Text Illustrations in PPT Appendices

Principles of Engineering Economic Analysis, 5th Edition

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TABLE A-a-1

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A,i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A,i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.00250	0.99751	1.00000	1.00000	0.99751	1.00250	0.00000	0.00000
2	1.00501	0.99502	2.00250	0.49938	1.99252	0.50188	0.99502	0.49938
3	1.00752	0.99254	3.00751	0.33250	2.98506	0.33500	2.98009	0.99834
4	1.01004	0.99006	4.01503	0.24906	3.97512	0.25156	5.95028	1.49688
5	1.01256	0.98759	5.02506	0.19900	4.96272	0.20150	9.90065	1.99501
6	1.01509	0.98513	6.03763	0.16563	5.94785	0.16813	14.82630	2.49272
7	1.01763	0.98267	7.05272	0.14179	6.93052	0.14429	20.72235	2.99001
8	1.02018	0.98022	8.07035	0.12391	7.91074	0.12641	27.58391	3.48689
9	1.02273	0.97778	9.09053	0.11000	8.88852	0.11250	35.40614	3.98335
10	1.02528	0.97534	10.11325	0.09888	9.86386	0.10138	44.18420	4.47940
11	1.02785	0.97291	11.13854	0.08978	10.83677	0.09228	53.91328	4.97503
12	1.03042	0.97048	12.16638	0.08219	11.80725	0.08469	64.58858	5.47025
13	1.03299	0.96806	13.19680	0.07578	12.77532	0.07828	76.20532	5.96504
14	1.03557	0.96565	14.22979	0.07028	13.74096	0.07278	88.75874	6.45943
15	1.03816	0.96324	15.26537	0.06551	14.70420	0.06801	102.24409	6.95339
16	1.04076	0.96084	16.30353	0.06134	15.66504	0.06384	116.65666	7.44694
17	1.04336	0.95844	17.34429	0.05766	16.62348	0.06016	131.99172	7.94008
18	1.04597	0.95605	18.38765	0.05438	17.57953	0.05688	148.24459	8.43279
19	1.04858	0.95367	19.43362	0.05146	18.53320	0.05396	165.41059	8.92510
20	1.05121	0.95129	20.48220	0.04882	19.48449	0.05132	183.48508	9.41698
21	1.05383	0.94892	21.53341	0.04644	20.43340	0.04894	202.46341	9.90845
22	1.05647	0.94655	22.58724	0.04427	21.37995	0.04677	222.34096	10.39951
23	1.05911	0.94419	23.64371	0.04229	22.32414	0.04479	243.11313	10.89014
24	1.06176	0.94184	24.70282	0.04048	23.26598	0.04298	264.77534	11.38036
25	1.06441	0.93949	25.76457	0.03881	24.20547	0.04131	287.32301	11.87017
26	1.06707	0.93714	26.82899	0.03727	25.14261	0.03977	310.75160	12.35956
