 465·85	6
7	18 938	301 494	3 619 805	247·08	10 156·83	196 063·25	7
8	18 139	282 556	3 318 311	249·29	9 909·75	185 906·42	8
9	17 362	264 417	3 035 755	251·15	9 660·46	175 996·67	9

Π^M TABLE (MAKEHAM GRADUATION)

Commutation Table. 3 per cent.

Age x	D_x	N_x	E_x	C_x	M_x	R_x	Age x
50	16 605	247 055	2 771 338	253 36	9 409 31	166 336 21	50
1	15 868	230 450	2 524 283	256 51	9 155 95	156 926 90	1
2	15 149	214 582	2 293 833	259 48	8 899 44	147 770 95	2
3	14 449	199 433	2 079 251	262 66	8 639 96	138 871 51	3
4	13 765	184 984	1 879 818	266 23	8 377 30	130 231 55	4
55	13 098	171 219	1 694 834	270 13	8 111 07	121 854 25	55
6	12 447	158 121	1 523 615	273 57	7 840 94	113 743 18	6
7	11 810	145 674	1 365 494	277 49	7 567 37	105 902 24	7
8	11 189	133 864	1 219 820	281 82	7 280 88	98 334 87	8
9	10 581	122 675	1 085 956	285 50	7 008 06	91 044 99	9
60	9 987 6	112 093 8	963 280 6	289 21	6 722 56	84 036 93	60
1	9 407 4	102 106 2	851 186 8	292 78	6 433 35	77 314 37	1
2	8 840 6	92 698 8	749 080 6	296 05	6 140 57	70 881 02	2
3	8 286 9	83 858 2	656 381 8	299 05	5 844 52	64 740 45	3
4	7 746 6	75 571 3	572 523 6	301 47	5 545 47	58 895 93	4
65	7 219 5	67 824 7	496 952 3	303 20	5 244 00	53 350 46	65
6	6 705 9	60 605 2	429 127 6	304 17	4 940 80	48 106 46	6
7	6 206 5	53 899 3	368 522 4	304 56	4 636 63	43 165 66	7
8	5 721 2	47 692 8	314 623 1	303 62	4 332 07	38 529 03	8
9	5 251 0	41 971 6	266 930 3	301 59	4 028 45	34 196 96	9
70	4 796 3	36 720 6	224 958 7	298 46	3 726 86	30 168 51	70
1	4 358 2	31 924 3	188 238 1	293 81	3 428 40	26 441 65	1
2	3 937 5	27 566 1	156 313 8	287 79	3 134 59	23 013 25	2
3	3 535 0	23 628 6	128 747 7	280 09	2 846 80	19 878 66	3
4	3 152 0	20 093 6	105 119 1	270 95	2 566 71	17 031 86	4
75	2 789 2	16 941 6	85 025 5	260 09	2 295 76	14 465 15	75
6	2 447 9	14 152 4	68 083 9	247 69	2 035 67	12 169 39	6
7	2 128 9	11 704 5	53 931 5	233 60	1 787 98	10 133 72	7
8	1 833 3	9 575 6	42 227 0	218 28	1 554 38	8 345 74	8
9	1 561 6	7 742 3	32 651 4	201 67	1 336 10	6 791 36	9
80	1 314 4	6 180 7	24 909 1	184 12	1 134 43	5 455 26	80
1	1 092 0	4 866 3	18 728 4	165 92	950 31	4 320 83	1
2	894 33	3 774 27	13 862 06	147 23	784 39	3 370 52	2
3	721 04	2 879 94	10 087 79	128 58	637 16	2 586 13	3
4	571 45	2 158 90	7 207 85	110 33	508 58	1 948 97	4
85	444 49	1 587 45	5 048 95	92 871	398 246	1 440 392	85
6	338 66	1 142 96	3 461 50	76 565	305 375	1 042 146	6
7	252 24	804 30	2 318 54	61 574	228 810	736 771	7
8	183 31	552 06	1 514 24	48 329	167 236	507 961	8
9	129 65	368 75	962 18	36 852	118 907	340 725	9
90	89 018	239 100	593 425	27 292	82 055	221 818	90
1	59 133	150 082	354 325	19 511	54 763	139 763	1
2	37 901	90 949	204 243	13 375	35 252	85 000	2
3	23 422	53 048	113 294	8 946 6	21 876 5	49 747 6	3
4	13 793	29 626	60 246	5 609 7	12 929 9	27 871 1	4
95	7 781	15 833	30 620	3 396 7	7 320 2	14 941 2	95
6	4 158	8 052	14 787	1 933 2	3 923 5	7 621 0	6
7	2 104	3 894	6 735	993 6	1 990 3	3 697 5	7
8	1 049	1 790	2 841	535 9	996 7	1 707 2	8
9	482	741	1 051	260 2	460 8	710 5	9
100	208	259	310	151 5	200 6	249 7	100
1	051	051	051	049 1	049 1	049 1	1

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H^M TABLE (MAKEHAM GRADUATION)
Logarithms of D_x , N_x , and M_x . 3 per cent.

Age x	$\log D_x$	$\log N_x$	$\log M_x$	Age x	$\log D_x$	$\log N_x$	$\log M_x$
0	5.104 77	6.449 53	4.655 94	50	4.220 24	5.392 80	3.973 56
1	.039 95	.429 43	.496 15	1	.200 52	.362 58	.961 71
2	.011 61	.411 35	.441 07	2	.180 39	.331 59	.949 36
3	4.989 20	.393 70	.405 45	3	.159 83	.299 79	.936 51
4	.969 60	.376 23	.379 74	4	.138 78	.267 12	.923 10
5	.951 24	.358 87	.358 52	55	.117 20	.233 55	.909 08
6	.933 94	.341 53	.341 28	6	.095 05	.198 99	.894 37
7	.917 48	.324 20	.327 34	7	.072 26	.163 37	.878 95
8	.901 71	.306 83	.316 18	8	.048 78	.126 65	.862 72
9	.886 47	.289 41	.307 13	9	.024 53	.088 77	.845 60
10	.871 63	.271 89	.299 68	60	3.999 46	.049 57	.827 54
1	.857 01	.254 26	.293 21	1	.973 47	.009 07	.808 44
2	.842 56	.236 49	.287 47	2	.946 48	4.967 08	.788 21
3	.828 22	.218 59	.282 15	3	.918 39	.923 54	.766 75
4	.813 89	.200 55	.277 06	4	.889 11	.878 36	.743 94
15	.799 56	.182 36	.272 07	65	.858 51	.831 39	.719 66
6	.785 13	.163 97	.266 82	6	.826 46	.782 51	.693 80
7	.770 59	.145 45	.261 33	7	.792 85	.731 58	.666 20
8	.755 85	.126 72	.255 34	8	.757 49	.678 45	.636 70
9	.740 93	.107 82	.248 90	9	.720 24	.622 96	.605 14
20	.725 81	.088 74	.241 97	70	.680 91	.564 91	.571 35
1	.710 48	.069 48	.234 57	1	.639 31	.504 12	.535 09
2	.694 99	.050 07	.226 83	2	.595 22	.440 37	.496 18
3	.679 35	.030 44	.218 80	3	.548 39	.373 45	.454 36
4	.663 61	.010 68	.210 59	4	.498 59	.303 07	.409 38
25	.647 76	5.990 58	.202 24	75	.445 48	.228 96	.360 93
6	.631 84	.970 50	.193 85	6	.388 79	.150 82	.308 71
7	.615 86	.950 12	.185 46	7	.328 15	.068 37	.252 37
8	.599 84	.929 52	.177 02	8	.263 23	3.981 17	.191 56
9	.583 75	.908 70	.168 64	9	.193 58	.888 87	.125 84
30	.567 60	.887 65	.160 23	80	.118 74	.791 04	.054 77
1	.551 41	.866 35	.151 86	1	.038 24	.687 20	2.977 87
2	.535 14	.844 79	.143 45	2	2.951 50	.576 84	.894 53
3	.518 80	.822 97	.135 04	3	.857 96	.459 38	.804 25
4	.502 38	.800 85	.126 55	4	.756 98	.334 23	.706 36
35	.485 89	.778 44	.118 07	85	.647 86	.200 71	.600 16
6	.469 29	.755 71	.109 51	6	.529 77	.058 05	.484 83
7	.452 59	.732 65	.100 89	7	.401 81	2.905 42	.359 48
8	.435 79	.709 24	.092 19	8	.263 19	.741 99	.223 34
9	.418 86	.685 47	.083 36	9	.112 76	.566 73	.075 22
40	.401 79	.661 30	.074 41	90	1.949 48	.378 58	1.914 11
1	.384 58	.636 73	.065 36	1	.771 83	.176 32	.738 49
2	.367 22	.611 72	.056 14	2	.578 65	1.958 80	.547 18
3	.349 66	.586 25	.046 73	3	.369 62	.724 67	.339 99
4	.331 92	.560 30	.037 11	4	.139 65	.471 67	.111 60
45	.313 96	.533 85	.027 27	95	0.891 05	.199 56	0.864 52
6	.295 78	.506 84	.017 16	6	.618 89	0.905 90	.593 67
7	.277 27	.479 77	.006 77	7	.322 99	.590 40	.298 92
8	.258 62	.451 11	3.906 06	8	.020 70	.252 85	1.998 56
9	.239 60	.422 29	.985 00	9	1.683 35	1.869 82	.663 51
				100	.318 34	.413 30	.302 33
				1	2.703 44	2.703 44	2.690 64

H^M TABLE (MAKEHAM GRADUATION)
Values of Annuities, and Single and Annual Premiums
for Assurance of a Unit
3 per cent.

Age x	a_x	A_x	P_x	Age x	a_x	A_x	P_x
1	23.517 70	.285 89	.011 66	50	13.878 28	.566 66	.038 09
2	24.104 01	.268 82	.010 71	1	13.522 86	.577 02	.039 73
3	24.380 34	.260 77	.010 27	2	13.164 39	.587 45	.041 47
4	24.505 62	.257 12	.010 08	3	12.802 83	.597 97	.043 32
5	24.563 55	.255 43	.009 99	4	12.438 53	.608 58	.045 29
6	24.562 20	.255 47	.009 99	55	12.072 10	.619 27	.047 37
7	24.511 00	.256 96	.010 07	6	11.704 13	.629 97	.049 59
8	24.417 03	.259 70	.010 22	7	11.334 50	.640 75	.051 95
9	24.288 97	.263 43	.010 42	8	10.964 07	.651 54	.054 46
10	24.133 73	.267 95	.010 66	9	10.593 76	.662 32	.057 13
1	23.959 56	.273 02	.010 94	60	10.223 49	.673 10	.059 97
2	23.770 13	.278 55	.011 25	1	9.853 91	.683 86	.063 00
3	23.568 91	.284 40	.011 58	2	9.485 66	.694 59	.066 24
4	23.359 00	.290 52	.011 93	3	9.119 29	.705 28	.069 70
15	23.142 35	.296 83	.012 29	4	8.755 46	.715 86	.073 38
6	22.924 31	.303 17	.012 67	65	8.394 70	.726 36	.077 32
7	22.705 07	.309 56	.013 06	6	8.037 48	.736 78	.081 53
8	22.488 67	.315 86	.013 45	7	7.684 33	.747 05	.086 02
9	22.274 87	.322 08	.013 84	8	7.336 19	.757 20	.090 83
20	22.064 43	.328 22	.014 23	9	6.993 19	.767 18	.095 98
1	21.856 75	.334 26	.014 63	70	6.655 91	.777 03	.101 49
2	21.650 46	.340 28	.015 02	1	6.325 07	.786 65	.107 39
3	21.443 97	.346 30	.015 43	2	6.000 94	.796 09	.113 71
4	21.236 04	.352 35	.015 85	3	5.684 18	.805 32	.120 48
25	21.025 22	.358 49	.016 28	4	5.374 95	.814 31	.127 74
6	20.810 21	.364 76	.016 72	75	5.073 99	.823 10	.135 51
7	20.589 70	.371 19	.017 19	6	4.781 51	.831 61	.143 84
8	20.364 15	.377 73	.017 68	7	4.497 96	.839 89	.152 76
9	20.132 44	.384 49	.018 19	8	4.223 23	.847 87	.162 33
30	19.805 02	.391 41	.018 73	9	3.957 94	.855 58	.172 57
1	19.650 98	.398 52	.019 30	80	3.702 15	.863 04	.183 54
2	19.400 98	.405 80	.019 89	1	3.456 13	.870 22	.195 29
3	19.144 77	.413 28	.020 52	2	3.220 23	.877 06	.207 82
4	18.882 33	.420 89	.021 17	3	2.994 13	.883 67	.221 24
35	18.613 40	.428 73	.021 86	4	2.777 89	.889 98	.235 58
6	18.338 39	.436 74	.022 58	85	2.571 45	.895 98	.250 87
7	18.057 25	.444 94	.023 35	6	2.374 90	.901 70	.267 17
8	17.769 73	.453 31	.024 15	7	2.188 66	.907 13	.284 49
9	17.475 98	.461 85	.025 00	8	2.011 54	.912 33	.302 94
40	17.176 58	.470 57	.025 89	9	1.844 24	.917 19	.322 47
1	16.870 63	.479 49	.026 83	90	1.685 06	.921 79	.343 19
2	16.559 13	.488 56	.027 82	1	1.538 02	.926 10	.364 90
3	16.242 22	.497 82	.028 87	2	1.399 66	.930 10	.387 60
4	15.919 39	.507 21	.029 98	3	1.264 88	.934 05	.412 40
45	15.591 42	.516 79	.031 15	4	1.147 91	.937 45	.436 45
6	15.258 22	.526 48	.032 38	95	1.034 73	.940 74	.462 34
7	14.919 92	.536 33	.033 69	6	.936 40	.943 58	.487 27
8	14.576 84	.546 31	.035 07	7	.850 78	.946 08	.511 12
9	14.229 71	.556 42	.036 54	8	.766 49	.950 30	.556 81
				9	.536 23	.955 34	.621 86
				100	.242 72	.963 81	.774 52
				1	...	.970 87	.970 87

H^M EXPERIENCE (TEXT-BOOK GRADUATION)
Values of Annuities, and Single and Annual Premiums
for Assurance of a Unit
4 per cent.

<i>x</i>	<i>a_x</i>	<i>A_x</i>	<i>P_x</i>	<i>x</i>	<i>a_x</i>	<i>A_x</i>	<i>P_x</i>
0	17.321	.295 32	.016 12	50	12.522	.479 95	.035 50
1	19.305	.219 04	.010 79	1	12.230	.491 16	.037 12
2	19.807	.199 73	.009 60	2	11.935	.502 50	.038 85
3	20.059	.190 06	.009 03	3	11.635	.514 06	.040 68
4	20.188	.185 08	.008 74	4	11.331	.525 73	.042 63
5	20.264	.182 16	.008 57	55	11.024	.537 54	.044 71
6	20.292	.181 06	.008 50	6	10.714	.549 47	.046 91
7	20.282	.181 51	.008 53	7	10.401	.561 53	.049 25
8	20.234	.183 29	.008 63	8	10.085	.573 67	.051 75
9	20.162	.186 12	.008 80	9	9.767	.585 87	.054 41
10	20.065	.189 82	.009 01	60	9.448	.598 14	.057 25
1	19.953	.194 14	.009 27	1	9.129	.610 44	.060 27
2	19.828	.198 92	.009 55	2	8.808	.622 77	.063 50
3	19.692	.204 09	.009 86	3	8.488	.635 10	.066 94
4	19.551	.209 58	.010 20	4	8.168	.647 40	.070 61
15	19.403	.215 28	.010 55	65	7.850	.659 64	.074 54
6	19.254	.221 02	.010 91	6	7.533	.671 83	.078 74
7	19.102	.226 84	.011 28	7	7.218	.683 93	.083 23
8	18.954	.232 58	.011 66	8	6.906	.695 92	.088 02
9	18.806	.238 22	.012 03	9	6.597	.707 80	.093 16
20	18.662	.243 77	.012 40	70	6.293	.719 52	.098 66
1	18.520	.249 25	.012 77	1	5.993	.731 07	.104 55
2	18.379	.254 66	.013 14	2	5.698	.742 44	.110 86
3	18.238	.260 11	.013 52	3	5.408	.753 55	.117 60
4	18.095	.265 60	.013 91	4	5.124	.764 49	.124 84
25	17.949	.271 18	.014 31	75	4.846	.775 14	.132 58
6	17.800	.276 92	.014 73	6	4.576	.785 54	.140 89
7	17.647	.282 84	.015 17	7	4.313	.795 68	.149 78
8	17.488	.288 93	.015 63	8	4.057	.805 55	.159 31
9	17.324	.295 25	.016 11	9	3.808	.815 04	.169 51
30	17.155	.301 75	.016 62	80	3.568	.824 31	.180 44
1	16.979	.308 50	.017 16	1	3.337	.833 20	.192 13
2	16.799	.315 46	.017 72	2	3.114	.841 76	.204 61
3	16.612	.322 63	.018 32	3	2.900	.850 02	.217 95
4	16.419	.330 04	.018 95	4	2.695	.857 93	.232 22
35	16.221	.337 68	.019 61	85	2.498	.865 49	.247 43
6	16.016	.345 55	.020 31	6	2.310	.872 73	.263 65
7	15.805	.353 65	.021 04	7	2.132	.879 55	.280 85
8	15.588	.361 99	.021 82	8	1.962	.886 09	.299 18
9	15.366	.370 58	.022 64	9	1.801	.892 30	.318 58
40	15.136	.379 37	.023 51	90	1.648	.898 13	.339 16
1	14.902	.388 44	.024 43	1	1.505	.903 63	.360 70
2	14.660	.397 71	.025 40	2	1.371	.908 78	.383 26
3	14.413	.407 22	.026 42	3	1.240	.913 84	.407 90
4	14.159	.416 97	.027 51	4	1.127	.918 21	.431 73
45	13.900	.426 92	.028 65	95	1.017	.922 47	.457 44
6	13.635	.437 11	.029 87	6	.921	.926 13	.482 14
7	13.364	.447 52	.031 15	7	.838	.929 31	.505 66
8	13.089	.458 13	.032 52	8	.697	.934 74	.550 85
9	12.807	.468 94	.033 96	9	.530	.941 15	.615 09
				100	.240	.952 27	.767 73
				1	...	.961 54	.961 54

H^M EXPERIENCE (TEXT-BOOK GRADUATION)
Values of Annuities, and Single and Annual Premiums
for Assurance of a Unit
5 per cent.

<i>x</i>	<i>a_x</i>	<i>A_x</i>	<i>P_x</i>	<i>x</i>	<i>a_x</i>	<i>A_x</i>	<i>P_x</i>
0	14.581	.258 07	.016 56	50	11.371	.410 91	.033 22
1	16.256	.178 28	.010 33	1	11.130	.422 37	.034 82
2	16.690	.157 64	.008 91	2	10.885	.434 07	.036 52
3	16.915	.146 94	.008 20	3	10.634	.446 00	.038 34
4	17.039	.141 01	.007 82	4	10.379	.458 16	.040 27
5	17.120	.137 17	.007 57	55	10.119	.470 51	.042 32
6	17.161	.135 17	.007 44	6	9.856	.483 06	.044 50
7	17.171	.134 74	.007 42	7	9.588	.495 80	.046 83
8	17.151	.135 67	.007 47	8	9.317	.508 70	.049 30
9	17.108	.137 70	.007 60	9	9.044	.521 72	.051 95
10	17.046	.140 62	.007 79	60	8.767	.534 90	.054 76
1	16.973	.144 16	.008 02	1	8.489	.548 16	.057 77
2	16.888	.148 21	.008 29	2	8.208	.561 50	.060 98
3	16.794	.152 67	.008 58	3	7.927	.574 94	.064 41
4	16.694	.157 43	.008 90	4	7.644	.588 38	.068 07
15	16.589	.162 44	.009 24	65	7.361	.601 82	.071 97
6	16.482	.167 50	.009 58	6	7.079	.615 29	.076 16
7	16.375	.172 64	.009 94	7	6.798	.628 68	.080 63
8	16.269	.177 68	.010 29	8	6.517	.642 04	.085 41
9	16.165	.182 65	.010 64	9	6.239	.655 30	.090 53
20	16.062	.187 50	.010 99	70	5.963	.668 45	.096 01
1	15.963	.192 27	.011 34	1	5.689	.681 46	.101 87
2	15.863	.196 99	.011 68	2	5.420	.694 30	.108 15
3	15.764	.201 72	.012 03	3	5.154	.706 95	.114 88
4	15.664	.206 49	.012 39	4	4.892	.719 40	.122 09
25	15.561	.211 37	.012 76	75	4.636	.731 61	.129 81
6	15.455	.216 40	.013 15	6	4.385	.743 57	.138 08
7	15.346	.221 63	.013 56	7	4.140	.755 25	.146 93
8	15.232	.227 03	.013 99	8	3.901	.766 64	.156 42
9	15.114	.232 68	.014 44	9	3.669	.777 68	.166 58
30	14.991	.238 53	.014 92	80	3.443	.788 44	.177 46
1	14.863	.244 64	.015 42	1	3.225	.798 82	.189 09
2	14.730	.250 98	.015 96	2	3.014	.808 85	.201 51
3	14.591	.257 56	.016 52	3	2.811	.818 52	.214 78
4	14.448	.264 41	.017 12	4	2.616	.827 81	.228 95
35	14.298	.271 51	.017 75	85	2.428	.836 74	.244 08
6	14.144	.278 87	.018 41	6	2.249	.845 30	.260 21
7	13.984	.286 50	.019 12	7	2.078	.853 43	.277 30
8	13.817	.294 40	.019 87	8	1.914	.861 23	.295 53
9	13.646	.302 59	.020 66	9	1.759	.868 60	.314 80
40	13.469	.311 04	.021 50	90	1.612	.875 61	.335 24
1	13.285	.319 79	.022 39	1	1.474	.882 21	.350 65
2	13.095	.328 81	.023 33	2	1.344	.888 40	.379 04
3	12.901	.338 09	.024 32	3	1.217	.894 44	.403 50
4	12.699	.347 67	.025 38	4	1.106	.899 68	.427 14
45	12.492	.357 52	.026 50	95	.999	.904 77	.452 61
6	12.279	.367 65	.027 69	6	.906	.909 22	.477 06
7	12.061	.378 08	.028 95	7	.825	.913 06	.500 23
8	11.836	.388 77	.030 29	8	.688	.919 62	.544 95
9	11.606	.399 71	.031 71	9	.524	.927 43	.608 54
				100	.238	.941 07	.760 10
				1	...	.952 38	.952 38

O(NM)

Carlisle

Manchest
 Unity

Conversion
 Tables

H^M EXPERIENCE (TEXT-BOOK GRADUATION)
Values of Annuities, and Single and Annual Premiums
for Assurance of a Unit
6 per cent.