27	1.06974	0.93481	27.89606	0.03585	26.07742	0.03835	335.05657	12.84853
28	1.07241	0.93248	28.96580	0.03452	27.00989	0.03702	360.23340	13.33709
29	1.07510	0.93015	30.03821	0.03329	27.94004	0.03579	386.27760	13.82523
30	1.07778	0.92783	31.11331	0.03214	28.86787	0.03464	413.18468	14.31296
36	1.09405	0.91403	37.62056	0.02658	34.38647	0.02908	592.49878	17.23058
40	1.10503	0.90495	42.01320	0.02380	38.01986	0.02630	728.73988	19.16735
48	1.12733	0.88705	50.93121	0.01963	45.17869	0.02213	1040.05520	23.02092
50	1.13297	0.88263	53.18868	0.01880	46.94617	0.02130	1125.77667	23.98016
52	1.13864	0.87824	55.45746	0.01803	48.70484	0.02053	1214.58847	24.93774
55	1.14720	0.87168	58.88194	0.01698	51.32644	0.01948	1353.52863	26.37098
60	1.16162	0.86087	64.64671	0.01547	55.65236	0.01797	1600.08454	28.75142
72	1.19695	0.83546	78.77939	0.01269	65.81686	0.01519	2265.55685	34.42214
75	1.20595	0.82922	82.37922	0.01214	68.31075	0.01464	2447.60694	35.83048
80	1.22110	0.81894	88.43918	0.01131	72.42595	0.01381	2764.45681	38.16942
84	1.23335	0.81080	93.34192	0.01071	75.68132	0.01321	3029.75923	40.03312
90	1.25197	0.79874	100.78845	9.9218E−03	80.50382	0.01242	3446.86997	42.81623
96	1.27087	0.78686	108.34739	9.2296E−03	85.25460	0.01173	3886.28316	45.58444
100	1.28362	0.77904	113.44996	8.8145E−03	88.38248	0.01131	4191.24173	47.42163
108	1.30952	0.76364	123.80926	8.0769E−03	94.54530	0.01058	4829.01247	51.07618
120	1.34935	0.74110	139.74142	7.1561E−03	103.56175	9.6561E−03	5852.11160	56.50843
132	1.39040	0.71922	156.15817	6.4038E−03	112.31206	8.9038E−03	6950.01441	61.88128
144	1.43269	0.69799	173.07425	5.7779E−03	120.80407	8.2779E−03	8117.41331	67.19487
180	1.56743	0.63799	226.97269	4.4058E−03	144.80547	6.9058E−03	1.1987E+04	82.78122
240	1.82075	0.54922	328.30200	3.0460E−03	180.31091	5.5460E−03	1.9399E+04	107.58631
360	2.45684	0.40703	582.73688	1.7160E−03	237.18938	4.2160E−03	3.6264E+04	152.89019
480	3.31515	0.30165	926.05950	1.0798E−03	279.34176	3.5798E−03	5.3821E+04	192.66991
600	4.47331	0.22355	1389.32309	7.1977E−04	310.58071	3.2198E−03	7.0581E+04	227.25400

TABLE A-a-2

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A\ i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A\ i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.00500	0.99502	1.00000	1.00000	0.99502	1.00500	0.00000	0.00000
2	1.01003	0.99007	2.00500	0.49875	1.98510	0.50375	0.99007	0.49875
3	1.01508	0.98515	3.01502	0.33167	2.97025	0.33667	2.96037	0.99667
4	1.02015	0.98025	4.03010	0.24813	3.95050	0.25313	5.90111	1.49377
5	1.02525	0.97537	5.05025	0.19801	4.92587	0.20301	9.80260	1.99003
6	1.03038	0.97052	6.07550	0.16460	5.89638	0.16960	14.65519	2.48545
7	1.03553	0.96569	7.10588	0.14073	6.86207	0.14573	20.44933	2.98005
8	1.04071	0.96089	8.14141	0.12283	7.82296	0.12783	27.17552	3.47382
9	1.04591	0.95610	9.18212	0.10891	8.77906	0.11391	34.82436	3.96675
10	1.05114	0.95135	10.22803	0.09777	9.73041	0.10277	43.38649	4.45885
11	1.05640	0.94661	11.27917	0.08866	10.67703	0.09366	52.85264	4.95013
12	1.06168	0.94191	12.33556	0.08107	11.61893	0.08607	63.21360	5.44057
13	1.06699	0.93722	13.39724	0.07464	12.55615	0.07964	74.46023	5.93018
14	1.07232	0.93256	14.46423	0.06914	13.48871	0.07414	86.58346	6.41896
15	1.07768	0.92792	15.53655	0.06436	14.41662	0.06936	99.57430	6.90691
16	1.08307	0.92330	16.61423	0.06019	15.33993	0.06519	113.42380	7.39403
17	1.08849	0.91871	17.69730	0.05651	16.25863	0.06151	128.12311	7.88031
18	1.09393	0.91414	18.78579	0.05323	17.17277	0.05823	143.66343	8.36577
19	1.09940	0.90959	19.87972	0.05030	18.08236	0.05530	160.03602	8.85040
20	1.10490	0.90506	20.97912	0.04767	18.98742	0.05267	177.23221	9.33419
21	1.11042	0.90056	22.08401	0.04528	19.88798	0.05028	195.24341	9.81716
22	1.11597	0.89608	23.19443	0.04311	20.78406	0.04811	214.06109	10.29929
23	1.12155	0.89162	24.31040	0.04113	21.67568	0.04613	233.67676	10.78060
24	1.12716	0.88719	25.43196	0.03932	22.56287	0.04432	254.08203	11.26107
25	1.13280	0.88277	26.55912	0.03765	23.44564	0.04265	275.26856	11.74072
26	1.13846	0.87838	27.69191	0.03611	24.32402	0.04111	297.22805	12.21953
27	1.14415	0.87401	28.83037	0.03469	25.19803	0.03969	319.95231	12.69751
28	1.14987	0.86966	29.97452	0.03336	26.06769	0.03836	343.43317	13.17467
29	1.15562	0.86533	31.12439	0.03213	26.93302	0.03713	367.66255	13.65099
30	1.16140	0.86103	32.28002	0.03098	27.79405	0.03598	392.63241	14.12649
36	1.19668	0.83564	39.33610	0.02542	32.87102	0.03042	557.55983	16.96205
40	1.22079	0.81914	44.15885	0.02265	36.17223	0.02765	681.33469	18.83585
48	1.27049	0.78710	54.09783	0.01849	42.58032	0.02349	959.91881	22.54372
50	1.28323	0.77929	56.64516	0.01765	44.14279	0.02265	1035.69659	23.46242
52	1.29609	0.77155	59.21803	0.01689	45.68975	0.02189	1113.81615	24.37781
55	1.31563	0.76009	63.12577	0.01584	47.98145	0.02084	1235.26857	25.74471
60	1.34885	0.74137	69.77003	0.01433	51.72556	0.01933	1448.64580	28.00638
72	1.43204	0.69830	86.40886	0.01157	60.33951	0.01657	2012.34779	33.35041
75	1.45363	0.68793	90.72650	0.01102	62.41365	0.01602	2163.75249	34.66794
80	1.49034	0.67099	98.06771	0.01020	65.80231	0.01520	2424.64551	36.84742
84	1.52037	0.65773	104.07393	9.6086E−03	68.45304	0.01461	2640.66405	38.57628
90	1.56655	0.63834	113.31094	8.8253E−03	72.33130	0.01383	2976.07688	41.14508
96	1.61414	0.61952	122.82854	8.1414E−03	76.09522	0.01314	3324.18460	43.68454
100	1.64667	0.60729	129.33370	7.7319E−03	78.54264	0.01273	3562.79343	45.36126
108	1.71370	0.58353	142.73990	7.0057E−03	83.29342	0.01201	4054.37473	48.67581
120	1.81940	0.54963	163.87935	6.1021E−03	90.07345	0.01110	4823.50506	53.55080
132	1.93161	0.51770	186.32263	5.3670E−03	96.45960	0.01037	5624.58677	58.31029
144	2.05075	0.48763	210.15016	4.7585E−03	102.47474	9.7585E−03	6451.31165	62.95514
180	2.45409	0.40748	290.81871	3.4386E−03	118.50351	8.4386E−03	9031.33557	76.21154
240	3.31020	0.30210	462.04090	2.1643E−03	139.58077	7.1643E−03	1.3416E+04	96.11309
360	6.02258	0.16604	1004.51504	9.9551E−04	166.79161	5.9955E−03	2.1403E+04	128.32362
480	10.95745	0.09126	1991.49073	5.0214E−04	181.74758	5.5021E−03	2.7588E+04	151.79491
600	19.93596	0.05016	3787.19108	2.6405E−04	189.96787	5.2640E−03	3.1974E+04	168.31425