<i>x</i>	<i>a_x</i>	<i>A_x</i>	<i>P_x</i>	<i>x</i>	<i>a_x</i>	<i>A_x</i>	<i>P_x</i>
0	12·537	·233 72	·017 26	50	10·388	·355 39	·031 21
1	13·980	·152 10	·010 15	1	10·187	·366 77	·032 78
2	14·357	·130 72	·008 51	2	9·981	·378 43	·034 46
3	14·558	·119 37	·007 67	3	9·770	·390 37	·036 25
4	14·673	·112 83	·007 20	4	9·554	·402 62	·038 15
5	14·753	·108 35	·006 88	55	9·333	·415 13	·040 18
6	14·800	·105 69	·006 69	6	9·108	·427 88	·042 33
7	14·818	·104 59	·006 61	7	8·878	·440 88	·044 63
8	14·815	·104 86	·006 63	8	8·644	·454 13	·047 09
9	14·790	·106 22	·006 73	9	8·406	·467 56	·049 71
10	14·750	·108 47	·006 89	60	8·165	·481 19	·052 50
1	14·699	·111 36	·007 09	1	7·922	·495 01	·055 49
2	14·640	·114 76	·007 34	2	7·675	·508 97	·058 67
3	14·572	·118 57	·007 61	3	7·426	·523 06	·062 08
4	14·499	·122 69	·007 92	4	7·176	·537 24	·065 71
15	14·422	·127 07	·008 24	65	6·924	·551 49	·069 60
6	14·343	·131 51	·008 57	6	6·671	·565 81	·073 76
7	14·264	·136 01	·008 91	7	6·418	·580 15	·078 21
8	14·186	·140 43	·009 25	8	6·165	·594 44	·082 97
9	14·109	·144 75	·009 58	9	5·912	·608 72	·088 06
20	14·035	·148 96	·009 91	70	5·661	·622 95	·093 52
1	13·963	·153 06	·010 23	1	5·412	·637 07	·099 36
2	13·891	·157 11	·010 55	2	5·165	·651 04	·105 61
3	13·819	·161 16	·010 87	3	4·920	·664 89	·112 31
4	13·747	·165 24	·011 20	4	4·679	·678 55	·119 49
25	13·674	·169 42	·011 55	75	4·441	·692 01	·127 17
6	13·597	·173 74	·011 90	6	4·208	·705 23	·135 41
7	13·518	·178 26	·012 28	7	3·980	·718 12	·144 21
8	13·434	·182 96	·012 68	8	3·756	·730 82	·153 66
9	13·347	·187 89	·013 10	9	3·538	·743 12	·163 77
30	13·257	·193 04	·013 54	80	3·325	·755 18	·174 59
1	13·161	·198 44	·014 01	1	3·119	·766 85	·186 17
2	13·061	·204 09	·014 51	2	2·920	·778 13	·198 52
3	12·957	·209 99	·015 05	3	2·727	·789 06	·211 72
4	12·848	·216 16	·015 61	4	2·541	·799 58	·225 82
35	12·734	·222 61	·016 21	85	2·362	·809 71	·240 86
6	12·616	·229 32	·016 84	6	2·190	·819 43	·256 88
7	12·492	·236 33	·017 52	7	2·026	·828 72	·273 88
8	12·362	·243 61	·018 23	8	1·869	·837 61	·291 97
9	12·228	·251 21	·018 99	9	1·719	·846 06	·311 13
40	12·089	·259 10	·019 80	90	1·577	·854 12	·331 44
1	11·944	·267 32	·020 65	1	1·443	·861 67	·352 65
2	11·794	·275 84	·021 56	2	1·318	·868 82	·374 90
3	11·638	·284 66	·022 52	3	1·194	·875 81	·399 18
4	11·476	·293 81	·023 55	4	1·087	·881 90	·422 65
45	11·309	·303 26	·024 64	95	·982	·887 83	·447 95
6	11·136	·313 06	·025 80	6	·891	·892 96	·472 13
7	10·957	·323 17	·027 03	7	·813	·897 39	·494 95
8	10·773	·333 60	·028 34	8	·678	·905 00	·539 23
9	10·583	·344 35	·029 73	9	·518	·914 05	·602 07
				100	·236	·930 04	·752 56
				1	...	·943 40	·943 40

H^M TABLE (MAKEHAM GRADUATION)
Factors for Contingent Assurances—3 per cent.

x	$\log c^x$	w	$\log f_1(ww)$	$f_2(ww)$	$\log f_1(www)$	$f_2(www)$	$\log f_1(wwww)$	$f_2(wwww)$
20	.793 14	20	.202 98	.118 37	.2012 70	.103 96	.3866 49	.093 16
21	.832 79	21	.183 16	.117 00	.3996 39	.102 60	.854 03	.091 81
22	.872 45	22	.162 10	.115 66	.978 07	.101 29	.838 68	.090 54
23	.912 11	23	.139 78	.114 36	.958 12	.100 02	.820 93	.089 32
24	.951 76	24	.116 87	.113 05	.937 15	.098 76	.801 67	.088 14
25	.991 42	25	.093 41	.111 74	.915 29	.097 51	.781 41	.086 96
26	1.031 08	26	.069 57	.110 41	.892 99	.096 24	.760 47	.085 77
27	1.070 74	27	.045 50	.109 05	.870 32	.094 95	.739 02	.084 56
28	1.110 39	28	.021 32	.107 65	.847 46	.093 62	.717 43	.083 31
29	1.150 05	29	.3996 91	.106 22	.824 23	.092 27	.695 36	.082 04
30	1.189 71	30	.972 38	.104 75	.800 94	.090 87	.673 08	.080 74
31	1.229 36	31	.947 77	.103 24	.777 49	.089 44	.650 77	.079 39
32	1.269 02	32	.922 93	.101 70	.753 78	.087 97	.628 06	.078 01
33	1.308 68	33	.898 01	.100 11	.729 98	.086 46	.605 19	.076 59
34	1.348 33	34	.872 90	.098 49	.705 94	.084 91	.582 06	.075 14
35	1.387 99	35	.847 66	.096 83	.681 61	.083 34	.558 66	.073 66
36	1.427 65	36	.822 23	.095 14	.657 11	.081 73	.534 96	.072 15
37	1.467 30	37	.796 67	.093 41	.632 38	.080 09	.511 11	.070 60
38	1.506 96	38	.770 92	.091 65	.607 55	.078 41	.486 96	.069 02
39	1.546 62	39	.745 04	.089 84	.582 36	.076 70	.462 62	.067 41
40	1.586 27	40	.718 89	.088 02	.556 96	.074 97	.437 81	.065 79
41	1.625 93	41	.692 61	.086 15	.531 35	.073 21	.412 85	.064 13
42	1.665 59	42	.666 16	.084 25	.505 55	.071 41	.387 64	.062 44
43	1.705 24	43	.639 47	.082 33	.479 37	.069 61	.362 02	.060 75
44	1.744 90	44	.612 60	.080 38	.453 01	.067 77	.336 12	.059 04
45	1.784 56	45	.585 47	.078 41	.426 37	.065 92	.309 91	.057 31
46	1.824 22	46	.558 21	.076 41	.399 56	.064 03	.283 46	.055 56
47	1.863 87	47	.530 70	.074 39	.372 39	.062 15	.256 64	.053 81
48	1.903 53	48	.502 96	.072 35	.344 91	.060 26	.229 50	.052 05
49	1.943 19	49	.474 96	.070 30	.317 17	.058 36	.202 07	.050 28
50	1.982 84	50	.446 73	.068 24	.289 19	.056 44	.174 31	.048 51
51	2.022 50	51	.418 28	.066 16	.260 94	.054 52	.146 20	.046 75
52	2.062 16	52	.389 53	.064 08	.232 28	.052 62	.117 74	.044 99
53	2.101 81	53	.360 68	.061 99	.203 41	.050 71	.089 03	.043 23
54	2.141 47	54	.331 46	.059 91	.174 21	.048 81	.059 87	.041 50
55	2.181 13	55	.301 99	.057 82	.144 71	.046 92	.030 34	.039 79
56	2.220 78	56	.272 25	.055 75	.114 88	.045 05	.000 56	.038 08
57	2.260 44	57	.242 26	.053 68	.084 78	.043 19	4.970 42	.036 40
58	2.300 10	58	.212 02	.051 62	.054 35	.041 35	.939 92	.034 75
59	2.339 75	59	.181 49	.049 58	.023 62	.039 54	.909 08	.033 12
60	2.379 41	60	.150 69	.047 56	4.992 58	.037 76	.877 88	.031 53
61	2.419 07	61	.119 62	.045 56	.961 20	.036 01	.846 38	.029 97
62	2.458 73	62	.088 27	.043 59	.929 53	.034 29	.814 55	.028 44
63	2.498 38	63	.056 64	.041 65	.897 58	.032 60	.782 36	.026 96
64	2.538 04	64	.024 70	.039 75	.865 27	.030 96	.749 87	.025 51
65	2.577 70	65	4.992 54	.037 87	.832 67	.029 36	.717 03	.024 11
66	2.617 35	66	.960 05	.036 05	.799 77	.027 80	.683 85	.022 76
67	2.657 01	67	.927 33	.034 25	.766 60	.026 29	.650 38	.021 45
68	2.696 67	68	.894 28	.032 51	.733 08	.024 83	.616 61	.020 19
69	2.736 32	69	.861 00	.030 81	.699 33	.023 41	.582 56	.018 97
70	2.775 98	70	.827 46	.029 15	.665 28	.022 04	.548 22	.017 80
71	2.815 64	71	.793 60	.027 56	.630 91	.020 73	.513 53	.016 69
72	2.855 29	72	.759 52	.026 01	.596 33	.019 47	.478 60	.015 63
73	2.894 95	73	.725 15	.024 52	.561 45	.018 26	.443 43	.014 61
74	2.934 61	74	.690 56	.023 07	.526 32	.017 10	.407 97	.013 64
75	2.974 26	75	.655 71	.021 69	.490 93	.016 00	.372 29	.012 72
76	3.013 92	76	.620 61	.020 36	.455 31	.014 95	.336 35	.011 85
77	3.053 58	77	.585 26	.019 09	.419 44	.013 95	.300 16	.011 03
78	3.093 24	78	.549 67	.017 88	.383 36	.013 00	.263 78	.010 25
79	3.132 89	79	.513 89	.016 72	.347 06	.012 11	.227 21	.009 51
80	3.172 55	80	.477 86	.015 62	.310 55	.011 26	.190 40	.008 82

O(NM)

Carlisle

Manchester
UnityConversion
Tables

H^M TABLE (MAKEHAM GRADUATION)
Logarithms of D and N. Joint Lives. Equal Ages
3 per cent.

Age <i>x</i>	TWO LIVES		THREE LIVES		FOUR LIVES		Age <i>x</i>
	log D _{xx}	log N _{xx}	log D _{xxx}	log N _{xxx}	log D _{xxxx}	log N _{xxxx}	
0	10.209 54	11.424 55	15.314 31	16.412 41	20.419 08	21.409 16	0
1	.092 74	.397 24	.145 53	.376 30	.198 32	.362 29	1
2	.048 89	.375 15	.086 17	.350 00	.123 45	.331 45	2
3	.016 91	.354 17	.044 62	.325 66	.072 33	.303 07	3
4	9.990 55	.333 71	.011 50	.302 31	.032 45	.277 40	4
5	.966 67	.313 55	14.982 10	.279 48	19.997 53	.251 95	5
6	.944 90	.293 56	.955 86	.257 03	.966 82	.227 09	6
7	.924 82	.273 65	.932 16	.234 75	.939 50	.202 54	7
8	.906 12	.253 75	.910 53	.212 56	.914 94	.178 18	8
9	.888 48	.233 78	.890 49	.190 33	.892 50	.153 81	9
10	.871 63	.213 73	.871 63	.168 00	.871 63	.129 37	10
1	.855 23	.193 51	.853 45	.145 48	.851 67	.104 69	1
2	.839 17	.173 10	.835 78	.122 71	.832 39	.079 72	2
3	.823 32	.152 50	.818 42	.099 68	.813 52	.054 42	3
4	.807 50	.131 65	.801 11	.076 35	.794 72	.028 73	4
15	.791 68	.110 56	.783 80	.052 66	.775 92	.002 64	15
6	.775 66	.089 20	.766 19	.028 61	.750 72	20.976 07	6
7	.759 41	.067 55	.748 23	.004 24	.737 05	.949 04	7
8	.742 77	.045 68	.729 69	15.979 44	.716 61	.921 53	8
9	.725 77	.023 50	.710 61	.954 29	.695 45	.893 55	9
20	.708 36	.001 04	.690 91	.928 77	.673 46	.865 12	20
1	.690 54	10.978 31	.670 60	.902 91	.650 66	.836 25	1
2	.672 40	.955 32	.649 81	.876 70	.627 22	.806 95	2
3	.653 96	.932 07	.628 57	.850 14	.603 18	.777 25	3
4	.635 31	.908 55	.607 01	.823 25	.578 71	.747 14	4
25	.616 45	.884 77	.585 14	.796 02	.553 83	.716 63	25
6	.597 45	.860 70	.563 06	.768 44	.528 67	.685 70	6
7	.578 33	.836 34	.540 80	.740 40	.503 27	.654 34	7
8	.559 12	.811 08	.518 40	.712 10	.477 68	.622 54	8
9	.539 78	.786 69	.495 81	.683 43	.451 84	.590 25	9
30	.520 32	.761 37	.473 04	.654 28	.425 76	.557 47	30
1	.500 77	.735 69	.450 13	.624 69	.399 49	.524 15	1
2	.481 07	.709 64	.427 00	.594 61	.372 93	.490 27	2
3	.461 23	.683 20	.403 66	.564 04	.346 09	.455 79	3
4	.441 23	.656 34	.380 08	.532 93	.318 93	.420 68	4
35	.421 08	.629 03	.356 27	.501 26	.291 46	.384 87	35
6	.400 72	.601 26	.332 15	.469 00	.263 58	.348 36	6
7	.380 16	.572 99	.307 73	.436 08	.235 30	.311 08	7
8	.359 39	.544 19	.282 99	.402 50	.206 59	.272 98	8
9	.338 37	.514 84	.257 88	.368 19	.177 39	.234 01	9
40	.317 07	.484 91	.232 35	.333 14	.147 63	.194 10	40
1	.295 49	.454 36	.206 40	.297 26	.117 31	.153 24	1
2	.273 60	.423 13	.179 98	.260 52	.086 36	.111 26	2
3	.251 32	.391 20	.152 98	.222 85	.054 64	.068 19	3
4	.228 68	.358 54	.125 44	.184 21	.022 20	.023 91	4
45	.205 60	.325 08	.097 24	.144 51	18.988 88	19.978 36	45
6	.182 07	.290 77	.068 36	.103 70	.954 65	.931 42	6
7	.158 03	.255 56	.038 72	.061 68	.919 41	.883 00	7
8	.133 43	.219 40	.003 24	.018 41	.883 05	.833 01	8
9	.108 22	.182 24	13.976 84	14.973 77	.845 46	.781 31	9

H^M TABLE (MAKEHAM GRADUATION)
Logarithms of D and N. Joint Lives. Equal Ages
3 per cent.

Age <i>x</i>	TWO LIVES		THREE LIVES		FOUR LIVES		Age <i>x</i>
	log D _{xx}	log N _{xx}	log D _{xxx}	log N _{xxx}	log D _{xxxx}	log N _{xxxx}	
50	9.082 34	10.143 98	13.944 44	14.927 67	18.806 54	19.727 81	50
1	.055 74	.104 56	.910 96	.880 01	.766 18	.672 35	1
2	.028 32	.063 90	.876 25	.830 67	.724 18	.614 79	2
3	.000 03	.021 93	.840 23	.779 54	.680 43	.555 00	3
4	8.970 77	9.978 52	.802 76	.726 48	.634 75	.492 77	4
55	.940 45	.933 61	.763 70	.671 36	.586 95	.427 94	55
6	.908 98	.887 09	.722 91	.614 02	.536 84	.360 31	6
7	.876 24	.838 83	.680 22	.554 30	.484 20	.289 63	7
8	.842 12	.783 71	.635 46	.491 99	.428 80	.215 72	8
9	.806 46	.736 60	.588 39	.426 92	.370 32	.138 27	9
60	.769 15	.682 33	.538 84	.358 87	.308 53	.057 02	60
1	.730 01	.625 77	.486 55	.287 60	.243 09	18.971 66	1
2	.688 87	.566 72	.431 26	.212 85	.173 65	.881 84	2
3	.645 53	.504 99	.372 67	.134 37	.099 81	.787 21	3
4	.599 80	.440 39	.310 49	.051 81	.021 18	.687 35	4
65	.551 44	.372 69	.244 37	13.964 87	17.937 30	.581 84	65
6	.500 18	.301 64	.173 90	.873 18	.847 62	.470 18	6
7	.445 79	.226 99	.098 73	.776 34	.751 67	.311 85	7
8	.387 91	.148 39	.018 33	.673 92	.648 75	.226 29	8
9	.326 25	.065 62	12.932 26	.565 46	.538 27	.092 86	9
70	.260 43	8.978 22	.839 95	.450 42	.419 47	17.950 88	70
1	.190 06	.885 89	.740 81	.328 26	.291 56	.799 57	1
2	.114 72	.788 20	.634 22	.198 33	.153 72	.638 14	2
3	.033 90	.684 67	.519 41	.059 98	.004 92	.465 65	3
4	7.947 13	.574 83	.395 67	12.912 43	16.844 21	.281 12	4
75	.553 75	.458 11	.262 02	.754 88	.670 29	.083 43	75
6	.753 21	.333 93	.117 63	.586 44	.482 05	16.871 43	6
7	.644 77	.201 64	11.961 39	.406 13	.278 01	.643 79	7
8	.527 76	.060 55	.792 29	.212 88	.056 82	.399 09	8
9	.401 30	7.909 81	.609 02	.005 52	15.816 74	.135 71	9
80	.264 46	.748 61	.410 18	11.782 71	.555 90	15.851 91	80
1	.116 30	.575 98	.194 36	.543 05	.272 42	.545 80	1
2	6.955 65	.390 90	10.959 80	.284 97	14.963 95	.215 24	2
3	.781 41	.192 26	.704 86	.006 81	.628 31	14.858 05	3
4	.592 29	6.978 82	.427 60	10.706 67	.262 91	.471 69	4
85	.386 88	.749 20	.125 90	.382 50	13.864 92	.053 39	85
6	.163 54	.501 87	9.797 31	.031 97	.431 08	13.599 97	6
7	5.920 46	.235 17	.439 11	9.652 59	12.957 76	.108 09	7
8	.656 06	5.947 42	.048 93	.241 80	.441 80	12.574 38	8
9	.368 03	.636 50	8.623 30	8.796 35	11.878 57	11.994 46	9
90	.054 31	.300 27	.150 14	.313 07	.263 97	.364 06	90
1	4.711 85	4.936 18	7.651 87	7.787 91	10.591 89	10.677 58	1
2	.338 32	.541 94	.097 99	.217 54	9.857 66	9.930 59	2
3	3.933 10	.115 14	6.496 58	6.598 90	.060 06	.119 75	3
4	.486 00	3.649 72	5.832 35	5.920 91	8.178 70	8.228 43	4
95	.001 64	.146 75	.112 23	.186 82	7.222 82	7.262 59	95
6	2.470 15	2.600 11	4.321 41	4.384 93	6.172 67	6.204 74	6
7	1.891 19	.012 80	3.459 39	3.518 66	5.027 59	5.057 36	7
8	.299 45	1.400 56	2.578 20	2.624 35	3.856 95	3.878 45	8
9	0.637 59	0.718 00	1.591 83	1.627 88	2.546 07	2.562 28	9
100	1.920 40	1.945 99	0.522 46	0.528 99	1.124 52	1.126 16	100
1	2.703 44	2.703 44	2.703 44	2.703 44	2.703 44	2.703 44	1

Q(NM)

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Conversion

H^M TABLE (MAKEHAM GRADUATION)
Values of Annuities. Joint Lives. Equal Ages
3 per cent.