TABLE A-a-3

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A\ i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A\ i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.00750	0.99256	1.00000	1.00000	0.99256	1.00750	0.00000	0.00000
2	1.01506	0.98517	2.00750	0.49813	1.97772	0.50563	0.98517	0.49813
3	1.02267	0.97783	3.02256	0.33085	2.95556	0.33835	2.94083	0.99502
4	1.03034	0.97055	4.04523	0.24721	3.92611	0.25471	5.85250	1.49066
5	1.03807	0.96333	5.07556	0.19702	4.88944	0.20452	9.70581	1.98506
6	1.04585	0.95616	6.11363	0.16357	5.84560	0.17107	14.48660	2.47821
7	1.05370	0.94904	7.15948	0.13967	6.79464	0.14717	20.18084	2.97011
8	1.06160	0.94198	8.21318	0.12176	7.73661	0.12926	26.77467	3.46077
9	1.06956	0.93496	9.27478	0.10782	8.67158	0.11532	34.25438	3.95019
10	1.07758	0.92800	10.34434	0.09667	9.59958	0.10417	42.60641	4.43836
11	1.08566	0.92109	11.42192	0.08755	10.52067	0.09505	51.81736	4.92529
12	1.09381	0.91424	12.50759	0.07995	11.43491	0.08745	61.87398	5.41097
13	1.10201	0.90743	13.60139	0.07352	12.34235	0.08102	72.76316	5.89541
14	1.11028	0.90068	14.70340	0.06801	13.24302	0.07551	84.47197	6.37860
15	1.11860	0.89397	15.81368	0.06324	14.13699	0.07074	96.98758	6.86055
16	1.12699	0.88732	16.93228	0.05906	15.02431	0.06656	110.29735	7.34126
17	1.13544	0.88071	18.05927	0.05537	15.90502	0.06287	124.38875	7.82072
18	1.14396	0.87416	19.19472	0.05210	16.77918	0.05960	139.24940	8.29894
19	1.15254	0.86765	20.33868	0.04917	17.64683	0.05667	154.86708	8.77592
20	1.16118	0.86119	21.49122	0.04653	18.50802	0.05403	171.22969	9.25165
21	1.16989	0.85478	22.65240	0.04415	19.36280	0.05165	188.32527	9.72614
22	1.17867	0.84842	23.82230	0.04198	20.21121	0.04948	206.14200	10.19939
23	1.18751	0.84210	25.00096	0.04000	21.05331	0.04750	224.66820	10.67139
24	1.19641	0.83583	26.18847	0.03818	21.88915	0.04568	243.89233	11.14216
25	1.20539	0.82961	27.38488	0.03652	22.71876	0.04402	263.80295	11.61168
26	1.21443	0.82343	28.59027	0.03498	23.54219	0.04248	284.38879	12.07996
27	1.22354	0.81730	29.80470	0.03355	24.35949	0.04105	305.63869	12.54701
28	1.23271	0.81122	31.02823	0.03223	25.17071	0.03973	327.54162	13.01281
29	1.24196	0.80518	32.26094	0.03100	25.97589	0.03850	350.08668	13.47737
30	1.25127	0.79919	33.50290	0.02985	26.77508	0.03735	373.26310	13.94069
36	1.30865	0.76415	41.15272	0.02430	31.44681	0.03180	524.99236	16.69462
40	1.34835	0.74165	46.44648	0.02153	34.44694	0.02903	637.46933	18.50583
48	1.43141	0.69861	57.52071	0.01739	40.18478	0.02489	886.84045	22.06906
50	1.45296	0.68825	60.39426	0.01656	41.56645	0.02406	953.84863	22.94756
52	1.47483	0.67804	63.31107	0.01580	42.92762	0.02330	1022.58522	23.82115
55	1.50827	0.66301	67.76883	0.01476	44.93161	0.02226	1128.78691	25.12233
60	1.56568	0.63870	75.42414	0.01326	48.17337	0.02076	1313.51888	27.26649
72	1.71255	0.58392	95.00703	0.01053	55.47685	0.01803	1791.24629	32.28818
75	1.75137	0.57098	100.18331	9.9817E−03	57.20267	0.01748	1917.22249	33.51631
80	1.81804	0.55004	109.07253	9.1682E−03	59.99444	0.01667	2132.14723	35.53908
84	1.87320	0.53385	116.42693	8.5891E−03	62.15396	0.01609	2308.12830	37.13566
90	1.95909	0.51044	127.87899	7.8199E−03	65.27461	0.01532	2577.99605	39.49462
96	2.04892	0.48806	139.85616	7.1502E−03	68.25844	0.01465	2853.93524	41.81073
100	2.11108	0.47369	148.14451	6.7502E−03	70.17462	0.01425	3040.74530	43.33112
108	2.24112	0.44620	165.48322	6.0429E−03	73.83938	0.01354	3419.90409	46.31545
120	2.45136	0.40794	193.51428	5.1676E−03	78.94169	0.01267	3998.56214	50.65210
132	2.68131	0.37295	224.17484	4.4608E−03	83.60642	0.01196	4583.57014	54.82318
144	2.93284	0.34097	257.71157	3.8803E−03	87.87109	0.01138	5169.58283	58.83144
180	3.83804	0.26055	378.40577	2.6427E−03	98.59341	0.01014	6892.60143	69.90935
240	6.00915	0.16641	667.88687	1.4973E−03	111.14495	8.9973E−03	9494.11617	85.42103
360	14.73058	0.06789	1830.74348	5.4623E−04	124.28187	8.0462E−03	1.3312E+04	107.11448
480	36.10990	0.02769	4681.32027	2.1361E−04	129.64090	7.7136E−03	1.5513E+04	119.66198
600	88.51826	0.01130	1.1669E+04	8.5696E−05	131.82705	7.5857E−03	1.6673E+04	126.47762