Age x	Two Lives a_{xx}	Three Lives a_{xxx}	Four Lives a_{xxxx}	Age x	Two Lives a_{xx}	Three Lives a_{xxx}	Four Lives a_{xxxx}
1	19.161	16.013	13.587	50	10.525	8.621	7.342
2	20.197	17.358	15.143	1	10.190	8.312	7.057
3	20.740	18.100	16.035	2	9.854	8.004	6.774
4	21.038	18.534	16.577	3	9.517	7.696	6.491
5	21.227	18.833	16.965	4	9.180	7.389	6.211
6	21.318	19.006	17.208	55	8.844	7.085	5.934
7	21.327	19.072	17.325	6	8.509	6.783	5.660
8	21.265	19.046	17.333	7	8.175	6.483	5.389
9	21.147	18.946	17.253	8	7.843	6.187	5.122
10	20.984	18.787	17.103	9	7.514	5.895	4.861
1	20.791	18.589	16.906	60	7.188	5.607	4.604
2	20.575	18.361	16.674	1	6.866	5.325	4.353
3	20.339	18.110	16.414	2	6.548	5.048	4.107
4	20.094	17.846	16.141	3	6.235	4.777	3.869
15	19.839	17.572	15.854	4	5.928	4.512	3.636
6	19.583	17.300	15.571	65	5.626	4.254	3.411
7	19.332	17.030	15.293	6	5.331	4.004	3.193
8	19.087	16.773	15.029	7	5.042	3.760	2.983
9	18.848	16.526	14.780	8	4.761	3.525	2.780
20	18.619	16.293	14.548	9	4.487	3.297	2.586
1	18.398	16.073	14.331	70	4.221	3.078	2.399
2	18.183	15.861	14.126	1	3.964	2.868	2.221
3	17.972	15.656	13.930	2	3.715	2.665	2.051
4	17.761	15.453	13.738	3	3.475	2.472	1.880
25	17.549	15.251	13.548	4	3.243	2.287	1.735
6	17.334	15.046	13.356	75	3.021	2.111	1.589
7	17.114	14.837	13.160	6	2.808	1.943	1.451
8	16.888	14.623	12.959	7	2.605	1.784	1.322
9	16.657	14.404	12.754	8	2.410	1.634	1.199
30	16.420	14.179	12.543	9	2.225	1.492	1.084
1	16.176	13.947	12.325	80	2.049	1.358	.977
2	15.927	13.710	12.102	1	1.882	1.232	.877
3	15.671	13.467	11.874	2	1.724	1.114	.784
4	15.410	13.218	11.640	3	1.576	1.004	.697
35	15.142	12.964	11.400	4	1.435	.901	.617
6	14.869	12.704	11.156	85	1.303	.806	.543
7	14.589	12.439	10.906	6	1.179	.717	.475
8	14.304	12.167	10.652	7	1.064	.635	.414
9	14.013	11.892	10.392	8	.956	.559	.357
40	13.718	11.612	10.130	9	.856	.490	.306
1	13.417	11.327	9.862	90	.762	.425	.259
2	13.110	11.037	9.590	1	.676	.368	.218
3	12.800	10.746	9.317	2	.598	.317	.183
4	12.485	10.449	9.040	3	.521	.266	.147
45	12.167	10.150	8.761	4	.458	.226	.121
6	11.844	9.847	8.479	95	.397	.187	.096
7	11.518	9.543	8.196	6	.349	.157	.077
8	11.189	9.237	7.912	7	.323	.146	.071
9	10.858	8.930	7.627	8	.262	.112	.051
				9	.203	.087	.038
				100	.061	.015	.004

SECTION IV
BRITISH OFFICES LIFE TABLES, 1893
WHOLE-LIFE NON-PARTICIPATING ASSURANCES
MALE LIVES

$O^{[NM]}$
SELECT TABLES

GRADUATION FUNCTIONS

$t =$	0	1	2
A_t	·002 720 1	·004 617 2	·005 767 9
B_t	·000 072 150	·000 075 981	·000 085 117
a_t	·001 623 6	·002 278 7	·002 650 1
β_t	·000 033 393	·000 036 503	·000 041 183
$\log_{10} B_t$	5·858 234 4	5·880 703 9	5·930 014 1
$\log_{10} \beta_t$	5·523 655 4	5·562 328 6	5·614 718 0
$\log_{10} k_t$	5·060 845 6	5·062 091 5	5·062 682 5
$\log_{10} g_t$	—·000 573 064	—·000 554 370	—·000 540 126

$t =$	3	4	5 or more
A_t	·006 358 8	·006 576 5	·006 607 6
B_t	·000 096 021	·000 105 156	·000 108 987
a_t	·002 819 0	·002 866 2	·002 869 6
β_t	·000 045 873	·000 048 933	·000 049 523
$\log_{10} B_t$	5·982 364 2	5·021 835 3	5·037 376 4
$\log_{10} \beta_t$	5·661 557 1	5·689 601 8	5·694 806 9
$\log_{10} k_t$	5·062 901 9	5·062 952 5	5·062 956 0
$\log_{10} g_t$	—·000 531 381	—·000 527 674	—·000 527 087

ABSOLUTE CONSTANTS

$$c = 1.093\,956\,4; \log_{10} c = .039; \log_e c = .089\,800\,8; \log_{10} s = -a_4 = -.002\,869\,6$$

$$\log l_{[x]+t} = \log k_t + (x+t) \log s + c^{x+t} \log g_t$$

$$\mu_{[x]+t} = A_t + B_t c^{x+t}$$

$$\text{col}_{10}(p_{[x]+t}) = a_t + \beta_t c^{x+t}$$

Age at Entry [x]	YEARS ELAPSED SINCE DATE OF ASSURANCE						Age Attained x+5
	0	1	2	3	4	5 or more	
	$l_{[x]}$	$l_{[x]+1}$	$l_{[x]+2}$	$l_{[x]+3}$	$l_{[x]+4}$	l_{x+5}	
20	100 000	99 580	99 003	98 333	97 616	96 879	25
1	99 264	98 844	98 267	97 596	96 877	96 137	6
2	98 530	98 109	97 530	96 857	96 135	95 392	7
3	97 794	97 369	96 790	96 115	95 389	94 641	8
4	97 055	96 630	96 048	95 370	94 639	93 886	9
25	96 316	95 887	95 302	94 619	93 884	93 124	30
6	95 567	95 135	94 547	93 862	93 122	92 355	1
7	94 818	94 382	93 791	93 100	92 353	91 578	2
8	94 059	93 618	93 023	92 327	91 574	90 790	3
9	93 300	92 854	92 253	91 550	90 788	89 995	4
30	92 529	92 079	91 472	90 763	89 991	89 187	35
1	91 749	91 294	90 682	89 964	89 183	88 365	6
2	90 962	90 500	89 879	89 154	88 361	87 529	7
3	90 163	89 693	89 066	88 330	87 525	86 678	8
4	89 355	88 877	88 241	87 494	86 674	85 810	9
35	88 536	88 048	87 402	86 642	85 806	84 924	40
6	87 700	87 203	86 545	85 771	84 918	84 016	1
7	86 850	86 342	85 670	84 881	84 010	83 085	2
8	85 981	85 459	84 775	83 971	83 079	82 130	3
9	85 092	84 559	83 861	83 039	82 124	81 148	4
40	84 188	83 639	82 924	82 081	81 141	80 136	45
1	83 257	82 693	81 962	81 096	80 131	79 095	6
2	82 300	81 720	80 969	80 081	79 086	78 017	7
3	81 319	80 720	79 948	79 035	78 010	76 904	8
4	80 310	79 691	78 897	77 956	76 897	75 753	9
45	79 267	78 627	77 807	76 837	75 743	74 557	50
6	78 192	77 528	76 683	75 682	74 549	73 318	1
7	77 083	76 394	75 520	74 483	73 303	72 029	2
8	75 931	75 216	74 312	73 239	72 019	70 690	3
9	74 736	73 993	73 057	71 945	70 679	69 296	4
50	73 499	72 724	71 753	70 599	69 284	67 845	55
1	72 212	71 405	70 398	69 199	67 831	66 333	6
2	70 878	70 036	68 989	67 744	66 319	64 759	7
3	69 483	68 606	67 518	66 225	64 743	63 118	8
4	68 036	67 120	65 989	64 644	63 102	61 409	9
55	66 527	65 571	64 395	62 997	61 392	59 629	60
6	64 952	63 954	62 732	61 279	59 610	57 776	1
7	63 315	62 274	61 004	59 494	57 758	55 851	2
8	61 610	60 523	59 202	57 634	55 832	53 852	3
9	59 830	58 698	57 327	55 699	53 829	51 777	4
60	57 982	56 802	55 380	53 693	51 756	49 632	65
1	56 060	54 831	53 357	51 611	49 608	47 414	6
2	54 059	52 784	51 259	49 456	47 389	45 130	7
3	51 991	50 669	49 093	47 233	45 106	42 785	8
4	49 845	48 476	46 853	44 942	42 757	40 382	9
65	47 630	46 218	44 549	42 589	40 355	37 932	70
6	45 348	43 894	42 185	40 182	37 904	35 445	1
7	43 002	41 512	39 766	37 726	35 415	32 929	2
8	40 603	39 080	37 304	35 235	32 901	30 401	3
9	38 152	36 602	34 803	32 717	30 372	27 874	4
70	35 662	34 092	32 280	30 186	27 845	25 365	75
1	33 146	31 564	29 747	27 659	25 336	22 893	6
2	30 615	29 030	27 221	25 152	22 864	20 476	7
3	28 083	26 506	24 717	22 682	20 443	18 135	8
4	25 570	24 012	22 255	20 271	18 108	15 889	9
75	23 091	21 564	19 854	17 936	15 863	13 758	80

Age at Entry [x]	YEARS ELAPSED SINCE DATE OF ASSURANCE						Age Attained x+5
	0	1	2	3	4	5 or more	
	$q(x)$	$q(x)+1$	$q(x)+2$	$q(x)+3$	$q(x)+4$	$q(x)+5$	
20	·004 20	·005 79	·006 77	·007 30	·007 55	·007 66	25
1	·004 23	·005 83	·006 84	·007 36	·007 64	·007 75	6
2	·004 27	·005 90	·006 91	·007 46	·007 73	·007 87	7
3	·004 34	·005 95	·006 98	·007 55	·007 84	·007 98	8
4	·004 39	·006 01	·007 07	·007 66	·007 96	·008 12	9
25	·004 46	·006 11	·007 16	·007 78	·008 10	·008 26	30
6	·004 53	·006 17	·007 25	·007 89	·008 23	·008 41	1
7	·004 59	·006 27	·007 36	·008 03	·008 39	·008 60	2
8	·004 69	·006 36	·007 48	·008 16	·008 55	·008 76	3
9	·004 78	·006 47	·007 62	·008 32	·008 73	·008 99	4
30	·004 87	·006 59	·007 75	·008 51	·008 94	·009 21	35
1	·004 96	·006 70	·007 91	·008 69	·009 17	·009 46	6
2	·005 08	·006 86	·008 07	·008 89	·009 42	·009 72	7
3	·005 21	·007 00	·008 25	·009 12	·009 67	·010 01	8
4	·005 35	·007 16	·008 46	·009 37	·009 97	·010 33	9
35	·005 51	·007 34	·008 69	·009 65	·010 20	·010 70	40
6	·005 67	·007 55	·008 94	·009 94	·010 63	·011 08	1
7	·005 85	·007 78	·009 21	·010 26	·011 01	·011 49	2
8	·006 06	·008 00	·009 49	·010 63	·011 42	·011 95	3
9	·006 27	·008 26	·009 81	·011 01	·011 88	·012 47	4
40	·006 52	·008 55	·010 17	·011 45	·012 38	·012 99	45
1	·006 77	·008 85	·010 56	·011 90	·012 93	·013 63	6
2	·007 04	·009 19	·010 97	·012 43	·013 52	·014 27	7
3	·007 36	·009 56	·011 42	·012 97	·014 17	·014 97	8
4	·007 71	·009 97	·011 92	·013 58	·014 88	·015 78	9
45	·008 07	·010 42	·012 47	·014 24	·015 65	·016 62	50
6	·008 48	·010 90	·013 06	·014 97	·016 51	·017 57	1
7	·008 94	·011 45	·013 72	·015 78	·017 44	·018 59	2
8	·009 42	·012 02	·014 45	·016 65	·018 46	·019 72	3
9	·009 94	·012 65	·015 22	·017 60	·019 56	·020 94	4
50	·010 54	·013 36	·016 08	·018 64	·020 76	·022 29	55
1	·011 17	·014 11	·017 03	·019 77	·022 09	·023 73	6
2	·011 88	·014 95	·018 05	·021 03	·023 53	·025 35	7
3	·012 63	·015 85	·019 16	·022 38	·025 10	·027 07	8
4	·013 47	·016 85	·020 37	·023 86	·026 83	·028 98	9
55	·014 38	·017 94	·021 70	·025 48	·028 71	·031 08	60
6	·015 35	·019 11	·023 17	·027 23	·030 76	·033 33	1
7	·016 44	·020 40	·024 76	·029 18	·033 01	·035 79	2
8	·017 64	·021 82	·026 49	·031 28	·035 46	·038 52	3
9	·018 93	·023 35	·028 39	·033 57	·038 12	·041 44	4
60	·020 35	·025 03	·030 45	·036 08	·041 04	·044 68	65
1	·021 91	·026 89	·032 72	·038 81	·044 22	·048 17	6
2	·023 59	·028 89	·035 17	·041 79	·047 66	·051 97	7
3	·025 44	·031 10	·037 88	·045 05	·051 45	·056 16	8
4	·027 45	·033 48	·040 80	·048 61	·055 55	·060 67	9
65	·029 65	·036 10	·044 00	·052 45	·060 04	·065 58	70
6	·032 06	·038 94	·047 49	·056 68	·064 90	·070 97	1
7	·034 66	·042 06	·051 30	·061 25	·070 20	·076 77	2
8	·037 52	·045 45	·055 44	·066 25	·075 98	·083 13	3
9	·040 64	·049 13	·059 95	·071 68	·082 24	·090 00	4
70	·044 04	·053 15	·064 85	·077 58	·089 04	·097 47	75
1	·047 73	·057 55	·070 20	·083 99	·096 43	·105 56	6
2	·051 78	·062 31	·076 00	·090 97	·104 45	·114 35	7
3	·056 16	·067 50	·082 30	·098 51	·113 13	·123 85	8
4	·060 95	·073 15	·089 16	·106 72	·122 53	·134 12	9
75	·066 14	·079 30	·096 60	·115 60	·132 70	·145 25	80

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Tables

Age at Entry [x]	YEARS ELAPSED SINCE DATE OF ASSURANCE						Age Attained x+5
	0	1	2	3	4	5 or more	
	$\mu[x]$	$\mu[x]+1$	$\mu[x]+2$	$\mu[x]+3$	$\mu[x]+4$	$\mu[x]+5$	
20	·003 16	·005 12	·006 38	·007 12	·007 48	·007 64	25
1	·003 20	·005 17	·006 44	·007 19	·007 57	·007 73	6
2	·003 24	·005 22	·006 50	·007 27	·007 66	·007 84	7
3	·003 29	·005 27	·006 57	·007 35	·007 76	·007 96	8
4	·003 34	·005 33	·006 65	·007 44	·007 88	·008 08	9
25	·003 40	·005 40	·006 73	·007 55	·008 00	·008 22	30
6	·003 47	·005 48	·006 82	·007 66	·008 13	·008 37	1
7	·003 54	·005 56	·006 92	·007 78	·008 28	·008 54	2
8	·003 61	·005 64	·007 03	·007 91	·008 44	·008 72	3
9	·003 70	·005 74	·007 15	·008 06	·008 61	·008 92	4
30	·003 79	·005 85	·007 28	·008 22	·008 80	·009 13	35
1	·003 89	·005 96	·007 42	·008 39	·009 01	·009 37	6
2	·004 00	·006 09	·007 57	·008 58	·009 24	·009 63	7
3	·004 12	·006 23	·007 74	·008 79	·009 49	·009 92	8
4	·004 25	·006 38	·007 93	·009 02	·009 77	·010 23	9
35	·004 39	·006 54	·008 13	·009 27	·010 07	·010 57	40
6	·004 55	·006 72	·008 35	·009 55	·010 39	·010 94	1
7	·004 72	·006 92	·008 59	·009 85	·010 75	·011 34	2
8	·004 91	·007 14	·008 86	·010 17	·011 14	·011 79	3
9	·005 12	·007 38	·009 15	·010 53	·011 57	·012 28	4
40	·005 34	·007 64	·009 47	·010 92	·012 04	·012 81	45
1	·005 59	·007 92	·009 81	·011 35	·012 56	·013 39	6
2	·005 86	·008 23	·010 19	·011 82	·013 12	·014 03	7
3	·006 15	·008 57	·010 61	·012 33	·013 73	·014 73	8
4	·006 47	·008 94	·011 07	·012 90	·014 41	·015 49	9
45	·006 82	·009 35	·011 56	·013 51	·015 14	·016 32	50
6	·007 21	·009 79	·012 11	·014 18	·015 95	·017 23	1
7	·007 63	·010 28	·012 70	·014 72	·016 83	·018 23	2
8	·008 09	·010 81	·013 35	·015 92	·017 79	·019 33	3
9	·008 60	·011 39	·014 07	·016 60	·018 85	·020 52	4
50	·009 15	·012 03	·014 85	·017 56	·020 00	·021 83	55
1	·009 75	·012 72	·015 70	·018 62	·021 26	·023 26	6
2	·010 42	·013 48	·016 63	·019 77	·022 64	·024 82	7
3	·011 14	·014 32	·017 65	·021 03	·024 15	·026 53	8
4	·011 93	·015 23	·018 77	·022 41	·025 80	·028 40	9
55	·012 80	·016 22	·019 99	·023 91	·027 61	·030 45	60
6	·013 74	·017 31	·021 33	·025 56	·029 58	·032 69	1
7	·014 78	·018 51	·022 79	·027 37	·031 74	·035 14	2
8	·015 91	·019 81	·024 39	·029 34	·034 11	·037 82	3
9	·017 15	·021 24	·026 14	·031 50	·036 70	·040 76	4
60	·018 50	·022 80	·028 05	·033 86	·039 53	·043 97	65
1	·019 99	·024 51	·030 15	·036 45	·042 62	·047 48	6
2	·021 61	·026 38	·032 44	·039 27	·046 01	·051 32	7
3	·023 39	·028 42	·034 94	·042 36	·049 71	·055 52	8
4	·025 33	·030 66	·037 68	·045 75	·053 77	·060 11	9
65	·027 45	·033 11	·040 68	·049 45	·058 20	·065 14	70
6	·029 77	·035 78	·043 96	·053 50	·063 05	·070 64	1
7	·032 32	·038 71	·047 55	·057 93	·068 36	·076 65	2
8	·035 10	·041 92	·051 48	·062 77	·074 16	·083 24	3
9	·038 14	·045 42	·055 77	·068 07	·080 51	·090 43	4
70	·041 47	·049 26	·060 47	·073 87	·087 46	·098 31	75
1	·045 11	·053 45	·065 61	·080 21	·095 06	·106 93	6
2	·049 09	·058 04	·071 23	·087 15	·103 37	·116 35	7
3	·053 45	·063 06	·077 38	·094 74	·112 47	·126 66	8
4	·058 21	·068 55	·084 11	·103 04	·122 42	·137 94	9
75	·063 43	·074 55	·091 47	·112 13	·133 30	·150 28	80

O(NM)

 $l_x, d_x, p_x, q_x, \mu_x, \log l_x, \log p_x, \log \mu_x$

O(NM)

ULTIMATE VALUES

Age x	l_x	d_x	p_x	q_x	μ_x	$\log l_x$	$\log p_x$	$\log \mu_x$	Age x
25	96 879	742	.992 34	.007 66	.007 64	4.986 23	f.996 66	3.883 09	25
6	96 137	745	.992 25	.007 75	.007 73	.982 89	.996 62	.888 18	6
7	95 392	751	.992 13	.007 87	.007 84	.979 51	.996 57	.894 32	7
8	94 641	755	.992 02	.007 98	.007 96	.976 08	.996 52	.900 91	8
9	93 886	762	.991 88	.008 12	.008 08	.972 60	.996 46	.907 41	9
30	93 124	769	.991 74	.008 26	.008 22	.969 06	.996 40	.914 87	30
1	92 355	777	.991 59	.008 41	.008 37	.965 46	.996 33	.922 73	1
2	91 578	788	.991 40	.008 60	.008 54	.961 79	.996 25	.931 46	2
3	90 790	795	.991 24	.008 76	.008 72	.958 04	.996 18	.940 52	3
4	89 995	803	.991 01	.008 99	.008 92	.954 22	.996 08	.950 36	4
35	89 187	822	.990 79	.009 21	.009 13	.950 30	.995 98	.960 47	35
6	88 365	836	.990 54	.009 46	.009 37	.946 28	.995 87	.971 74	6
7	87 529	851	.990 28	.009 72	.009 63	.942 15	.995 76	.983 63	7
8	86 678	868	.989 99	.010 01	.009 92	.937 91	.995 63	.996 51	8
9	85 810	886	.989 67	.010 33	.010 23	.933 54	.995 49	2.009 88	9
40	84 924	908	.989 30	.010 70	.010 57	.929 03	.995 33	.024 08	40
1	84 016	931	.988 92	.011 08	.010 94	.924 36	.995 16	.039 02	1
2	83 085	955	.988 51	.011 49	.011 34	.919 52	.994 98	.054 61	2
3	82 130	982	.988 05	.011 95	.011 79	.914 50	.994 78	.071 51	3
4	81 148	1 012	.987 53	.012 47	.012 28	.909 28	.994 55	.089 20	4
45	80 136	1 041	.987 01	.012 99	.012 81	.903 83	.994 32	.107 55	45
6	79 095	1 078	.986 37	.013 63	.013 39	.898 15	.994 04	.126 78	6
7	78 017	1 113	.985 73	.014 27	.014 03	.892 19	.993 76	.147 06	7
8	76 904	1 151	.985 03	.014 97	.014 73	.885 95	.993 45	.168 20	8
9	75 753	1 196	.984 22	.015 78	.015 49	.879 40	.993 09	.190 05	9
50	74 557	1 239	.983 38	.016 62	.016 32	.872 49	.992 72	.212 72	50
1	73 318	1 289	.982 43	.017 57	.017 23	.865 21	.992 30	.236 29	1
2	72 029	1 339	.981 41	.018 50	.018 23	.857 51	.991 85	.260 79	2
3	70 690	1 394	.980 28	.019 72	.019 33	.849 36	.991 35	.286 23	3
4	69 296	1 451	.979 06	.020 94	.020 52	.840 71	.990 81	.312 18	4
55	67 845	1 512	.977 71	.022 29	.021 83	.831 52	.990 21	.339 05	55
6	66 333	1 574	.976 27	.023 73	.023 26	.821 73	.989 57	.366 61	6
7	64 759	1 641	.974 65	.025 35	.024 82	.811 30	.988 85	.394 80	7
8	63 118	1 709	.972 93	.027 07	.026 53	.800 15	.988 08	.423 74	8
9	61 409	1 780	.971 02	.028 98	.028 40	.788 23	.987 23	.453 32	9
60	59 629	1 853	.968 92	.031 08	.030 45	.775 46	.986 29	.483 59	60
1	57 776	1 925	.966 67	.033 33	.032 69	.761 75	.985 28	.514 41	1
2	55 851	1 999	.964 21	.035 79	.035 14	.747 03	.984 17	.545 80	2
3	53 852	2 075	.961 48	.038 52	.037 82	.731 20	.982 94	.577 72	3
4	51 777	2 145	.958 56	.041 44	.040 76	.714 14	.981 62	.610 23	4

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Tables

O(NM)

 $l_z, d_z, p_z, q_z, \mu_z, \log l_z, \log p_z, \log \mu_z$

O(NM)

ULTIMATE VALUES

Age x	l_z	d_z	p_z	q_z	μ_z	$\log l_z$	$\log p_z$	$\log \mu_z$	Age x
65	49 632	2 218	.955 32	.044 68	.043 97	4.695 76	1.980 15	2.643 16	65
6	47 414	2 284	.951 83	.048 17	.047 48	.675 91	.978 56	.676 51	6
7	45 130	2 345	.948 03	.051 97	.051 32	.654 47	.976 82	.710 29	7
8	42 785	2 403	.943 84	.056 16	.055 52	.631 29	.974 90	.744 45	8
9	40 382	2 450	.939 33	.060 67	.060 11	.606 19	.972 82	.778 95	9
70	37 932	2 487	.934 42	.065 58	.065 14	.579 01	.970 54	.813 85	70
1	35 445	2 516	.929 03	.070 97	.070 64	.549 55	.968 03	.849 05	1
2	32 929	2 528	.923 23	.076 77	.076 65	.517 58	.965 31	.884 51	2
3	30 401	2 527	.916 87	.083 13	.083 24	.482 89	.962 31	.920 33	3
4	27 874	2 509	.910 00	.090 00	.090 43	.445 20	.959 04	.956 31	4
75	25 365	2 472	.902 53	.097 47	.098 31	.404 24	.955 46	.992 60	75
6	22 893	2 417	.894 44	.105 56	.106 93	.359 70	.951 55	1.029 10	6
7	20 476	2 341	.885 65	.114 35	.116 35	.311 25	.947 26	.065 77	7
8	18 135	2 246	.876 15	.123 85	.126 66	.258 51	.942 58	.102 64	8
9	15 889	2 131	.865 88	.134 12	.137 94	.201 09	.937 46	.139 69	9
80	13 758	1 998	.854 75	.145 25	.150 28	.138 55	.931 84	.176 90	80
1	11 760	1 849.2	.842 79	.157 21	.163 78	.070 39	.925 72	.214 26	1
2	9 910.8	1 686.3	.829 85	.170 15	.178 55	3.996 11	.919 00	.251 76	2
3	8 224.5	1 513.8	.815 94	.184 06	.194 70	.915 11	.911 66	.289 37	3
4	6 710.7	1 335.4	.801 00	.199 00	.212 38	.826 77	.903 63	.327 11	4
85	5 375.3	1 155.9	.784 96	.215 04	.231 71	.730 40	.894 85	.364 94	85
6	4 219.4	979.9	.767 77	.232 23	.252 86	.625 25	.885 23	.402 88	6
7	3 239.5	811.7	.749 43	.250 57	.275 99	.510 48	.874 73	.440 89	7
8	2 427.8	655.9	.729 83	.270 17	.301 31	.385 21	.863 22	.479 01	8
9	1 771.9	515.7	.708 99	.291 01	.328 99	.248 43	.850 64	.517 18	9
90	1 256.2	393.32	.686 88	.313 12	.359 28	.099 07	.836 88	.555 43	90
1	862.88	290.39	.663 47	.336 53	.392 42	2.935 95	.821 82	.593 75	1
2	572.49	206.79	.638 78	.361 22	.428 67	.757 77	.805 35	.632 12	2
3	365.70	141.60	.612 82	.387 18	.468 33	.563 12	.787 33	.670 55	3
4	224.10	92.86	.585 61	.414 39	.511 71	.350 45	.767 61	.709 02	4
95	131.24	58.106	.557 26	.442 74	.559 16	.118 06	.746 06	.747 54	95
6	73.134	34.535	.527 79	.472 21	.611 08	1.864 12	.722 46	.786 10	6
7	38.599	19.402	.497 35	.502 65	.667 87	.586 58	.696 66	.824 69	7
8	19.197	10.250	.466 04	.533 96	.730 00	.283 24	.668 42	.863 32	8
9	8.947	5.064	.434 06	.565 94	.797 97	0.951 66	.637 55	.901 99	9
100	3.883	2.324	.401 56	.598 44	.892 33	.589 21	.603 75	.950 53	100
1	.559	.984	.368 81	.631 19	.953 67	.192 96	.566 80	.979 40	1
2	.575	.382	.336 02	.663 98	1.042 65	1.759 76	.526 36	0.018 14	2
3	.193	.134	.303 48	.696 52	1.139 99	.286 12	.482 13	.056 90	3
4	.059	.043	.271 48	.728 52	1.246 48	2.768 25	.433 74	.095 68	4
105	.016	.016	.000 00	1.000 00	1.362 97	.201 99	...	.134 49	105

O[INM]

 $D_{[x]+t}$

3 PER CENT.

Age at Entry [x]	YEARS ELAPSED SINCE DATE OF ASSURANCE						Age Attained $x+5$
	0	1	2	3	4	5 or more	
	$D_{[x]}$	$D_{[x]+1}$	$D_{[x]+2}$	$D_{[x]+3}$	$D_{[x]+4}$	D_{x+5}	
20	55 368	53 529	51 669	49 824	48 021	46 270	25
1	53 359	51 586	49 791	48 011	46 269	44 578	6
2	51 422	49 711	47 979	46 259	44 577	42 944	7
3	49 551	47 899	46 227	44 568	42 943	41 366	8
4	47 745	46 151	44 537	42 934	41 365	39 840	9
25	46 001	44 462	42 903	41 356	39 839	38 365	30
6	44 314	42 828	41 325	39 830	38 365	36 941	1
7	42 685	41 252	39 800	38 356	36 940	35 563	2
8	41 111	39 726	38 324	36 930	35 561	34 230	3
9	39 591	38 254	36 900	35 552	34 229	32 942	4
30	38 121	36 831	35 522	34 220	32 940	31 696	35
1	36 699	35 453	34 189	32 931	31 694	30 489	6
2	35 324	34 121	32 900	31 684	30 487	29 320	7
3	33 994	32 831	31 653	30 477	29 319	28 190	8
4	32 708	31 586	30 446	29 309	28 189	27 095	9
35	31 464	30 379	29 278	28 179	27 094	26 034	40
6	30 259	29 211	28 147	27 083	26 032	25 005	1
7	29 093	28 081	27 051	26 021	25 003	24 008	2
8	27 963	26 984	25 988	24 992	24 007	23 041	3
9	26 868	25 922	24 959	23 995	23 039	22 102	4
40	25 808	24 893	23 962	23 027	22 100	21 191	45
1	24 779	23 895	22 994	22 088	21 189	20 307	6
2	23 782	22 926	22 054	21 176	20 304	19 446	7
3	22 813	21 986	21 141	20 291	19 445	18 611	8
4	21 874	21 073	20 256	19 431	18 609	17 798	9
45	20 961	20 186	19 394	18 594	17 795	17 007	50
6	20 075	19 325	18 557	17 782	17 005	16 237	1
7	19 214	18 487	17 744	16 990	16 235	15 487	2
8	18 375	17 672	16 951	16 220	15 485	14 757	3
9	17 559	16 878	16 179	15 469	14 754	14 044	4
50	16 766	16 106	15 428	14 738	14 042	13 350	55
1	15 992	15 353	14 696	14 025	13 347	12 672	6
2	15 239	14 620	13 982	13 330	12 670	12 011	7
3	14 505	13 904	13 285	12 651	12 008	11 366	8
4	13 789	13 207	12 606	11 990	11 363	10 736	9
55	13 090	12 527	11 943	11 344	10 733	10 121	60
6	12 408	11 862	11 296	10 713	10 118	9 520.9	1
7	11 743	11 214	10 665	10 098	9 517.9	8 935.5	2
8	11 094	10 581	10 049	9 497.5	8 932.4	8 364.7	3
9	10 460	9 963.0	9 446.9	8 911.3	8 361.2	7 808.4	4
60	9 841.5	9 360.3	8 860.1	8 340.1	7 805.1	7 266.7	65
1	9 238.0	8 772.4	8 287.8	7 783.2	7 263.2	6 739.8	6
2	8 648.9	8 198.8	7 730.2	7 241.0	6 736.3	6 228.5	7
3	8 075.7	7 641.2	7 187.9	6 714.1	6 225.0	5 732.7	8
4	7 516.9	7 097.6	6 660.1	6 202.4	5 729.0	5 253.2	9
65	6 973.6	6 569.8	6 148.2	5 706.5	5 249.6	4 790.7	70
6	6 446.1	6 057.9	5 652.4	5 227.1	4 787.2	4 346.2	1
7	5 934.7	5 562.1	5 173.0	4 764.6	4 342.6	3 920.1	2
8	5 440.4	5 083.7	4 711.3	4 320.6	3 916.8	3 513.7	3
9	4 963.1	4 622.6	4 267.6	3 894.8	3 510.3	3 127.9	4
70	4 504.0	4 180.3	3 842.8	3 488.9	3 124.6	2 763.4	75
1	4 064.3	3 757.6	3 438.2	3 103.8	2 760.3	2 421.4	6
2	3 644.7	3 355.3	3 054.6	2 740.2	2 418.4	2 102.7	7
3	3 245.8	2 974.3	2 692.8	2 399.2	2 099.3	1 808.0	8
4	2 869.3	2 616.0	2 354.0	2 081.6	1 805.3	1 538.0	9
75	2 515.7	2 280.9	2 038.8	1 788.3	1 535.5	1 292.9	80

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UnityConversion
Tables

Age at Entry [x]	YEARS ELAPSED SINCE DATE OF ASSURANCE						Age Attained x+5
	0	1	2	3	4	5 or more	
	$N_{[x]}$	$N_{[x]+1}$	$N_{[x]+2}$	$N_{[x]+3}$	$N_{[x]+4}$	N_{x+5}	
20	1 265 826	1 210 458	1 156 929	1 105 260	1 055 436	1 007 415	25
1	1 210 161	1 156 802	1 105 216	1 055 425	1 007 414	961 145	6
2	1 156 515	1 105 093	1 055 382	1 007 403	961 144	916 567	7
3	1 104 811	1 055 260	1 007 361	961 134	916 566	873 623	8
4	1 054 989	1 007 244	961 093	916 556	873 622	832 257	9
25	1 006 978	960 977	916 515	873 612	832 256	792 417	30
6	960 714	916 400	873 572	832 247	792 417	754 052	1
7	916 144	873 459	832 207	792 407	754 051	717 111	2
8	873 205	832 089	792 363	754 039	717 109	681 548	3
9	831 844	792 253	753 999	717 099	681 547	647 318	4
30	792 010	753 889	717 058	681 536	647 316	614 376	35
1	753 646	716 047	681 494	647 305	614 374	582 680	6
2	716 707	681 383	647 262	614 362	582 678	552 191	7
3	681 145	647 151	614 320	582 667	552 190	522 871	8
4	646 919	614 211	582 625	552 179	522 870	494 681	9
35	613 980	582 516	552 137	522 859	494 680	467 586	40
6	582 284	552 025	522 814	494 667	467 584	441 552	1
7	551 796	522 703	494 622	467 571	441 550	416 547	2
8	522 473	494 510	467 526	441 533	416 546	392 539	3
9	494 281	467 413	441 491	416 532	392 537	369 493	4
40	467 186	441 378	416 485	392 523	369 496	347 396	45
1	441 150	416 371	392 476	369 482	347 394	326 205	6
2	416 140	392 358	369 432	347 378	326 202	305 898	7
3	392 128	369 315	347 329	326 188	305 897	286 452	8
4	369 084	347 210	326 137	305 881	286 450	267 841	9
45	346 974	326 013	305 827	286 433	267 839	250 043	50
6	325 780	305 705	286 380	267 823	250 041	233 036	1
7	305 469	286 255	267 768	250 024	233 034	216 799	2
8	286 015	267 640	249 968	233 017	216 797	201 312	3
9	267 394	249 835	232 957	216 778	201 309	186 555	4
50	249 591	232 825	216 719	201 291	186 553	172 511	55
1	232 574	216 582	201 229	186 533	172 508	159 161	6
2	216 330	201 091	186 471	172 489	159 159	146 489	7
3	200 831	186 326	172 422	159 137	146 486	134 478	8
4	186 067	172 278	159 071	146 465	134 475	123 112	9
55	172 013	158 923	146 396	134 453	123 109	112 376	60
6	158 652	146 244	134 382	123 086	112 373	102 254·7	1
7	145 972	134 229	123 015	112 350	102 251·7	92 733·8	2
8	133 952	122 858	112 277	102 228·2	92 730·7	83 798·3	3
9	122 576	112 116	102 153·0	92 706·1	83 794·8	75 433·6	4
60	111 832·3	101 990·8	92 630·5	83 770·4	75 430·3	67 625·2	65
1	101 703·1	92 465·1	83 692·7	75 404·9	67 621·7	60 358·5	6
2	92 173·9	83 525·0	75 326·2	67 596·0	60 355·0	53 618·7	7
3	83 234·1	75 158·4	67 517·2	60 329·3	53 615·2	47 390·2	8
4	74 863·5	67 346·6	60 249·0	53 588·9	47 386·5	41 657·5	9
65	67 052·0	60 078·4	53 508·6	47 360·4	41 653·9	36 404·3	70
6	59 784·3	53 338·2	47 280·3	41 627·9	36 400·8	31 613·6	1
7	53 044·4	47 109·7	41 547·6	36 374·6	31 610·0	27 267·4	2
8	46 820·1	41 379·7	36 296·0	31 584·7	27 264·1	23 347·3	3
9	41 092·0	36 128·9	31 506·3	27 238·7	23 343·9	19 833·6	4
70	35 846·3	31 342·3	27 162·0	23 319·2	19 830·3	16 705·7	75
1	31 066·5	27 002·2	23 244·6	19 806·4	16 702·6	13 942·3	6
2	26 734·1	23 089·4	19 734·1	16 679·5	13 939·3	11 520·9	7
3	22 830·1	19 584·3	16 610·0	13 917·2	11 518·0	9 418·2	8
4	19 336·4	16 467·1	13 851·1	11 497·1	9 415·5	7 610·2	9
75	16 231·4	13 715·7	11 434·8	9 396·0	7 607·7	6 072·2	80

ONM

 $M_{[x]+t}$ and R_{x+t}

3 PER CENT.

YEARS ELAPSED SINCE DATE OF ASSURANCE

Age at Entry [x]	YEARS ELAPSED SINCE DATE OF ASSURANCE							Age Attained x+5
	0	1	2	3	4	5 or more		
	M _[x]	M _{[x]+1}	M _{[x]+2}	M _{[x]+3}	M _{[x]+4}	M _{x+5}	R _{x+5}	
20	18 498.87	18 273.10	17 971.97	17 632.49	17 279.77	16 927.77	501 941.69	25
1	18 111.88	17 892.69	17 600.33	17 270.24	16 926.84	16 583.71	485 013.92	26
2	17 737.17	17 523.86	17 239.03	16 917.60	16 582.81	16 248.32	468 430.21	27
3	17 372.43	17 163.36	16 886.83	16 573.84	16 247.00	15 920.07	452 181.89	28
4	17 016.81	16 813.83	16 543.96	16 238.74	15 919.23	15 599.69	436 261.82	29
25	16 671.57	16 472.64	16 209.28	15 910.76	15 598.86	15 285.75	420 662.13	30
6	16 331.98	16 137.50	15 880.50	15 589.82	15 284.95	14 978.15	405 376.38	31
7	16 002.20	15 811.63	15 560.84	15 276.16	14 977.37	14 676.41	390 398.23	32
8	15 677.98	15 490.82	15 245.71	14 967.32	14 674.90	14 379.31	375 721.82	33
9	15 363.01	15 179.27	14 938.88	14 665.88	14 378.58	14 088.31	361 342.51	34
30	15 052.50	14 872.51	14 636.79	14 369.48	14 086.89	13 801.16	347 254.20	35
1	14 747.57	14 570.88	14 340.14	14 077.33	13 799.77	13 517.54	333 453.04	36
2	14 448.95	14 274.77	14 047.46	13 789.80	13 516.19	13 237.49	319 935.50	37
3	14 154.67	13 982.63	13 759.80	13 505.85	13 236.19	12 967.72	306 668.01	38
4	13 865.69	13 695.81	13 476.37	13 226.14	12 959.45	12 686.64	293 737.29	39
35	13 581.33	13 412.95	13 196.55	12 949.38	12 685.41	12 415.03	281 050.65	40
6	13 299.61	13 133.12	12 919.12	12 674.73	12 413.24	12 144.78	268 635.62	41
7	13 021.56	12 856.34	12 644.15	12 402.28	12 143.05	11 875.76	256 490.84	42
8	12 745.63	12 580.81	12 371.12	12 131.83	11 874.08	11 607.84	244 615.08	43
9	12 471.57	12 308.17	12 100.43	11 862.90	11 606.20	11 340.37	233 007.24	44
40	12 201.06	12 037.66	11 831.05	11 594.55	11 338.52	11 072.76	221 666.87	45
1	11 930.58	11 767.61	11 562.53	11 326.66	11 071.48	10 805.50	210 594.11	46
2	11 660.80	11 498.08	11 293.53	11 058.71	10 803.26	10 536.80	199 788.61	47
3	11 392.29	11 229.14	11 024.99	10 790.59	10 535.10	10 267.45	189 251.81	48
4	11 124.18	10 960.49	10 756.64	10 522.09	10 265.81	9 997.02	178 984.36	49
45	10 855.21	10 690.90	10 486.51	10 251.77	9 994.73	9 724.20	168 987.34	50
6	10 586.07	10 420.56	10 216.07	9 980.88	9 722.43	9 449.81	159 263.14	51
7	10 316.52	10 149.78	9 944.43	9 707.88	9 447.66	9 172.66	149 813.33	52
8	10 044.71	9 876.72	9 670.51	9 432.88	9 170.57	8 893.14	140 640.67	53
9	9 771.05	9 601.57	9 394.28	9 155.19	8 890.91	8 610.62	131 747.53	54
50	9 496.08	9 324.45	9 115.67	8 874.77	8 608.26	8 325.11	123 136.91	55
1	9 218.33	9 044.82	8 834.61	8 591.61	8 322.43	8 036.26	114 811.80	56
2	8 938.83	8 763.66	8 550.86	8 305.89	8 033.66	7 744.33	106 775.54	57
3	8 655.15	8 477.41	8 263.33	8 016.32	7 741.45	7 448.84	99 031.21	58
4	8 369.47	8 189.23	7 973.17	7 723.71	7 446.05	7 150.07	91 582.37	59
55	8 080.27	7 897.64	7 679.52	7 427.78	7 147.18	6 847.94	84 432.30	60
6	7 787.25	7 602.15	7 382.11	7 128.09	6 844.80	6 542.58	77 584.36	61
7	7 491.55	7 304.10	7 082.08	6 825.78	6 539.70	6 234.60	71 041.78	62
8	7 192.59	7 002.56	6 778.34	6 519.95	6 231.65	5 924.10	64 807.18	63
9	6 889.63	6 697.49	6 471.56	6 211.10	5 920.64	5 611.18	58 883.08	64
60	6 584.20	6 389.75	6 162.25	5 900.21	5 608.10	5 297.12	53 271.90	65
1	6 275.86	6 079.23	5 850.28	5 586.97	5 293.71	4 981.84	47 974.78	66
2	5 964.22	5 766.18	5 536.20	5 272.21	4 978.39	4 666.62	42 992.94	67
3	5 651.47	5 452.10	5 221.35	4 956.96	4 663.41	4 352.42	38 326.32	68
4	5 336.44	5 136.00	4 905.29	4 641.55	4 348.78	4 039.83	33 973.90	69
65	5 020.69	4 819.98	4 589.64	4 327.02	4 036.41	3 730.40	29 934.07	70
6	4 704.87	4 504.21	4 275.22	4 014.66	3 726.96	3 425.44	26 203.67	71
7	4 389.66	4 190.01	3 962.88	3 705.24	3 421.87	3 125.92	22 778.23	72
8	4 076.66	3 878.54	3 654.24	3 400.54	3 122.68	2 833.73	19 652.31	73
9	3 766.18	3 570.42	3 349.83	3 101.50	2 830.47	2 550.16	16 818.58	74
70	3 459.93	3 267.42	3 051.71	2 809.69	2 547.00	2 276.82	14 268.42	75
1	3 159.47	2 971.14	2 761.13	2 526.83	2 273.75	2 015.35	11 991.60	76
2	2 865.98	2 682.79	2 479.79	2 254.38	2 012.37	1 767.15	9 976.25	77
3	2 580.87	2 403.91	2 209.01	1 993.77	1 764.36	1 533.75	8 209.10	78
4	2 306.11	2 136.37	1 950.53	1 746.79	1 531.13	1 316.34	6 675.35	79
75	2 042.90	1 881.39	1 705.79	1 514.56	1 313.90	1 116.08	5 359.01	80