TABLE A-a-4

	Single Sums		Uniform Series				Gradient Series	
n	To Find *F* Given *P* (*F*|*P* i%,n)	To Find *P* Given *F* (*P*|*F* i%,n)	To Find *F* Given *A* (*F*|*A* i%,n)	To Find *A* Given *F* (*A*|*F* i%,n)	To Find *P* Given *A* (*P*|*A* i%,n)	To Find *A* Given *P* (*A*|*P* i%,n)	To Find *P* Given *G* (*P*|*G* i%,n)	To Find *A* Given *G* (*A*|*G* i%,n)
1	1.01000	0.99010	1.00000	1.00000	0.99010	1.01000	0.00000	0.00000
2	1.02010	0.98030	2.01000	0.49751	1.97040	0.50751	0.98030	0.49751
3	1.03030	0.97059	3.03010	0.33002	2.94099	0.34002	2.92148	0.99337
4	1.04060	0.96098	4.06040	0.24628	3.90197	0.25628	5.80442	1.48756
5	1.05101	0.95147	5.10101	0.19604	4.85343	0.20604	9.61028	1.98010
6	1.06152	0.94205	6.15202	0.16255	5.79548	0.17255	14.32051	2.47098
7	1.07214	0.93272	7.21354	0.13863	6.72819	0.14863	19.91681	2.96020
8	1.08286	0.92348	8.28567	0.12069	7.65168	0.13069	26.38120	3.44777
9	1.09369	0.91434	9.36853	0.10674	8.56602	0.11674	33.69592	3.93367
10	1.10462	0.90529	10.46221	0.09558	9.47130	0.10558	41.84350	4.41792
11	1.11567	0.89632	11.56683	0.08645	10.36763	0.09645	50.80674	4.90052
12	1.12683	0.88745	12.68250	0.07885	11.25508	0.08885	60.56868	5.38145
13	1.13809	0.87866	13.80933	0.07241	12.13374	0.08241	71.11263	5.86073
14	1.14947	0.86996	14.94742	0.06690	13.00370	0.07690	82.42215	6.33836
15	1.16097	0.86135	16.09690	0.06212	13.86505	0.07212	94.48104	6.81433
16	1.17258	0.85282	17.25786	0.05794	14.71787	0.06794	107.27336	7.28865
17	1.18430	0.84438	18.43044	0.05426	15.56225	0.06426	120.78340	7.76131
18	1.19615	0.83602	19.61475	0.05098	16.39827	0.06098	134.99569	8.23231
19	1.20811	0.82774	20.81090	0.04805	17.22601	0.05805	149.89501	8.70167
20	1.22019	0.81954	22.01900	0.04542	18.04555	0.05542	165.46636	9.16937
21	1.23239	0.81143	23.23919	0.04303	18.85698	0.05303	181.69496	9.63542
22	1.24472	0.80340	24.47159	0.04086	19.66038	0.05086	198.56628	10.09982
23	1.25716	0.79544	25.71630	0.03889	20.45582	0.04889	216.06600	10.56257
24	1.26973	0.78757	26.97346	0.03707	21.24339	0.04707	234.18002	11.02367
25	1.28243	0.77977	28.24320	0.03541	22.02316	0.04541	252.89446	11.48312
26	1.29526	0.77205	29.52563	0.03387	22.79520	0.04387	272.19566	11.94092
27	1.30821	0.76440	30.82089	0.03245	23.55961	0.04245	292.07016	12.39707
28	1.32129	0.75684	32.12910	0.03112	24.31644	0.04112	312.50472	12.85158
29	1.33450	0.74934	33.45039	0.02990	25.06579	0.03990	333.48630	13.30444
30	1.34785	0.74192	34.78489	0.02875	25.80771	0.03875	355.00207	13.75566