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Tables

Age at Entry [x]	YEARS ELAPSED SINCE DATE OF ASSURANCE						Age Attained x+5
	0	1	2	3	4	5 or more	
	$a_{[x]}$	$a_{[x]+1}$	$a_{[x]+2}$	$a_{[x]+3}$	$a_{[x]+4}$	a_{x+5}	
20	21·862	21·613	21·391	21·183	20·979	20·773	25
1	21·680	21·425	21·197	20·983	20·773	20·561	6
2	21·491	21·230	20·997	20·777	20·562	20·343	7
3	21·296	21·031	20·791	20·566	20·344	20·120	8
4	21·096	20·825	20·580	20·348	20·120	19·890	9
25	20·890	20·613	20·362	20·124	19·891	19·654	30
6	20·680	20·397	20·139	19·895	19·655	19·412	1
7	20·463	20·173	19·910	19·659	19·413	19·165	2
8	20·240	19·945	19·675	19·418	19·165	18·911	3
9	20·011	19·710	19·433	19·170	18·911	18·650	4
30	19·776	19·469	19·186	18·916	18·651	18·384	35
1	19·536	19·223	18·933	18·656	18·384	18·111	6
2	19·290	18·970	18·674	18·390	18·112	17·833	7
3	19·037	18·711	18·408	18·118	17·834	17·548	8
4	18·779	18·446	18·136	17·840	17·549	17·258	9
35	18·514	18·175	17·859	17·555	17·258	16·961	40
6	18·243	17·897	17·575	17·265	16·962	16·659	1
7	17·967	17·614	17·285	16·969	16·660	16·350	2
8	17·684	17·326	16·990	16·667	16·351	16·037	3
9	17·397	17·031	16·689	16·359	16·038	15·718	4
40	17·102	16·731	16·381	16·046	15·719	15·394	45
1	16·803	16·425	16·069	15·728	15·395	15·064	6
2	16·498	16·114	15·751	15·404	15·066	14·730	7
3	16·189	15·798	15·429	15·075	14·732	14·392	8
4	15·873	15·476	15·101	14·742	14·393	14·049	9
45	15·553	15·150	14·769	14·405	14·051	13·702	50
6	15·228	14·819	14·432	14·062	13·704	13·352	1
7	14·898	14·484	14·091	13·716	13·354	12·999	2
8	14·565	14·145	13·746	13·366	13·001	12·642	3
9	14·228	13·802	13·399	13·014	12·644	12·283	4
50	13·887	13·456	13·047	12·658	12·285	11·922	55
1	13·543	13·107	12·693	12·300	11·925	11·560	6
2	13·196	12·754	12·336	11·940	11·562	11·196	7
3	12·846	12·401	11·978	11·579	11·199	10·832	8
4	12·494	12·045	11·619	11·216	10·835	10·467	9
55	12·141	11·687	11·257	10·853	10·470	10·103	60
6	11·786	11·329	10·896	10·489	10·106	9·740	1
7	11·431	10·970	10·534	10·126	9·743	9·378	2
8	11·074	10·611	10·173	9·764	9·381	9·018	3
9	10·719	10·253	9·813	9·403	9·022	8·661	4
60	10·363	9·896	9·455	9·044	8·664	8·306	65
1	10·009	9·541	9·098	8·688	8·310	7·956	6
2	9·657	9·187	8·744	8·335	7·960	7·609	7
3	9·307	8·836	8·393	7·986	7·613	7·267	8
4	8·959	8·489	8·046	7·640	7·271	6·930	9
65	8·615	8·145	7·703	7·299	6·935	6·599	70
6	8·274	7·805	7·365	6·964	6·604	6·274	1
7	7·938	7·470	7·032	6·634	6·279	5·956	2
8	7·606	7·140	6·704	6·310	5·961	5·645	3
9	7·280	6·816	6·383	5·994	5·650	5·341	4
70	6·959	6·498	6·068	5·684	5·347	5·045	75
1	6·644	6·186	5·761	5·381	5·051	4·758	6
2	6·335	5·882	5·461	5·087	4·764	4·479	7
3	6·034	5·584	5·168	4·801	4·485	4·209	8
4	5·739	5·295	4·884	4·523	4·215	3·948	9
75	5·452	5·013	4·609	4·254	3·955	3·697	80

O(NM)

ULTIMATE VALUES

3 PER CENT.

Age x	D_x	N_x	M_x	R_x	a_x	Age x
81	1 072.9	4 779.3	933.78	4 242.93	3.455	81
2	877.93	3 706.44	769.97	3 309.15	3.222	2
3	707.33	2 828.51	624.95	2 539.18	2.999	3
4	560.33	2 121.18	498.55	1 914.23	2.786	4
85	435.75	1 560.85	390.291	1 415.676	2.582	85
6	332.09	1 125.10	299.316	1 025.385	2.388	6
7	247.54	793.01	224.440	726.069	2.204	7
8	180.11	545.47	164.223	501.629	2.029	8
9	127.62	365.36	116.981	337.406	1.863	9
90	87.846	237.743	80.919	220.425	1.706	90
1	58.581	149.897	54.216	139.506	1.559	1
2	37.735	91.316	35.075	85.290	1.420	2
3	23.402	53.581	21.841 8	50.214 5	1.290	3
4	13.924	30.179	13.044 3	28.372 7	1.168	4
95	7.916 3	16.254 9	7.443 0	15.328 4	1.053	95
6	4.283 0	8.338 6	4.040 1	7.885 4	.947	6
7	2.194 7	4.055 6	2.076 5	3.845 3	.848	7
8	1.059 7	1.860 9	1.005 5	1.768 8	.756	8
9	.479 5	.801 2	.456 2	.763 3	.671	9
100	.202 1	.321 7	.192 7	.307 1	.592	100
1	.078 8	.119 6	.075 3	.114 4	.518	1
2	.028 2	.040 8	.027 0	.039 1	.448	2
3	.009 2	.012 6	.008 8	.012 1	.372	3
4	.002 7	.003 4	.002 6	.003 3	.264	4
105	.000 7	.000 7	.000 7	.000 7	.000	105

O(NM)

JOINT LIFE ANNUITIES

3 PER CENT.

Two Lives

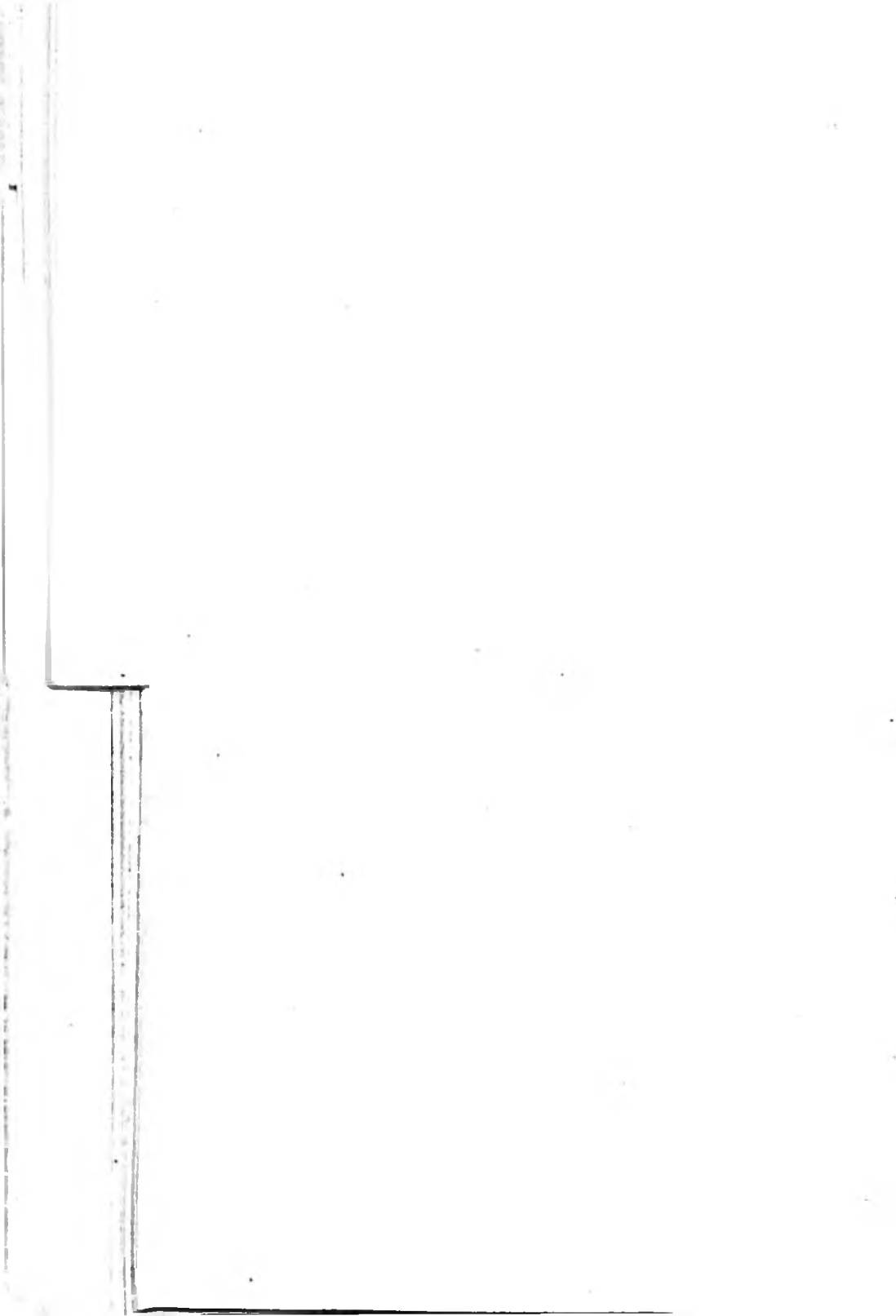
SELECT VALUES

ULTIMATE VALUES

Age x	$a_{[xx]}$	Age x	$a_{[xx]}$	Age x	$a_{[xx]}$	Age x	$a_{[xx]}$	Age x	$a_{[xx]}$	Age x	$a_{[xx]}$	Age x	$a_{[xx]}$
20	18.363	40	13.674	60	7.416	25	17.213	45	11.930	65	5.537	85	1.307
1	18.184	1	13.383	1	7.110	6	17.004	6	11.613	6	5.249	6	1.185
2	17.999	2	13.087	2	6.809	7	16.789	7	11.295	7	4.967	7	1.071
3	17.808	3	12.787	3	6.512	8	16.567	8	10.973	8	4.692	8	0.965
4	17.611	4	12.482	4	6.221	9	16.340	9	10.648	9	4.425	9	.865
25	17.407	45	12.175	65	5.935	30	16.107	50	10.322	70	4.166	90	.773
6	17.200	6	11.864	6	5.654	1	15.867	1	9.994	1	3.914	1	.687
7	16.985	7	11.550	7	5.380	2	15.622	2	9.665	2	3.671	2	.608
8	16.765	8	11.234	8	5.113	3	15.371	3	9.336	3	3.436	3	.536
9	16.538	9	10.916	9	4.853	4	15.114	4	9.007	4	3.210	4	.469
30	16.306	50	10.596	70	4.599	35	14.850	55	8.678	75	2.993	95	.408
1	16.069	1	10.275	1	4.353	6	14.581	6	8.351	6	2.785	6	.352
2	15.825	2	9.953	2	4.115	7	14.307	7	8.024	7	2.585	7	.302
3	15.576	3	9.632	3	3.884	8	14.027	8	7.701	8	2.395	8	.256
4	15.321	4	9.311	4	3.661	9	13.741	9	7.379	9	2.213	9	.216
35	15.059	55	8.990	75	3.446	40	13.451	60	7.061	80	2.041	100	.180
6	14.792	6	8.671			1	13.156	1	6.747	1	1.877	1	.148
7	14.520	7	8.353			2	12.856	2	6.437	2	1.722	2	.120
8	14.243	8	8.037			3	12.551	3	6.131	3	1.575	3	.096
9	13.962	9	7.725			4	12.242	4	5.831	4	1.437	4	.072
												105	.000

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Tables



SECTION V

CARLISLE EXPERIENCE

MONETARY TABLES

VARIOUS RATES OF INTEREST

Carlisle

**Manchest
Unity**

**Conversion
Tables**

Values of Annuities—Carlisle 3, 4, 5, 6 and 7 per cent.

Single Lives

<i>x</i>	<i>a_x</i> 3 %	<i>a_x</i> 4 %	<i>a_x</i> 5 %	<i>a_x</i> 6 %	<i>a_x</i> 7 %	<i>x</i>
20	21.694	18.362	15.817	13.835	12.259	20
1	21.504	18.232	15.726	13.769	12.210	1
2	21.304	18.094	15.628	13.697	12.156	2
3	21.098	17.950	15.525	13.621	12.098	3
4	20.885	17.801	15.417	13.541	12.037	4
25	20.665	17.645	15.303	13.456	11.972	25
6	20.442	17.486	15.187	13.368	11.904	6
7	20.212	17.320	15.065	13.275	11.832	7
8	19.981	17.154	14.942	13.182	11.759	8
9	19.761	16.997	14.827	13.096	11.693	9
30	19.556	16.852	14.723	13.020	11.636	30
1	19.348	16.705	14.617	12.942	11.578	1
2	19.134	16.552	14.506	12.860	11.516	2
3	18.910	16.391	14.387	12.771	11.448	3
4	18.675	16.219	14.260	12.675	11.374	4
35	18.433	16.041	14.127	12.573	11.295	35
6	18.183	15.856	13.987	12.465	11.211	6
7	17.928	15.666	13.843	12.354	11.124	7
8	17.669	15.471	13.695	12.239	11.033	8
9	17.405	15.272	13.542	12.120	10.939	9
40	17.143	15.074	13.390	12.002	10.845	40
1	16.890	14.883	13.245	11.890	10.757	1
2	16.640	14.695	13.101	11.779	10.671	2
3	16.389	14.505	12.957	11.668	10.585	3
4	16.130	14.309	12.806	11.551	10.494	4
45	15.863	14.105	12.648	11.428	10.397	45
6	15.585	13.889	12.480	11.296	10.292	6
7	15.294	13.662	12.301	11.154	10.178	7
8	14.986	13.419	12.107	10.998	10.052	8
9	14.654	13.153	11.892	10.823	9.908	9
50	14.303	12.869	11.660	10.631	9.749	50
1	13.932	12.566	11.410	10.422	9.573	1
2	13.558	12.258	11.154	10.208	9.392	2
3	13.180	11.945	10.892	9.988	9.205	3
4	12.798	11.627	10.624	9.761	9.011	4

Values of Annuities—Carlisle 3, 4, 5, 6 and 7 per cent.

Single Lives (continued)

<i>x</i>	<i>a_x</i> 3 %	<i>a_x</i> 4 %	<i>a_x</i> 5 %	<i>a_x</i> 6 %	<i>a_x</i> 7 %	<i>x</i>
55	12.408	11.300	10.347	9.524	8.807	55
6	12.014	10.966	10.063	9.280	8.595	6
7	11.614	10.626	9.771	9.027	8.375	7
8	11.218	10.286	9.478	8.772	8.153	8
9	10.841	9.963	9.199	8.529	7.940	9
60	10.491	9.663	8.940	8.304	7.743	60
1	10.180	9.398	8.712	8.108	7.572	1
2	9.875	9.137	8.487	7.913	7.403	2
3	9.567	8.872	8.258	7.714	7.229	3
4	9.246	8.593	8.016	7.502	7.042	4
65	8.917	8.307	7.765	7.281	6.847	65
6	8.578	8.010	7.503	7.049	6.641	6
7	8.228	7.700	7.227	6.803	6.421	7
8	7.869	7.380	6.941	6.546	6.189	8
9	7.499	7.049	6.643	6.277	5.945	9
70	7.123	6.709	6.336	5.998	5.690	70
1	6.737	6.358	6.015	5.704	5.420	1
2	6.373	6.025	5.711	5.424	5.162	2
3	6.044	5.725	5.435	5.170	4.927	3
4	5.752	5.458	5.190	4.944	4.719	4
75	5.512	5.239	4.989	4.760	4.549	75
6	5.277	5.024	4.792	4.579	4.382	6
7	5.059	4.825	4.609	4.410	4.227	7
8	4.838	4.622	4.422	4.238	4.067	8
9	4.592	4.393	4.210	4.040	3.883	9
80	4.365	4.183	4.015	3.858	3.713	80
1	4.119	3.953	3.799	3.656	3.523	1
2	3.898	3.746	3.606	3.474	3.352	2
3	3.672	3.534	3.406	3.286	3.174	3
4	3.454	3.329	3.211	3.102	2.999	4
85	3.229	3.115	3.009	2.909	2.815	85
6	3.033	2.928	2.830	2.739	2.652	6
7	2.873	2.776	2.685	2.599	2.519	7
8	2.776	2.683	2.597	2.515	2.439	8
9	2.665	2.577	2.495	2.417	2.344	9

Values of Annuities—Carlisle 3, 4, 5, 6 and 7 per cent.

Joint Lives

<i>x</i>	<i>y</i>	a_{xy} 3 %	a_{xy} 4 %	a_{xy} 5 %	a_{xy} 6 %	a_{xy} 7 %	<i>x</i>	<i>y</i>
25	25	16·916	14·800	13·101	11·718	10·566	25	25
	30	16·311	14·339	12·742	11·433	10·338		30
	35	15·660	13·848	12·365	11·139	10·102		35
	40	14·824	13·202	11·856	10·733	9·773		40
	45	13·954	12·530	11·335	10·323	9·458		45
	50	12·793	11·599	10·581	9·708	8·948		50
	55	11·274	10·325	9·505	8·790	8·162		55
	60	9·669	8·943	8·306	7·744	7·246		60
	65	8·329	7·783	7·295	6·859	6·465		65
	70	6·736	6·358	6·017	5·706	5·422		70
	75	5·263	5·010	4·778	4·565	4·368		75
	80	4·203	4·033	3·874	3·727	3·590		80
30	30	15·784	13·930	12·419	11·173	10·125	30	30
	35	15·209	13·491	12·078	10·904	9·910		35
	40	14·449	12·897	11·607	10·526	9·599		40
	45	13·650	12·278	11·121	10·142	9·302		45
	50	12·551	11·393	10·404	9·554	8·817		50
	55	11·089	10·164	9·364	8·666	8·055		55
	60	9·529	8·820	8·196	7·645	7·153		60
	65	8·224	7·688	7·210	6·781	6·394		65
	70	6·662	6·291	5·954	5·648	5·369		70
	75	5·213	4·964	4·735	4·524	4·329		75
	80	4·168	3·999	3·843	3·697	3·561		80
35	35	14·720	13·111	11·780	10·666	9·715	35	35
	40	14·048	12·581	11·354	10·320	9·433		40
	45	13·331	12·019	10·912	9·968	9·154		45
	50	12·314	11·196	10·238	9·414	8·696		50
	55	10·919	10·020	9·240	8·559	7·959		55
	60	9·410	8·716	8·105	7·565	7·084		60
	65	8·140	7·614	7·143	6·721	6·341		65
	70	6·608	6·242	5·910	5·609	5·335		70
	75	5·179	4·933	4·706	4·498	4·306		75
	80	4·148	3·981	3·826	3·681	3·546		80
	80	4·102	3·937	3·784	3·642	3·510		80
40	40	13·481	12·125	10·984	10·014	9·183	40	40
	45	12·868	11·641	10·598	9·705	8·933		45
	50	11·954	10·894	9·984	9·197	8·508		50
	55	10·658	9·796	9·044	8·389	7·815		55
	60	9·224	8·553	7·961	7·436	6·965		60
	65	8·006	7·493	7·034	6·622	6·252		65
	70	6·515	6·157	5·832	5·536	5·265		70
	75	5·115	4·872	4·650	4·446	4·258		75
	80	4·102	3·937	3·784	3·642	3·510		80

Values of Annuities—Carlisle 3, 4, 5, 6 and 7 per cent.

Joint Lives (continued)

<i>x</i>	<i>y</i>	a_{xy} 3 %	a_{xy} 4 %	a_{xy} 5 %	a_{xy} 6 %	a_{xy} 7 %	<i>x</i>	<i>y</i>
45	45	12.371	11.243	10.278	9.444	8.716	45	45
	50	11.580	10.591	9.737	8.994	8.343		50
	55	10.400	9.583	8.870	8.243	7.691		55
	60	9.063	8.417	7.846	7.339	6.886		60
	65	7.910	7.411	6.964	6.562	6.198		65
	70	6.465	6.113	5.793	5.502	5.236		70
	75	5.089	4.850	4.630	4.427	4.240		75
	80	4.087	3.924	3.772	3.631	3.500		80
50	50	10.942	10.059	9.291	8.617	8.024	50	50
	55	9.924	9.181	8.528	7.952	7.440		55
	60	8.729	8.132	7.601	7.127	6.703		60
	65	7.691	7.221	6.799	6.417	6.073		65
	70	6.338	6.001	5.695	5.415	5.160		70
	75	5.022	4.790	4.577	4.380	4.199		75
	80	4.054	3.894	3.746	3.607	3.478		80
55	55	9.103	8.465	7.900	7.397	6.948	55	55
	60	8.098	7.574	7.106	6.685	6.306		60
	65	7.219	6.798	6.418	6.073	5.758		65
	70	6.019	5.712	5.431	5.174	4.939		70
	75	4.813	4.598	4.400	4.217	4.047		75
	80	3.920	3.770	3.630	3.499	3.378		80
60	60	7.295	6.854	6.456	6.097	5.772	60	60
	65	6.589	6.225	5.895	5.594	5.320		65
	70	5.565	5.293	5.044	4.816	4.606		70
	75	4.498	4.304	4.125	3.959	3.806		75
	80	3.695	3.558	3.430	3.310	3.198		80
65	65	6.047	5.738	5.456	5.197	4.960	65	65
	70	5.193	4.956	4.737	4.534	4.347		70
	75	4.257	4.082	3.921	3.770	3.631		75
	80	3.542	3.416	3.297	3.186	3.081		80
70	70	4.556	4.367	4.191	4.028	3.877	70	70
	75	3.804	3.661	3.528	3.403	3.286		75
	80	3.228	3.121	3.020	2.925	2.836		80
75	75	3.231	3.119	3.015	2.916	2.823	75	75
	80	2.790	2.704	2.623	2.546	2.474		80
80	80	2.459	2.390	2.324	2.260	2.200	80	80

*Single and Annual Premiums for Contingent Assurances—
Carlisle 3 per cent.*

<i>x</i>	<i>y</i>	<i>A_n</i>	<i>P_n</i>	<i>x</i>	<i>y</i>	<i>A_n</i>	<i>P_n</i>	<i>x</i>	<i>y</i>	<i>A_n</i>	<i>P_n</i>
25	25	·239 10	·013 35	45	25	·401 82	·026 87	65	25	·643 95	·069 03
	30	·220 13	·012 72		30	·384 31	·026 24		30	·633 26	·068 66
	35	·201 25	·012 08		35	·363 62	·025 37		35	·623 39	·068 21
	40	·181 25	·011 46		40	·336 37	·024 25		40	·608 89	·067 61
	45	·162 63	·010 88		45	·305 28	·022 83		45	·593 98	·066 66
	50	·142 83	·010 36		50	·266 50	·021 18		50	·564 38	·064 94
	55	·121 32	·009 88		55	·222 54	·019 52		55	·513 76	·062 51
	60	·100 80	·009 45		60	·180 19	·017 91		60	·453 41	·059 75
	65	·084 35	·009 04		65	·146 49	·016 44		65	·397 38	·056 39
	70	·066 42	·008 59		70	·113 28	·015 18		70	·323 98	·052 31
30	75	·051 06	·008 15	50	75	·086 26	·014 13	70	75	·255 02	·048 52
	80	·040 33	·007 75		80	·068 41	·013 45		80	·203 82	·044 87
	25	·275 66	·015 92		25	·455 45	·033 02		25	·708 27	·091 56
	30	·255 58	·015 23		30	·440 09	·032 48		30	·698 71	·091 19
	35	·234 27	·014 45		35	·421 93	·031 69		35	·690 86	·090 81
	40	·211 19	·013 67		40	·396 52	·030 61		40	·678 85	·090 33
	45	·189 03	·012 90		45	·367 08	·029 18		45	·669 29	·089 66
	50	·165 21	·012 19		50	·326 08	·027 31		50	·647 45	·088 23
	55	·140 06	·011 59		55	·275 25	·025 20		55	·603 47	·085 98
	60	·116 69	·011 08		60	·224 90	·023 12		60	·546 42	·083 23
35	65	·098 09	·010 63	55	65	·182 47	·021 00	75	65	·495 64	·080 03
	70	·078 12	·010 20		70	·138 83	·018 92		70	·419 09	·075 43
	75	·060 72	·009 77		75	·103 29	·017 15		75	·339 87	·070 75
	80	·048 49	·009 38		80	·078 73	·015 58		80	·279 50	·066 10
	25	·313 52	·018 82		25	·521 18	·042 46		25	·766 52	·122 38
	30	·293 63	·018 12		30	·507 83	·042 01		30	·758 32	·122 05
	35	·271 07	·017 24		35	·493 13	·041 37		35	·752 03	·121 71
	40	·244 79	·016 27		40	·471 25	·040 42		40	·741 95	·121 34
	45	·218 96	·015 28		45	·445 41	·039 07		45	·736 38	·120 93
	50	·190 31	·014 30		50	·406 59	·037 22		50	·721 33	·119 79
40	55	·159 72	·013 40	60	55	·352 87	·034 93	80	55	·685 01	·117 83
	60	·131 90	·012 67		60	·295 57	·032 49		60	·634 74	·115 46
	65	·110 39	·012 08		65	·246 84	·030 03		65	·591 88	·112 60
	70	·087 56	·011 51		70	·192 09	·027 37		70	·520 21	·108 29
	75	·068 00	·011 00		75	·145 67	·025 06		75	·438 39	·103 62
	80	·054 02	·010 49		80	·112 94	·022 96		80	·375 38	·099 03
	25	·357 89	·022 62		25	·588 47	·055 16		25	·808 11	·155 30
	30	·338 84	·021 93		30	·576 63	·054 77		30	·800 98	·154 98
	35	·316 91	·021 06		35	·564 90	·054 27		35	·796 05	·154 64
	40	·289 10	·019 96		40	·547 26	·053 53		40	·786 70	·154 21
45	45	·259 69	·018 73	55	45	·526 73	·052 35	60	45	·783 42	·154 00
	50	·226 16	·017 46		50	·491 72	·050 54		50	·774 07	·153 16
	55	·189 21	·016 23		55	·439 42	·048 30		55	·743 77	·151 18
	60	·154 94	·015 15		60	·379 20	·045 71		60	·698 43	·148 75
	65	·128 80	·014 30		65	·325 56	·042 90		65	·663 88	·146 15
	70	·102 26	·013 61		70	·262 36	·039 96		70	·597 34	·141 27
	75	·079 96	·013 08		75	·205 14	·037 32		75	·514 22	·135 66
	80	·064 71	·012 69		80	·164 81	·035 10		80	·449 63	·129 99

SECTION VI

MANCHESTER UNITY EXPERIENCE

1893-97, WHOLE SOCIETY

MORTALITY AND SICKNESS TABLE, WITH
MONETARY TABLES BASED THEREON
AT 4 PER CENT. INTEREST

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Manchester
Unity

Conversion
Tables

MANCHESTER UNITY

Mortality and Sickness Table

Age	q _x	WEEKS OF SICKNESS PER MEMBER PER ANNUM						Age
		First 3 months	Second 3 months	Second 6 months	Second 12 months	After 2 years	All periods	
16	·002 02	·930	·054	·021	·000	·000	1·005	16
17	·002 30	·899	·057	·024	·000	·000	·980	17
18	·002 58	·855	·063	·028	·006	·000	·952	18
19	·002 86	·807	·069	·035	·012	·001	·924	19
20	·003 14	·763	·075	·041	·018	·004	·901	20
21	·003 42	·729	·081	·046	·024	·009	·889	21
22	·003 67	·708	·086	·051	·029	·016	·890	22
23	·003 90	·699	·088	·054	·035	·024	·900	23
24	·004 10	·695	·091	·057	·037	·033	·913	24
25	·004 28	·605	·093	·059	·040	·041	·928	25
26	·004 43	·696	·094	·062	·041	·048	·941	26
27	·004 57	·697	·096	·064	·044	·053	·954	27
28	·004 72	·701	·098	·065	·046	·058	·968	28
29	·004 89	·706	·101	·067	·048	·063	·985	29
30	·005 07	·713	·104	·069	·052	·069	1·007	30
31	·005 27	·722	·107	·071	·055	·078	1·033	31
32	·005 49	·731	·111	·075	·058	·088	1·063	32
33	·005 74	·740	·115	·079	·060	·101	1·095	33
34	·006 01	·750	·119	·084	·062	·114	1·129	34
35	·006 30	·761	·124	·089	·065	·129	1·168	35
36	·006 64	·773	·130	·094	·070	·145	1·212	36
37	·007 02	·788	·135	·101	·075	·163	1·262	37
38	·007 43	·805	·142	·107	·083	·183	1·320	38
39	·007 88	·824	·148	·115	·090	·206	1·383	39
40	·008 35	·843	·156	·123	·097	·230	1·449	40
41	·008 83	·862	·165	·130	·106	·253	1·516	41
42	·009 32	·881	·173	·138	·113	·277	1·582	42
43	·009 80	·899	·182	·146	·121	·301	1·649	43
44	·010 28	·918	·191	·154	·128	·327	1·718	44
45	·010 78	·938	·200	·164	·135	·357	1·794	45
46	·011 32	·960	·210	·175	·143	·391	1·879	46
47	·011 93	·985	·222	·187	·154	·431	1·979	47
48	·012 66	1·012	·237	·199	·168	·480	2·096	48
49	·013 53	1·041	·254	·213	·185	·538	2·231	49
50	·014 55	1·072	·272	·228	·203	·609	2·384	50
51	·015 70	1·104	·289	·248	·224	·691	2·556	51
52	·016 96	1·137	·309	·268	·247	·784	2·745	52
53	·018 29	1·173	·328	·294	·272	·888	2·955	53
54	·019 66	1·212	·352	·322	·300	·999	3·185	54
55	·021 06	1·255	·378	·355	·333	1·117	3·438	55
56	·022 53	1·299	·408	·394	·374	1·240	3·715	56
57	·024 12	1·345	·441	·436	·423	1·374	4·019	57
58	·025 91	1·392	·476	·484	·480	1·525	4·357	58
59	·027 98	1·440	·514	·538	·549	1·704	4·745	59

MANCHESTER UNITY

Mortality and Sickness Table (continued)

Age	q.	WEEKS OF SICKNESS PER MEMBER PER ANNUM						Age
		First 3 months	Second 3 months	Second 6 months	Second 12 months	After 2 years	All periods	
60	·030 39	1·490	·557	·597	·629	1·925	5·198	60
61	·033 13	1·545	·602	·663	·721	2·203	5·734	61
62	·036 18	1·603	·648	·734	·828	2·547	6·360	62
63	·039 50	1·662	·695	·808	·947	2·960	7·072	63
64	·043 03	1·721	·743	·884	1·072	3·443	7·863	64
65	·046 72	1·778	·792	·964	1·205	3·992	8·731	65
66	·050 57	1·833	·846	1·051	1·348	4·607	9·685	66
67	·054 64	1·884	·906	1·150	1·508	5·299	10·747	67
68	·058 99	1·926	·970	1·259	1·687	6·086	11·928	68
69	·063 74	1·954	1·032	1·374	1·883	6·981	13·224	69
70	·068 98	1·968	1·087	1·487	2·083	7·992	14·617	70
71	·074 79	1·967	1·131	1·590	2·280	9·116	16·084	71
72	·081 18	1·956	1·164	1·680	2·468	10·337	17·605	72
73	·088 29	1·941	1·189	1·754	2·644	11·644	19·172	73
74	·096 15	1·925	1·208	1·816	2·809	13·026	20·784	74
75	·104 81	1·905	1·225	1·867	2·956	14·475	22·428	75
76	·114 14	1·877	1·238	1·903	3·078	15·977	24·073	76
77	·124 14	1·840	1·247	1·922	3·166	17·530	25·705	77
78	·134 73	1·789	1·249	1·927	3·213	19·122	27·300	78
79	·145 82	1·728	1·239	1·911	3·222	20·744	28·844	79
80	·157 26	1·660	1·215	1·879	3·203	22·363	30·320	80
81	·168 90	1·589	1·185	1·832	3·164	23·926	31·696	81
82	·180 54	1·521	1·143	1·778	3·107	25·365	32·914	82
83	·192 02	1·456	1·100	1·718	3·019	26·638	33·931	83
84	·203 16	1·389	1·055	1·667	2·903	27·748	34·762	84
85	·214 12	1·316	1·001	1·621	2·771	28·702	35·411	85
86	·225 10	1·233	·942	1·578	2·658	29·527	35·938	86
87	·236 38	1·145	·920	1·510	2·608	30·228	36·411	87
88	·247 88	1·062	·914	1·507	2·548	30·892	36·923	88
89	·259 52	1·062	·914	1·507	2·548	31·494	37·525	89
90	·271 16	1·062	·914	1·507	2·548	32·216	38·247	90
91	·282 58	1·062	·914	1·507	2·548	32·991	39·022	91
92	·293 56	1·062	·914	1·507	2·548	32·991	39·022	92
93	·304 50	1·062	·914	1·507	2·548	32·991	39·022	93
94	·316 68	1·062	·914	1·507	2·548	32·991	39·022	94
95	·332 66	1·062	·914	1·507	2·548	32·991	39·022	95
96	·356 48	1·062	·914	1·507	2·548	32·991	39·022	96
97	·393 64	1·062	·914	1·507	2·548	32·991	39·022	97
98	·450 84	1·062	·914	1·507	2·548	32·991	39·022	98
99	·535 30	1·062	·914	1·507	2·548	32·991	39·022	99
100	1·000 00	1·062	·914	1·507	2·548	32·991	39·022	100

MANCHESTER UNITY

*Commutation Columns. Continuous Values of Annuities, and
Continuous Single and Annual Premiums for Life Assurance*

4 per cent.

Age x	D_x	N_x	Annuity $\bar{a}_x$	PREMIUMS FOR LIFE ASSURANCE		Age x
				Single A_x	Annual $(\infty) P_x$	
16	53 391	1 119 548	20·467	·1973	·009 64	16
17	51 233	1 066 157	20·306	·2036	·010 03	17
18	49 150	1 014 924	20·146	·2098	·010 42	18
19	47 138	965 774	19·986	·2161	·010 81	19
20	45 195	918 636	19·823	·2225	·011 22	20
21	43 320	873 441	19·659	·2290	·011 64	21
22	41 512	830 121	19·494	·2354	·012 08	22
23	39 768	788 609	19·327	·2420	·012 52	23
24	38 089	748 841	19·156	·2487	·012 98	24
25	36 475	710 752	18·982	·2555	·013 46	25
26	34 921	674 277	18·805	·2625	·013 96	26
27	33 430	639 356	18·622	·2696	·014 48	27
28	31 997	605 926	18·433	·2770	·015 03	28
29	30 621	573 929	18·239	·2847	·015 60	29
30	29 299	543 308	18·039	·2925	·016 21	30
31	28 030	514 009	17·834	·3005	·016 85	31
32	26 810	485 979	17·623	·3088	·017 52	32
33	25 637	459 169	17·406	·3173	·018 23	33
34	24 510	433 532	17·184	·3260	·018 97	34
35	23 425	409 022	16·957	·3349	·019 75	35
36	22 383	385 597	16·723	·3441	·020 58	36
37	21 379	363 214	16·485	·3534	·021 44	37
38	20 412	341 835	16·242	·3630	·022 35	38
39	19 481	321 423	15·995	·3727	·023 30	39
40	18 584	301 942	15·743	·3825	·024 30	40
41	17 720	283 358	15·487	·3926	·025 35	41
42	16 888	265 638	15·225	·4029	·026 46	42
43	16 088	248 750	14·958	·4133	·027 63	43
44	15 317	232 662	14·686	·4240	·028 87	44
45	14 576	217 345	14·407	·4350	·030 19	45
46	13 865	202 769	14·120	·4462	·031 60	46
47	13 180	188 904	13·828	·4577	·033 10	47
48	12 522	175 724	13·529	·4694	·034 70	48
49	11 889	163 202	13·223	·4814	·036 40	49
50	11 276	151 313	12·915	·4935	·038 21	50
51	10 685	140 037	12·602	·5057	·040 13	51
52	10 113	129 352	12·286	·5181	·042 17	52
53	9 558·9	119 239·8	11·969	·5306	·044 33	53
54	9 023·0	109 680·9	11·651	·5430	·046 61	54
55	8 505·5	100 657·9	11·329	·5557	·049 05	55
56	8 006·3	92 152·4	11·005	·5684	·051 65	56
57	7 524·7	84 146·1	10·678	·5812	·054 43	57
58	7 060·9	76 621·4	10·346	·5942	·057 44	58
59	6 613·5	69 560·5	10·013	·6073	·060 65	59

MANCHESTER UNITY

*Commutation Columns. Continuous Values of Annuities, and
Continuous Single and Annual Premiums for Life Assurance*
(continued)

4 per cent.

Age x	D_x	N_x	Annuity $\ddot{a}_x$	PREMIUMS FOR LIFE ASSURANCE		Age x
				Single $\bar{A}_x$	Annual (∞) $\bar{P}_x$	
60	6 181.2	62 947.0	9.678	.6204	.064 11	60
61	5 762.9	56 765.8	9.344	.6335	.067 80	61
62	5 357.7	51 002.9	9.013	.6465	.071 73	62
63	4 965.2	45 645.2	8.687	.6593	.075 89	63
64	4 585.7	40 680.0	8.364	.6719	.080 34	64
65	4 219.7	36 094.3	8.047	.6844	.085 05	65
66	3 867.8	31 874.6	7.734	.6967	.090 08	66
67	3 530.9	28 006.8	7.424	.7088	.095 48	67
68	3 209.7	24 475.9	7.118	.7208	.101 27	68
69	2 904.1	21 266.2	6.815	.7327	.107 52	69
70	2 614.4	18 362.1	6.515	.7445	.114 27	70
71	2 340.5	15 747.7	6.219	.7561	.121 58	71
72	2 082.1	13 407.2	5.929	.7675	.129 44	72
73	1 839.5	11 325.1	5.645	.7786	.137 92	73
74	1 612.7	9 485.6	5.371	.7893	.146 96	74
75	1 401.5	7 872.9	5.105	.7998	.156 66	75
76	1 206.4	6 471.4	4.851	.8097	.166 92	76
77	1 027.6	5 265.0	4.609	.8192	.177 75	77
78	865.41	4 237.4	4.382	.8281	.188 99	78
79	720.01	3 371.99	4.167	.8366	.200 76	79
80	591.37	2 651.98	3.967	.8444	.212 86	80
81	479.19	2 060.61	3.782	.8517	.225 19	81
82	382.95	1 581.42	3.611	.8584	.237 71	82
83	301.72	1 198.47	3.452	.8646	.250 46	83
84	234.42	896.75	3.303	.8705	.263 53	84
85	179.61	662.33	3.165	.8759	.276 73	85
86	135.71	482.72	3.033	.8810	.290 49	86
87	101.11	347.01	2.907	.8860	.304 78	87
88	74.24	245.90	2.786	.8907	.319 72	88
89	53.71	171.66	2.668	.8954	.335 59	89
90	38.22	117.95	2.557	.8997	.351 86	90
91	26.80	79.73	2.445	.9041	.369 78	91
92	18.48	52.93	2.332	.9085	.389 59	92
93	12.56	34.45	2.210	.9133	.413 27	93
94	8.39	21.89	2.073	.9187	.443 17	94
95	5.52	13.50	1.911	.9250	.484 07	95
96	3.54	7.98	1.714	.9328	.544 21	96
97	2.18	4.44	1.492	.9415	.631 02	97
98	1.28	2.26	1.215	.9523	.783 81	98
99	.68	.98	.881	.9654	1.095 80	99
100	.30	.30	.415	.9837	2.370 36	100

MANCHESTER UNITY

*Values of Sickness Benefits of 1 per week
4 per cent.*

Age <i>x</i>	First 3 months	Second 3 months	Second 6 months	Second 12 months	After 2 years	All periods	Age <i>x</i>
16	17.92	3.46	3.11	3.16	10.83	38.48	16
17	17.73	3.55	3.22	3.29	11.28	39.07	17
18	17.56	3.65	3.33	3.43	11.76	39.73	18
19	17.44	3.74	3.45	3.57	12.26	40.45	19
20	17.36	3.83	3.56	3.71	12.79	41.25	20
21	17.33	3.92	3.67	3.85	13.34	42.11	21
22	17.35	4.01	3.78	3.99	13.91	43.04	22
23	17.38	4.09	3.90	4.14	14.50	44.02	23
24	17.43	4.18	4.02	4.29	15.12	45.04	24
25	17.50	4.28	4.14	4.44	15.75	46.10	25
26	17.56	4.37	4.26	4.60	16.41	47.20	26
27	17.64	4.47	4.38	4.76	17.10	48.35	27
28	17.71	4.57	4.52	4.93	17.81	49.54	28
29	17.79	4.68	4.65	5.10	18.55	50.77	29
30	17.87	4.78	4.80	5.28	19.32	52.06	30
31	17.95	4.90	4.94	5.47	20.13	53.38	31
32	18.03	5.01	5.09	5.66	20.96	54.76	32
33	18.11	5.12	5.25	5.86	21.83	56.17	33
34	18.19	5.24	5.41	6.07	22.73	57.64	34
35	18.26	5.36	5.57	6.29	23.67	59.15	35
36	18.33	5.49	5.74	6.51	24.64	60.71	36
37	18.40	5.61	5.92	6.74	25.64	62.32	37
38	18.47	5.74	6.09	6.99	26.69	63.98	38
39	18.53	5.87	6.28	7.24	27.78	65.69	39
40	18.58	6.00	6.46	7.50	28.91	67.44	40
41	18.62	6.13	6.65	7.76	30.09	69.25	41
42	18.65	6.27	6.85	8.03	31.31	71.11	42
43	18.68	6.40	7.04	8.32	32.58	73.03	43
44	18.70	6.53	7.25	8.61	33.91	75.01	44
45	18.71	6.67	7.46	8.92	35.30	77.06	45
46	18.71	6.81	7.67	9.24	36.75	79.18	46
47	18.69	6.95	7.89	9.57	38.26	81.36	47
48	18.66	7.08	8.11	9.92	39.82	83.60	48
49	18.62	7.22	8.34	10.27	41.45	85.91	49
50	18.56	7.35	8.58	10.64	43.15	88.28	50
51	18.49	7.48	8.82	11.02	44.91	90.72	51
52	18.40	7.60	9.06	11.42	46.75	93.23	52
53	18.30	7.73	9.31	11.82	48.65	95.81	53
54	18.18	7.85	9.56	12.24	50.62	98.45	54
55	18.03	7.96	9.81	12.68	52.67	101.16	55
56	17.86	8.07	10.06	13.13	54.81	103.93	56
57	17.67	8.16	10.30	13.59	57.04	106.75	57
58	17.44	8.25	10.52	14.04	59.36	109.61	58
59	17.18	8.31	10.73	14.49	61.80	112.52	59

MANCHESTER UNITY

*Values of Sickness Benefits of 1 per week (continued)**4 per cent.*

Age <i>x</i>	First 3 months	Second 3 months	Second 6 months	Second 12 months	After 2 years	All periods	Age <i>x</i>
60	16.89	8.36	10.93	14.93	64.36	115.48	60
61	16.58	8.39	11.10	15.37	67.04	118.48	61
62	16.23	8.40	11.25	15.78	69.83	121.49	62
63	15.85	8.39	11.38	16.17	72.70	124.49	63
64	15.43	8.36	11.48	16.52	75.63	127.43	64
65	14.97	8.31	11.56	16.84	78.61	130.29	65
66	14.47	8.24	11.60	17.11	81.59	133.02	66
67	13.94	8.14	11.61	17.34	84.55	135.57	67
68	13.35	8.01	11.56	17.49	87.45	137.86	68
69	12.73	7.83	11.45	17.55	90.25	139.82	69
70	12.08	7.61	11.28	17.52	92.89	141.37	70
71	11.42	7.35	11.02	17.36	95.31	142.46	71
72	10.75	7.06	10.70	17.10	97.46	143.07	72
73	10.08	6.75	10.33	16.72	99.31	143.19	73
74	9.42	6.43	9.90	16.25	100.83	142.84	74
75	8.78	6.10	9.44	15.68	102.03	142.03	75
76	8.14	5.77	8.96	15.01	102.91	140.79	76
77	7.52	5.43	8.45	14.30	103.46	139.16	77
78	6.92	5.08	7.93	13.52	103.71	137.17	78
79	6.35	4.74	7.42	12.72	103.64	134.86	79
80	5.82	4.40	6.92	11.92	103.22	132.27	80
81	5.33	4.07	6.44	11.14	102.45	129.43	81
82	4.88	3.77	6.00	10.38	101.32	126.35	82
83	4.47	3.48	5.60	9.66	99.88	123.10	83
84	4.10	3.23	5.25	8.98	98.17	119.73	84
85	3.75	3.00	4.94	8.39	96.21	116.30	85
86	3.44	2.81	4.66	7.90	94.08	112.89	86
87	3.18	2.68	4.41	7.50	91.78	109.54	87
88	2.98	2.56	4.22	7.14	89.40	106.31	88
89	2.85	2.46	4.05	6.85	86.90	103.11	89
90	2.74	2.36	3.88	6.57	84.36	99.91	90
91	2.62	2.26	3.72	6.28	81.35	96.22	91
92	2.50	2.15	3.55	6.00	77.70	91.90	92
93	2.37	2.04	3.37	5.69	73.71	87.18	93
94	2.23	1.92	3.16	5.35	69.27	81.94	94
95	2.06	1.77	2.92	4.94	63.95	75.65	95
96	1.85	1.60	2.63	4.45	57.56	68.08	96
97	1.62	1.40	2.30	3.89	50.36	59.57	97
98	1.32	1.15	1.88	3.18	41.25	48.80	98
99	.97	.87	1.40	2.36	30.59	36.19	99
100	.50	.47	.74	1.25	16.16	19.12	100

MANCHESTER UNITY
Commutation Columns K for Sickness Benefit Values
4 per cent.

Age x	First 3 months K_x^3	First 6 months K_x^6	First 12 months K_x^{12}	Second 12 months $K_x^{12/12}$	After 2 years $K_x^{24/12}$	Age x
16	956 860	1 141 786	1 307 957	168 472	578 049	16
17	908 220	1 090 321	1 255 394	168 472	578 049	17
18	863 108	1 042 349	1 206 217	168 472	578 049	18
19	821 954	998 163	1 160 684	168 183	578 049	19
20	784 706	957 731	1 118 636	167 629	578 003	20
21	750 945	920 652	1 079 742	166 834	577 826	21
22	720 031	886 303	1 043 443	165 816	577 444	22
23	691 265	854 043	1 009 110	164 638	576 794	23
24	664 061	823 414	976 379	163 276	575 860	24
25	638 157	794 118	944 958	161 897	574 630	25
26	613 353	765 994	914 729	160 469	573 167	26
27	589 573	739 002	885 619	159 068	571 527	27
28	566 777	713 067	857 590	157 630	569 793	28
29	544 835	688 057	830 546	156 189	567 978	29
30	523 689	663 886	804 368	154 751	566 091	30
31	503 256	640 473	778 978	153 261	564 113	31
32	483 464	617 748	754 307	151 753	561 975	32
33	464 299	595 674	730 266	150 233	559 668	33
34	445 750	574 242	706 853	148 730	557 136	34
35	427 779	553 420	684 018	147 244	554 405	35
36	410 354	533 156	661 716	145 756	551 451	36
37	393 445	513 493	639 906	144 225	548 279	37
38	376 983	494 122	618 515	142 658	544 874	38
39	360 930	475 237	597 497	141 002	541 225	39
40	345 251	456 742	576 814	139 290	537 305	40
41	329 953	438 613	556 453	137 530	533 131	41
42	315 041	420 847	536 438	135 696	528 754	42
43	300 519	403 474	516 790	133 834	524 188	43
44	286 407	386 504	497 529	131 934	519 463	44
45	272 690	369 933	478 657	130 022	514 577	45
46	259 355	353 755	460 148	128 102	509 502	46
47	246 377	337 939	441 966	126 169	504 216	47
48	233 722	322 432	424 057	124 190	498 679	48
49	221 374	307 193	406 389	122 141	492 822	49
50	209 321	292 199	388 928	119 999	486 593	50
51	197 554	277 446	371 672	117 771	479 908	51
52	186 078	262 966	354 614	115 442	472 725	52
53	174 899	248 749	337 762	113 014	465 016	53
54	164 005	234 808	321 091	110 487	456 769	54
55	153 387	221 106	304 568	107 859	448 017	55
56	143 030	207 630	288 162	105 111	438 799	56
57	132 947	194 380	271 853	102 208	429 174	57
58	123 143	181 361	255 656	99 124	419 158	58
59	113 630	168 595	239 582	95 844	408 736	59

MANCHESTER UNITY

Commutation Columns K for Sickness Benefit Values (continued)

4 per cent.

Age x	First 3 months K_x^3	First 6 months K_x^6	First 12 months K_x^{12}	Second 12 months $K_x^{12/12}$	After 2 years $K_x^{2/12}$	Age x
60	104 422	156 101	223 647	92 334	397 840	60
61	95 528.5	143 882	207 865	88 579	386 350	61
62	86 942.3	131 950	192 249	84 572	374 107	62
63	78 673.1	120 338	176 851	80 300	360 968	63
64	70 740.9	109 089	161 746	75 780	346 841	64
65	63 168.7	98 248.3	147 015	71 064	331 692	65
66	55 983.9	87 863.3	132 734	66 195	315 560	66
67	49 207.8	77 959.8	118 945	61 212	298 529	67
68	42 862.9	68 563.9	105 676	56 134	280 683	68
69	36 979.9	59 718.0	92 984.9	50 981.1	262 093	69
70	31 593.0	51 485.9	80 964.9	45 790.1	242 847	70
71	26 721.7	43 924.0	69 721.9	40 634.1	223 065	71
72	22 376.2	37 079.8	59 364.9	35 597.1	202 926	72
73	18 544.8	30 968.4	49 962.7	30 762.3	182 678	73
74	15 198.2	25 571.8	41 541.8	26 203.2	162 602	74
75	12 300.5	20 855.6	34 091.9	21 974.1	142 994	75
76	9 819.71	16 779.5	27 584.5	18 124.5	124 144	76
77	7 726.01	13 304.9	21 987.2	14 691.8	106 322	77
78	5 987.01	10 387.3	17 253.2	11 699.9	89 753.9	78
79	4 571.11	7 982.87	13 323.8	9 157.6	74 619.9	79
80	3 440.01	6 040.87	10 130.9	7 048.5	61 041.9	80
81	2 553.09	4 504.77	7 590.87	5 337.53	49 093.9	81
82	1 869.51	3 311.37	5 609.37	3 976.03	38 800.9	82
83	1 349.93	2 401.35	4 091.97	2 915.03	30 136.3	83
84	960.51	1 717.72	2 948.87	2 107.43	23 011.7	84
85	673.66	1 213.00	2 090.88	1 507.92	17 281.4	85
86	466.70	848.62	1 480.58	1 072.12	12 767.7	86
87	321.09	591.76	1 037.37	758.33	9 280.70	87
88	220.98	411.21	724.80	530.26	6 637.80	88
89	153.24	285.17	502.63	367.73	4 667.30	89
90	104.58	194.63	343.04	251.02	3 224.20	90
91	70.17	130.60	230.18	168.38	2 180.30	91
92	46.21	86.01	151.59	110.90	1 435.91	92
93	29.79	55.45	97.73	71.50	925.71	93
94	18.71	34.83	61.38	44.91	581.38	94
95	11.35	21.14	37.25	27.26	352.82	95
96	6.56	12.22	21.54	15.76	203.97	96
97	3.53	6.59	11.61	8.49	109.93	97
98	1.70	3.18	5.60	4.09	53.01	98
99	.66	1.25	2.20	1.60	20.79	99
100	.15	.29	.51	.37	4.80	100

MANCHESTER UNITY

Continuous Values of Annuities, and Continuous Single Premiums for Life Assurance. Joint Lives. Equal Age

4 per cent.

Age z	Joint Life Annuity $\ddot{a}_{xx}$	SINGLE PREMIUMS FOR ASSURANCE		Age z	Joint Life Annuity $\ddot{a}_{xx}$	SINGLE PREMIUMS FOR ASSURANCE	
		First death $\bar{A}_{xx}$	Death of Wife in Husband's lifetime $\bar{A}_{xx}^1$			First death $\bar{A}_{xx}$	Death of Wife in Husband's lifetime $\bar{A}_{xx}^1$
16	18.519	.2737	.1368	60	7.027	.7244	.3622
17	18.317	.2816	.1408	61	6.720	.7364	.3682
18	18.115	.2895	.1448	62	6.421	.7482	.3741
19	17.915	.2974	.1487	63	6.129	.7596	.3798
20	17.716	.3052	.1526	64	5.847	.7707	.3853
21	17.518	.3129	.1565	65	5.573	.7814	.3907
22	17.321	.3207	.1603	66	5.307	.7919	.3959
23	17.124	.3284	.1642	67	5.048	.8020	.4010
24	16.925	.3362	.1681	68	4.794	.8120	.4060
25	16.722	.3441	.1721	69	4.545	.8217	.4109
26	16.517	.3522	.1761	70	4.301	.8313	.4156
27	16.307	.3604	.1802	71	4.064	.8406	.4203
28	16.090	.3689	.1845	72	3.833	.8497	.4248
29	15.869	.3776	.1888	73	3.609	.8585	.4292
30	15.641	.3866	.1933	74	3.394	.8669	.4334
31	15.408	.3957	.1978	75	3.189	.8749	.4375
32	15.169	.4051	.2025	76	2.994	.8826	.4413
33	14.925	.4146	.2073	77	2.812	.8897	.4448
34	14.676	.4244	.2122	78	2.643	.8963	.4482
35	14.423	.4343	.2172	79	2.486	.9025	.4513
36	14.163	.4445	.2223	80	2.342	.9081	.4541
37	13.900	.4548	.2274	81	2.211	.9133	.4566
38	13.634	.4653	.2326	82	2.093	.9179	.4589
39	13.365	.4758	.2379	83	1.985	.9221	.4611
40	13.094	.4864	.2432	84	1.887	.9260	.4630
41	12.820	.4972	.2486	85	1.797	.9295	.4648
42	12.542	.5081	.2540	86	1.713	.9328	.4664
43	12.261	.5191	.2596	87	1.635	.9359	.4679
44	11.976	.5303	.2651	88	1.560	.9388	.4694
45	11.685	.5417	.2709	89	1.489	.9416	.4708
46	11.387	.5534	.2767	90	1.427	.9440	.4720
47	11.084	.5653	.2826	91	1.365	.9465	.4732
48	10.774	.5774	.2887	92	1.308	.9487	.4744
49	10.461	.5897	.2948	93	1.249	.9510	.4755
50	10.147	.6020	.3010	94	1.186	.9535	.4767
51	9.831	.6144	.3072	95	1.108	.9565	.4783
52	9.518	.6267	.3134	96	1.008	.9605	.4802
53	9.205	.6390	.3195	97	.900	.9647	.4823
54	8.894	.6512	.3256	98	.752	.9705	.4853
55	8.584	.6633	.3317	99	.581	.9772	.4886
56	8.274	.6755	.3377	100	.330	.9871	.4935
57	7.963	.6877	.3438				
58	7.649	.7000	.3500				
59	7.337	.7122	.3561				

SECTION VII
PREMIUM CONVERSION TABLES

PREMIUM CONVERSION TABLE

SINGLE PREMIUMS: Interest 3 per cent.

Annuity Value a	Single Premium $[A = 1 - d(1+a)]$									
	0	1	2	3	4	5	6	7	8	9
1	.941 75	.938 83	.935 92	.933 01	.930 10	.927 18	.924 27	.921 36	.918 45	.915 53
2	.912 62	.909 71	.906 80	.903 88	.900 97	.898 06	.895 15	.892 23	.889 32	.886 41
3	.883 50	.880 58	.877 67	.874 76	.871 84	.868 93	.866 02	.863 11	.860 19	.857 28
4	.854 37	.851 46	.848 54	.845 63	.842 72	.839 81	.836 80	.833 98	.831 07	.828 16
5	.825 24	.822 33	.819 42	.816 50	.813 59	.810 68	.807 77	.804 85	.801 94	.799 03
6	.796 12	.793 20	.790 29	.787 38	.784 47	.781 55	.778 64	.775 73	.772 82	.769 90
7	.766 99	.764 08	.761 17	.758 25	.755 34	.752 43	.749 51	.746 60	.743 69	.740 78
8	.737 86	.734 95	.732 04	.729 13	.726 21	.723 30	.720 39	.717 48	.714 56	.711 65
9	.708 74	.705 83	.702 91	.700 00	.697 09	.694 17	.691 26	.688 35	.685 44	.682 52
10	.679 61	.676 70	.673 79	.670 87	.667 96	.665 05	.662 14	.659 22	.656 31	.653 40
11	.650 49	.647 57	.644 66	.641 75	.638 83	.635 92	.633 01	.630 10	.627 18	.624 27
12	.621 36	.618 45	.615 53	.612 62	.609 71	.606 80	.603 88	.600 97	.598 06	.595 15
13	.592 23	.589 32	.586 41	.583 50	.580 58	.577 67	.574 76	.571 84	.568 93	.566 02
14	.563 11	.560 19	.557 28	.554 37	.551 46	.548 54	.545 63	.542 72	.539 81	.536 89
15	.533 98	.531 07	.528 16	.525 24	.522 33	.519 42	.516 50	.513 59	.510 68	.507 77
16	.504 85	.501 94	.499 03	.496 12	.493 20	.490 29	.487 38	.484 47	.481 55	.478 64
17	.475 73	.472 82	.469 90	.466 99	.464 08	.461 17	.458 25	.455 34	.452 43	.449 51
18	.446 60	.443 69	.440 78	.437 86	.434 95	.432 04	.429 13	.426 21	.423 30	.420 39
19	.417 48	.414 56	.411 65	.408 74	.405 83	.402 91	.400 00	.397 09	.394 17	.391 26
20	.388 35	.385 44	.382 52	.379 61	.376 70	.373 79	.370 87	.367 96	.365 05	.362 14
21	.359 22	.356 31	.353 40	.350 49	.347 57	.344 66	.341 75	.338 83	.335 92	.333 01
22	.330 10	.327 18	.324 27	.321 36	.318 45	.315 53	.312 62	.309 71	.306 80	.303 88
23	.300 97	.298 06	.295 15	.292 23	.289 32	.286 41	.283 50	.280 58	.277 67	.274 76
24	.271 84	.268 93	.266 02	.263 11	.260 19	.257 28	.254 37	.251 46	.248 54	.245 63
25	.242 72	.239 81	.236 89	.233 98	.231 07	.228 16	.225 24	.222 33	.219 42	.216 50
	0	1	2	3	4	5	6	7	8	9
Proportional Parts		29	58	87	116	146	175	204	233	262

ANNUAL PREMIUMS: Interest 3 per cent.

Annuity Value a	Annual Premium $[P = \frac{1}{1+a} - d]$									
	0	1	2	3	4	5	6	7	8	9
1	.470 87	.447 06	.425 42	.405 66	.387 54	.370 87	.355 49	.341 24	.328 02	.315 70
2	.304 11	.293 45	.283 37	.273 90	.264 99	.256 59	.248 65	.241 14	.234 03	.227 28
3	.220 87	.214 78	.208 97	.203 43	.198 15	.193 10	.188 27	.183 64	.179 21	.174 96
4	.170 87	.166 05	.163 18	.159 55	.156 06	.152 69	.149 45	.146 31	.143 29	.140 37
5	.137 54	.134 81	.132 16	.129 60	.127 12	.124 72	.122 39	.120 13	.117 93	.115 80
6	.113 73	.111 72	.109 76	.107 86	.106 01	.104 21	.102 45	.100 74	.099 08	.097 46
7	.095 87	.094 33	.092 83	.091 36	.089 92	.088 52	.087 15	.085 82	.084 51	.083 23
8	.081 98	.080 76	.079 57	.078 40	.077 26	.076 14	.075 04	.073 97	.072 91	.071 88
9	.070 87	.069 88	.068 91	.067 96	.067 03	.066 11	.065 21	.064 33	.063 47	.062 62
10	.061 78	.060 95	.060 16	.059 37	.058 59	.057 83	.057 08	.056 34	.055 62	.054 91
11	.054 21	.053 52	.052 84	.052 17	.051 52	.050 87	.050 24	.049 61	.049 00	.048 39
12	.047 80	.047 21	.046 63	.046 06	.045 50	.044 95	.044 40	.043 87	.043 34	.042 82
13	.042 30	.041 80	.041 30	.040 80	.040 32	.039 84	.039 37	.038 90	.038 44	.037 99
14	.037 54	.037 10	.036 66	.036 23	.035 81	.035 39	.034 98	.034 57	.034 16	.033 77
15	.033 37	.032 99	.032 60	.032 22	.031 85	.031 48	.031 11	.030 75	.030 40	.030 05
16	.029 70	.029 35	.029 01	.028 68	.028 35	.028 02	.027 69	.027 37	.027 05	.026 74
17	.026 43	.026 12	.025 82	.025 52	.025 22	.024 93	.024 64	.024 35	.024 07	.023 78
18	.023 51	.023 23	.022 96	.022 69	.022 42	.022 16	.021 89	.021 64	.021 38	.021 13
19	.020 87	.020 63	.020 38	.020 13	.019 89	.019 65	.019 42	.019 18	.018 95	.018 72
20	.018 49	.018 27	.018 04	.017 82	.017 60	.017 39	.017 17	.016 96	.016 75	.016 54
21	.016 33	.016 12	.015 92	.015 72	.015 52	.015 32	.015 12	.014 93	.014 73	.014 54
22	.014 35	.014 16	.013 98	.013 79	.013 61	.013 43	.013 25	.013 07	.012 89	.012 71
23	.012 54	.012 37	.012 20	.012 03	.011 86	.011 69	.011 52	.011 36	.011 20	.011 03
24	.010 87	.010 71	.010 56	.010 40	.010 24	.010 09	.009 94	.009 78	.009 63	.009 48
25	.009 34	.009 19	.009 04	.008 90	.008 75	.008 61	.008 47	.008 33	.008 19	.008 05
	0	1	2	3	4	5	6	7	8	9

PREMIUM CONVERSION TABLE

SINGLE PREMIUMS: *Interest 4 per cent.*

Annuity Value α	Single Premium $[A = i - d(1 + a)]$									
	0	1	2	3	4	5	6	7	8	9
1	.923 08	.919 23	.915 38	.911 54	.907 69	.903 85	.900 00	.896 15	.892 31	.888 46
2	.884 62	.880 77	.876 92	.873 08	.869 23	.865 38	.861 54	.857 69	.853 85	.850 00
3	.846 15	.842 31	.838 46	.834 62	.830 77	.826 92	.823 08	.819 23	.815 38	.811 54
4	.807 69	.803 85	.800 00	.796 15	.792 31	.788 46	.784 62	.780 77	.776 92	.773 08
5	.769 23	.765 38	.761 54	.757 69	.753 85	.750 00	.746 15	.742 31	.738 46	.734 62
6	.730 77	.726 92	.723 08	.719 23	.715 38	.711 54	.707 69	.703 85	.700 00	.696 15
7	.692 31	.688 46	.684 62	.680 77	.676 92	.673 08	.669 23	.665 38	.661 54	.657 69
8	.653 85	.650 00	.646 15	.642 31	.638 46	.634 62	.630 77	.626 92	.623 08	.619 23
9	.615 38	.611 54	.607 69	.603 85	.600 00	.596 15	.592 31	.588 46	.584 62	.580 77
10	.576 92	.573 08	.569 23	.565 38	.561 54	.557 69	.553 85	.550 00	.546 15	.542 31
11	.538 46	.534 62	.530 77	.526 92	.523 08	.519 23	.515 38	.511 54	.507 69	.503 85
12	.500 00	.496 15	.492 31	.488 46	.484 62	.480 77	.476 92	.473 08	.469 23	.465 38
13	.461 54	.457 69	.453 85	.450 00	.446 15	.442 31	.438 46	.434 62	.430 77	.426 92
14	.423 08	.419 23	.415 38	.411 54	.407 69	.403 85	.400 00	.396 15	.392 31	.388 46
15	.384 62	.380 77	.376 92	.373 08	.369 23	.365 38	.361 54	.357 69	.353 85	.350 00
16	.346 15	.342 31	.338 46	.334 62	.330 77	.326 92	.323 08	.319 23	.315 38	.311 54
17	.307 69	.303 85	.300 00	.296 15	.292 31	.288 46	.284 62	.280 77	.276 92	.273 08
18	.269 23	.265 38	.261 54	.257 69	.253 85	.250 00	.246 15	.242 31	.238 46	.234 62
19	.230 77	.226 92	.223 08	.219 23	.215 38	.211 54	.207 69	.203 85	.200 00	.196 15
20	.192 31	.188 46	.184 62	.180 77	.176 92	.173 08	.169 23	.165 38	.161 54	.157 69
21	.153 85	.150 00	.146 15	.142 31	.138 46	.134 62	.130 77	.126 92	.123 08	.119 23
22	.115 38	.111 54	.107 69	.103 85	.100 00	.096 15	.092 31	.088 46	.084 62	.080 77
23	.076 92	.073 08	.069 23	.065 38	.061 54	.057 69	.053 85	.050 00	.046 15	.042 31
24	.038 46	.034 62	.030 77	.026 92	.023 08	.019 23	.015 38	.011 54	.007 69	.003 85
	0	1	2	3	4	5	6	7	8	9
Proportional Parts	39	77	116	154	193	231	270	308	347	

ANNUAL PREMIUMS: *Interest 4 per cent.*

Annuity Value α	Annual Premium $[P = \frac{i}{1+a} - d]$									
	0	1	2	3	4	5	6	7	8	9
1	.461 54	.437 73	.416 08	.396 32	.378 21	.361 54	.346 15	.331 91	.318 68	.306 37
2	.294 87	.284 12	.274 04	.264 57	.255 66	.247 25	.239 32	.231 81	.224 70	.217 95
3	.211 54	.205 44	.199 63	.194 10	.188 81	.183 76	.178 93	.174 30	.169 87	.165 62
4	.161 54	.157 62	.153 85	.150 22	.146 72	.143 36	.140 11	.136 98	.133 95	.131 03
5	.128 21	.125 47	.122 83	.120 27	.117 79	.115 38	.113 05	.110 79	.108 60	.106 47
6	.104 40	.102 38	.100 43	.098 52	.096 67	.094 87	.093 12	.091 41	.089 74	.088 12
7	.086 54	.085 00	.083 49	.082 02	.080 59	.079 19	.077 82	.076 48	.075 17	.073 90
8	.072 65	.071 43	.070 23	.069 07	.067 92	.066 80	.065 71	.064 63	.063 58	.062 55
9	.061 54	.060 55	.059 58	.058 63	.057 69	.056 78	.055 88	.055 00	.054 13	.053 28
10	.052 45	.051 63	.050 82	.050 03	.049 26	.048 49	.047 75	.047 01	.046 28	.045 57
11	.044 87	.044 18	.043 51	.042 84	.042 18	.041 54	.040 90	.040 28	.039 66	.039 06
12	.038 46	.037 87	.037 30	.036 73	.036 17	.035 61	.035 07	.034 53	.034 00	.033 48
13	.032 97	.032 46	.031 96	.031 47	.030 98	.030 50	.030 03	.029 57	.029 11	.028 65
14	.028 21	.027 76	.027 33	.026 90	.026 47	.026 05	.025 64	.025 23	.024 83	.024 43
15	.024 04	.023 65	.023 27	.022 89	.022 51	.022 14	.021 78	.021 42	.021 06	.020 71
16	.020 36	.020 02	.019 68	.019 34	.019 01	.018 68	.018 36	.018 04	.017 72	.017 40
17	.017 09	.016 79	.016 48	.016 18	.015 89	.015 59	.015 30	.015 01	.014 73	.014 45
18	.014 17	.013 89	.013 62	.013 35	.013 08	.012 82	.012 56	.012 30	.012 04	.011 79
19	.011 54	.011 29	.011 04	.010 80	.010 56	.010 32	.010 08	.009 85	.009 62	.009 39
20	.009 16	.008 93	.008 71	.008 49	.008 27	.008 05	.007 83	.007 62	.007 41	.007 20
21	.006 99	.006 79	.006 58	.006 38	.006 18	.005 98	.005 79	.005 59	.005 40	.005 21
22	.005 02	.004 83	.004 64	.004 46	.004 27	.004 09	.003 91	.003 73	.003 56	.003 38
23	.003 21	.003 03	.002 86	.002 69	.002 52	.002 35	.002 19	.002 02	.001 86	.001 70
24	.001 54	.001 38	.001 22	.001 06	.000 91	.000 75	.000 60	.000 45	.000 30	.000 15
	0	1	2	3	4	5	6	7	8	9

PREMIUM CONVERSION TABLE

SINGLE PREMIUMS: *Interest 5 per cent.*

Annuity Value <i>a</i>	Single Premium $[A = 1 - d(1 + a)]$									
	0	1	2	3	4	5	6	7	8	9
1	.904 76	.900 00	.895 24	.890 48	.885 71	.880 95	.876 19	.871 43	.866 67	.861 90
2	.857 14	.852 38	.847 62	.842 86	.838 10	.833 33	.828 57	.823 81	.819 05	.814 29
3	.809 52	.804 76	.800 00	.795 24	.790 48	.785 71	.780 95	.776 19	.771 43	.766 67
4	.761 90	.757 14	.752 38	.747 62	.742 86	.738 10	.733 33	.728 57	.723 81	.719 05
5	.714 29	.709 52	.704 76	.700 00	.695 24	.690 48	.685 71	.680 95	.676 19	.671 43
6	.666 67	.661 90	.657 14	.652 38	.647 62	.642 86	.638 10	.633 33	.628 57	.623 81
7	.619 05	.614 29	.609 52	.604 76	.600 00	.595 24	.590 48	.585 71	.580 95	.576 19
8	.571 43	.566 67	.561 90	.557 14	.552 38	.547 62	.542 86	.538 10	.533 33	.528 57
9	.523 81	.519 05	.514 29	.509 52	.504 76	.500 00	.495 24	.490 48	.485 71	.480 95
10	.476 19	.471 43	.466 67	.461 90	.457 14	.452 38	.447 62	.442 86	.438 10	.433 33
11	.428 57	.423 81	.419 05	.414 29	.409 52	.404 76	.400 00	.395 24	.390 48	.385 71
12	.380 95	.376 19	.371 43	.366 67	.361 90	.357 14	.352 38	.347 62	.342 86	.338 10
13	.333 33	.328 57	.323 81	.319 05	.314 29	.309 52	.304 76	.300 00	.295 24	.290 48
14	.285 71	.280 95	.276 19	.271 43	.266 67	.261 90	.257 14	.252 38	.247 62	.242 86
15	.238 10	.233 33	.228 57	.223 81	.219 05	.214 29	.209 52	.204 76	.200 00	.195 24
16	.190 48	.185 71	.180 95	.176 19	.171 43	.166 67	.161 90	.157 14	.152 38	.147 62
17	.142 86	.138 10	.133 33	.128 57	.123 81	.119 05	.114 29	.109 52	.104 76	.100 00
18	.095 24	.090 48	.085 71	.080 95	.076 19	.071 43	.066 67	.061 90	.057 14	.052 38
19	.047 62	.042 86	.038 10	.033 33	.028 57	.023 81	.019 05	.014 29	.009 52	.004 76
	0	1	2	3	4	5	6	7	8	9
Proportional Parts	48	95	143	190	238	286	333	381	429	

ANNUAL PREMIUMS: *Interest 5 per cent.*

Annuity Value <i>a</i>	Annual Premium $\left[P = \frac{1}{1+a} - d\right]$									
	0	1	2	3	4	5	6	7	8	9
1	.452 38	.428 57	.406 93	.387 16	.369 05	.352 38	.337 00	.322 75	.309 52	.297 21
2	.285 71	.274 06	.264 88	.255 41	.246 50	.238 10	.230 16	.222 65	.215 54	.208 79
3	.202 38	.196 28	.190 48	.184 94	.179 65	.174 60	.169 77	.165 15	.160 71	.156 46
4	.152 38	.148 46	.144 69	.141 06	.137 57	.134 20	.130 95	.127 82	.124 79	.121 87
5	.119 05	.116 32	.113 67	.111 11	.108 63	.106 23	.103 90	.101 63	.099 44	.097 31
6	.095 24	.093 23	.091 27	.089 37	.087 52	.085 71	.083 96	.082 25	.080 59	.078 96
7	.077 38	.075 84	.074 23	.072 86	.071 43	.070 03	.068 66	.067 32	.066 02	.064 74
8	.063 49	.062 27	.061 08	.059 91	.058 76	.057 64	.056 55	.055 47	.054 42	.053 39
9	.052 38	.051 39	.050 42	.049 47	.048 53	.047 62	.046 72	.045 84	.044 97	.044 12
10	.043 29	.042 47	.041 67	.040 88	.040 10	.039 34	.038 59	.037 85	.037 13	.036 41
11	.035 71	.035 03	.034 35	.033 68	.033 03	.032 38	.031 75	.031 12	.030 51	.029 90
12	.029 30	.028 72	.028 14	.027 57	.027 01	.026 46	.025 91	.025 37	.024 84	.024 32
13	.023 81	.023 30	.022 80	.022 31	.021 83	.021 35	.020 87	.020 41	.019 95	.019 50
14	.019 05	.018 61	.018 17	.017 74	.017 32	.016 90	.016 48	.016 08	.015 67	.015 27
15	.014 88	.014 49	.014 11	.013 73	.013 36	.012 99	.012 62	.012 26	.011 90	.011 55
16	.011 20	.010 86	.010 52	.010 18	.009 85	.009 52	.009 20	.008 88	.008 56	.008 25
17	.007 94	.007 63	.007 33	.007 03	.006 73	.006 44	.006 14	.005 86	.005 57	.005 29
18	.005 01	.004 74	.004 46	.004 19	.003 93	.003 66	.003 40	.003 14	.002 89	.002 63
19	.002 38	.002 13	.001 89	.001 64	.001 40	.001 16	.000 92	.000 69	.000 46	.000 23
	0	1	2	3	4	5	6	7	8	9

PREMIUM CONVERSION TABLE

SINGLE PREMIUMS: *Interest 6 per cent.*

Annuity Value <i>a</i>	Single Premium [$A = 1 - d(1 + a)$]									
	0	1	2	3	4	5	6	7	8	9
1	.886 79	.881 13	.875 47	.869 81	.864 15	.858 49	.852 83	.847 17	.841 51	.835 85
2	.830 19	.824 53	.818 87	.813 21	.807 55	.801 89	.796 23	.790 57	.784 91	.779 25
3	.773 58	.767 92	.762 26	.756 60	.750 94	.745 28	.739 62	.733 96	.728 30	.722 64
4	.716 98	.711 32	.705 66	.700 00	.694 34	.688 68	.683 02	.677 36	.671 70	.666 04
5	.660 38	.654 72	.649 06	.643 40	.637 74	.632 08	.626 42	.620 75	.615 09	.609 43
6	.603 77	.598 11	.592 45	.586 79	.581 13	.575 47	.569 81	.564 15	.558 49	.552 83
7	.547 17	.541 51	.535 85	.530 19	.524 53	.518 87	.513 21	.507 55	.501 89	.496 23
8	.490 57	.484 91	.479 25	.473 58	.467 92	.462 26	.456 60	.450 94	.445 28	.439 62
9	.433 96	.428 30	.422 64	.416 98	.411 32	.405 66	.400 00	.394 34	.388 68	.383 02
10	.377 36	.371 70	.366 04	.360 38	.354 72	.349 06	.343 40	.337 74	.332 08	.326 42
11	.320 75	.315 09	.309 43	.303 77	.298 11	.292 45	.286 79	.281 13	.275 47	.269 81
12	.264 15	.258 49	.252 83	.247 17	.241 51	.235 85	.230 19	.224 53	.218 87	.213 21
13	.207 55	.201 89	.196 23	.190 57	.184 91	.179 25	.173 58	.167 92	.162 26	.156 60
14	.150 94	.145 28	.139 62	.133 96	.128 30	.122 64	.116 98	.111 32	.105 66	.100 00
15	.094 34	.088 68	.083 02	.077 36	.071 70	.066 04	.060 38	.054 72	.049 06	.043 40
16	.037 74	.032 08	.026 42	.020 75	.015 09	.009 43	.003 77	—	—	—
	0	1	2	3	4	5	6	7	8	9
Proportional Parts	57	113	170	226	283	340	396	453	509	

ANNUAL PREMIUMS: *Interest 6 per cent.*

Annuity Value <i>a</i>	Annual Premium [$P = \frac{1}{1+a} - d$]									
	0	1	2	3	4	5	6	7	8	9
1	.443 40	.419 59	.397 94	.378 18	.360 06	.343 40	.328 01	.313 77	.300 54	.288 22
2	.276 73	.265 98	.255 90	.246 43	.237 51	.229 11	.221 17	.213 67	.206 55	.199 81
3	.193 40	.187 30	.181 49	.175 95	.170 67	.165 62	.160 79	.156 16	.151 73	.147 48
4	.143 40	.139 47	.135 70	.132 08	.128 58	.125 21	.121 97	.118 83	.115 81	.112 89
5	.110 06	.107 33	.104 69	.102 13	.099 65	.097 24	.094 91	.092 65	.090 46	.088 32
6	.086 25	.084 24	.082 29	.080 38	.078 53	.076 73	.074 98	.073 27	.071 60	.069 98
7	.068 40	.066 85	.065 35	.063 88	.062 44	.061 04	.059 68	.058 34	.057 03	.055 76
8	.054 51	.053 29	.052 09	.050 92	.049 78	.048 66	.047 56	.046 49	.045 44	.044 41
9	.043 40	.042 41	.041 44	.040 48	.039 55	.038 63	.037 74	.036 85	.035 99	.035 14
10	.034 31	.033 49	.032 68	.031 89	.031 12	.030 35	.029 60	.028 87	.028 14	.027 43
11	.026 73	.026 04	.025 36	.024 70	.024 04	.023 40	.022 76	.022 14	.021 52	.020 92
12	.020 32	.019 73	.019 15	.018 58	.018 02	.017 47	.016 93	.016 39	.015 86	.015 34
13	.014 82	.014 32	.013 82	.013 33	.012 84	.012 36	.011 89	.011 42	.010 96	.010 51
14	.010 06	.009 62	.009 19	.008 76	.008 33	.007 91	.007 50	.007 09	.006 69	.006 29
15	.005 90	.005 51	.005 12	.004 75	.004 37	.004 00	.003 64	.003 28	.002 92	.002 57
16	.002 22	.001 88	.001 54	.001 20	.000 87	.000 54	.000 21	—	—	—
	0	1	2	3	4	5	6	7	8	9

PREMIUM CONVERSION TABLE

SINGLE PREMIUMS: *Interest 7 per cent.*

Annuity Value <i>a</i>	Single Premium [$A = 1 - d(1 + a)$]									
	0	1	2	3	4	5	6	7	8	9
1	.869 16	.862 62	.856 07	.849 53	.842 99	.836 45	.829 91	.823 36	.816 82	.810 28
2	.803 74	.797 20	.790 65	.784 11	.777 57	.771 03	.764 49	.757 94	.751 40	.744 86
3	.738 32	.731 78	.725 23	.718 69	.712 15	.705 61	.699 07	.692 52	.685 98	.679 44
4	.672 90	.666 36	.659 81	.653 27	.646 73	.640 19	.633 64	.627 10	.620 56	.614 02
5	.607 48	.600 93	.594 39	.587 85	.581 31	.574 77	.568 22	.561 68	.555 14	.548 60
6	.542 06	.535 51	.528 97	.522 43	.515 89	.509 35	.502 80	.496 26	.489 72	.483 18
7	.476 64	.470 09	.463 55	.457 01	.450 47	.443 93	.437 38	.430 84	.424 30	.417 76
8	.411 21	.404 67	.398 13	.391 59	.385 05	.378 50	.371 96	.365 42	.358 88	.352 34
9	.345 79	.339 25	.332 71	.326 17	.319 63	.313 08	.306 54	.300 00	.293 46	.286 92
10	.280 37	.273 83	.267 29	.260 75	.254 21	.247 66	.241 12	.234 58	.228 04	.221 50
11	.214 95	.208 41	.201 87	.195 33	.188 79	.182 24	.175 70	.169 16	.162 62	.156 07
12	.149 53	.142 99	.136 45	.129 91	.123 36	.116 82	.110 28	.103 74	.097 20	.090 65
13	.084 11	.077 57	.071 03	.064 49	.057 94	.051 40	.044 86	.038 32	.031 78	.025 23
14	.018 69	.012 15	.005 61	—	—	—	—	—	—	—
	0	1	2	3	4	5	6	7	8	9
Proportional Parts	65	131	196	262	327	393	458	523	589	

ANNUAL PREMIUMS: *Interest 7 per cent.*

Annuity Value <i>a</i>	Annual Premium [$P = \frac{1}{1+a} - d$]									
	0	1	2	3	4	5	6	7	8	9
1	.434 58	.410 77	.389 12	.369 36	.351 25	.334 58	.319 19	.304 95	.291 72	.279 41
2	.267 91	.257 16	.247 08	.237 61	.228 70	.220 29	.212 36	.204 85	.197 74	.190 99
3	.184 58	.178 48	.172 67	.167 14	.161 85	.156 80	.151 97	.147 35	.142 91	.138 66
4	.134 58	.130 66	.126 89	.123 26	.119 76	.116 40	.113 15	.110 02	.106 99	.104 07
5	.101 25	.098 51	.095 87	.093 31	.090 83	.088 43	.086 09	.083 83	.081 64	.079 51
6	.077 44	.075 42	.073 47	.071 57	.069 71	.067 91	.066 16	.064 45	.062 78	.061 16
7	.059 58	.058 04	.056 53	.055 06	.053 63	.052 23	.050 86	.049 52	.048 22	.046 94
8	.045 69	.044 47	.043 28	.042 11	.040 96	.039 84	.038 75	.037 67	.036 62	.035 59
9	.034 58	.033 59	.032 62	.031 67	.030 73	.029 82	.028 92	.028 04	.027 17	.026 32
10	.025 49	.024 67	.023 87	.023 08	.022 30	.021 54	.020 79	.020 05	.019 33	.018 61
11	.017 91	.017 22	.016 55	.015 88	.015 22	.014 58	.013 94	.013 32	.012 70	.012 10
12	.011 50	.010 92	.010 34	.009 77	.009 21	.008 65	.008 11	.007 57	.007 04	.006 52
13	.006 01	.005 50	.005 00	.004 51	.004 02	.003 54	.003 07	.002 61	.002 15	.001 69
14	.001 25	.000 80	.000 37	—	—	—	—	—	—	—
	0	1	2	3	4	5	6	7	8	9

PREMIUM CONVERSION TABLE
CONTINUOUS FUNCTIONS
SINGLE PREMIUMS: Interest 3 per cent.

Annuity Value a	Single Premium $[\bar{A} = 1 - \delta a]$									
	0	1	2	3	4	5	6	7	8	9
1	.970 44	.967 49	.964 53	.961 57	.958 62	.955 66	.952 71	.949 75	.946 79	.943 84
2	.940 88	.937 93	.934 97	.932 01	.929 06	.926 10	.923 15	.920 19	.917 24	.914 28
3	.911 32	.908 37	.905 41	.902 46	.899 50	.896 54	.893 59	.890 63	.887 68	.884 72
4	.881 76	.878 81	.875 85	.872 90	.869 94	.866 99	.864 03	.861 07	.858 12	.855 16
5	.852 21	.849 25	.846 29	.843 34	.840 38	.837 43	.834 47	.831 51	.828 56	.825 60
6	.822 65	.819 69	.816 74	.813 78	.810 82	.807 87	.804 91	.801 96	.799 00	.796 04
7	.793 09	.790 13	.787 18	.784 22	.781 26	.778 31	.775 35	.772 40	.769 44	.766 49
8	.763 53	.760 57	.757 62	.754 66	.751 71	.748 75	.745 79	.742 84	.739 88	.736 93
9	.733 97	.731 01	.728 06	.725 10	.722 15	.719 19	.716 24	.713 28	.710 32	.707 37
10	.704 41	.701 46	.698 50	.695 54	.692 59	.689 63	.686 68	.683 72	.680 76	.677 81
11	.674 85	.671 90	.668 94	.665 99	.663 03	.660 07	.657 12	.654 16	.651 21	.648 25
12	.645 29	.642 34	.639 38	.636 43	.633 47	.630 51	.627 56	.624 60	.621 65	.618 69
13	.615 74	.612 78	.609 82	.606 87	.603 91	.600 96	.598 00	.595 04	.592 09	.589 13
14	.586 18	.583 22	.580 27	.577 31	.574 35	.571 40	.568 44	.565 49	.562 53	.559 57
15	.556 62	.553 66	.550 71	.547 75	.544 79	.541 84	.538 88	.535 93	.532 97	.530 02
16	.527 06	.524 10	.521 15	.518 19	.515 24	.512 28	.509 32	.506 37	.503 41	.500 46
17	.497 50	.494 54	.491 59	.488 63	.485 68	.482 72	.479 77	.476 81	.473 85	.470 90
18	.467 94	.464 99	.462 03	.459 07	.456 12	.453 16	.450 21	.447 25	.444 29	.441 34
19	.438 38	.435 43	.432 47	.429 52	.426 56	.423 60	.420 65	.417 69	.414 74	.411 78
20	.408 82	.405 87	.402 91	.399 96	.397 00	.394 04	.391 09	.388 13	.385 18	.382 22
21	.379 27	.376 31	.373 35	.370 40	.367 44	.364 49	.361 53	.358 57	.355 62	.352 66
22	.349 71	.346 75	.343 79	.340 84	.337 88	.334 93	.331 97	.329 02	.326 06	.323 10
23	.320 15	.317 19	.314 24	.311 28	.308 32	.305 37	.302 41	.299 46	.296 50	.293 54
24	.290 59	.287 63	.284 68	.281 72	.278 77	.275 81	.272 85	.269 90	.266 94	.263 99
25	.261 03	.258 07	.255 12	.252 16	.249 21	.246 25	.243 29	.240 34	.237 38	.234 43
	0	1	2	3	4	5	6	7	8	9
Proportional Parts	30	59	89	118	148	177	207	237	266	

ANNUAL PREMIUMS: Interest 3 per cent.

Annuity Value a	Annual Premium $\left[{}^{(\infty)}P = \frac{1}{a} - \delta \right]$									
	0	1	2	3	4	5	6	7	8	9
1	.970 44	.879 53	.803 77	.739 67	.684 73	.637 11	.595 44	.558 68	.526 00	.496 76
2	.470 44	.446 63	.424 99	.405 22	.387 11	.370 44	.355 06	.340 81	.327 58	.315 27
3	.303 77	.293 02	.282 94	.273 47	.264 56	.256 16	.248 22	.240 71	.233 60	.226 85
4	.220 44	.214 34	.208 54	.203 00	.197 71	.192 66	.187 83	.183 21	.178 77	.174 52
5	.170 44	.166 52	.162 75	.159 12	.155 63	.152 26	.149 01	.145 88	.142 85	.139 93
6	.137 11	.134 38	.131 73	.129 17	.126 69	.124 29	.121 96	.119 69	.117 50	.115 37
7	.113 30	.111 29	.109 33	.107 43	.105 58	.103 77	.102 02	.100 31	.098 65	.097 02
8	.095 44	.093 90	.092 39	.090 92	.089 49	.088 09	.086 72	.085 38	.084 08	.082 80
9	.081 55	.080 33	.079 14	.077 97	.076 82	.075 70	.074 61	.073 53	.072 48	.071 45
10	.070 44	.069 45	.068 48	.067 53	.066 60	.065 68	.064 78	.063 90	.063 03	.062 18
11	.061 35	.060 53	.059 73	.058 94	.058 16	.057 40	.056 65	.055 91	.055 19	.054 47
12	.053 77	.053 00	.052 41	.051 74	.051 09	.050 44	.049 81	.049 18	.048 57	.047 96
13	.047 36	.046 78	.046 20	.045 63	.045 07	.044 52	.043 97	.043 43	.042 90	.042 38
14	.041 87	.041 36	.040 86	.040 37	.039 89	.039 41	.038 93	.038 47	.038 01	.037 56
15	.037 11	.036 67	.036 23	.035 80	.035 38	.034 96	.034 54	.034 14	.033 73	.033 33
16	.032 94	.032 55	.032 17	.031 79	.031 42	.031 05	.030 68	.030 32	.029 97	.029 61
17	.029 26	.028 92	.028 58	.028 24	.027 91	.027 58	.027 26	.026 94	.026 62	.026 31
18	.025 00	.025 69	.025 39	.025 09	.024 79	.024 50	.024 20	.023 92	.023 63	.023 35
19	.023 07	.022 80	.022 52	.022 25	.021 99	.021 72	.021 46	.021 20	.020 93	.020 69
20	.020 44	.020 19	.019 95	.019 70	.019 46	.019 22	.018 98	.018 75	.018 52	.018 29
21	.018 06	.017 83	.017 61	.017 39	.017 17	.016 95	.016 74	.016 52	.016 31	.016 10
22	.015 90	.015 69	.015 49	.015 28	.015 08	.014 89	.014 69	.014 49	.014 30	.014 11
23	.013 92	.013 73	.013 54	.013 36	.013 18	.012 99	.012 81	.012 64	.012 46	.012 28
24	.012 11	.011 93	.011 76	.011 59	.011 42	.011 26	.011 09	.010 93	.010 76	.010 60
25	.010 44	.010 28	.010 12	.009 97	.009 81	.009 66	.009 50	.009 35	.009 20	.009 05
	0	1	2	3	4	5	6	7	8	9

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