36	1.43077	0.69892	43.07688	0.02321	30.10751	0.03321	494.62069	16.42848
40	1.48886	0.67165	48.88637	0.02046	32.83469	0.03046	596.85606	18.17761
48	1.61223	0.62026	61.22261	0.01633	37.97396	0.02633	820.14601	21.59759
50	1.64463	0.60804	64.46318	0.01551	39.19612	0.02551	879.41763	22.43635
52	1.67769	0.59606	67.76889	0.01476	40.39419	0.02476	939.91752	23.26863
55	1.72852	0.57853	72.85246	0.01373	42.14719	0.02373	1032.81478	24.50495
60	1.81670	0.55045	81.66967	0.01224	44.95504	0.02224	1192.80614	26.53331
72	2.04710	0.48850	104.70993	9.5502E−03	51.15039	0.01955	1597.86733	31.23861
75	2.10913	0.47413	110.91285	9.0161E−03	52.58705	0.01902	1702.73397	32.37934
80	2.21672	0.45112	121.67152	8.2189E−03	54.88821	0.01822	1879.87710	34.24920
84	2.30672	0.43352	130.67227	7.6527E−03	56.64845	0.01765	2023.31531	35.71704
90	2.44863	0.40839	144.86327	6.9031E−03	59.16088	0.01690	2240.56748	37.87245
96	2.59927	0.38472	159.92729	6.2528E−03	61.52770	0.01625	2459.42979	39.97272
100	2.70481	0.36971	170.48138	5.8657E−03	63.02888	0.01587	2605.77575	41.34257
108	2.92893	0.34142	192.89258	5.1842E−03	65.85779	0.01518	2898.42028	44.01029
120	3.30039	0.30299	230.03869	4.3471E−03	69.70052	0.01435	3334.11485	47.83486
132	3.71896	0.26889	271.89586	3.6779E−03	73.11075	0.01368	3761.69441	51.45200
144	4.19062	0.23863	319.06156	3.1342E−03	76.13716	0.01313	4177.46642	54.86764
180	5.99580	0.16678	499.58020	2.0017E−03	83.32166	0.01200	5330.06592	63.96975
240	10.89255	0.09181	989.25537	1.0109E−03	90.81942	0.01101	6878.60156	75.73933
360	35.94964	0.02782	3494.96413	2.8613E−04	97.21833	0.01029	8720.43230	89.69947
480	118.64773	8.4283E−03	1.1765E+04	8.5000E−05	99.15717	0.01008	9511.15793	95.92002
600	391.58340	2.5537E−03	3.9058E+04	2.5603E−05	99.74463	0.01003	9821.23859	98.46384

TABLE A-a-5

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A\ i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A\ i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.01250	0.98765	1.00000	1.00000	0.98765	1.01250	0.00000	0.00000
2	1.02516	0.97546	2.01250	0.49689	1.96312	0.50939	0.97546	0.49689
3	1.03797	0.96342	3.03766	0.32920	2.92653	0.34170	2.90230	0.99172
4	1.05095	0.95152	4.07563	0.24536	3.87806	0.25786	5.75687	1.48447
5	1.06408	0.93978	5.12657	0.19506	4.81784	0.20756	9.51598	1.97516
6	1.07738	0.92817	6.19065	0.16153	5.74601	0.17403	14.15685	2.46377
7	1.09085	0.91672	7.26804	0.13759	6.66273	0.15009	19.65715	2.95032
8	1.10449	0.90540	8.35889	0.11963	7.56812	0.13213	25.99494	3.43479
9	1.11829	0.89422	9.46337	0.10567	8.46234	0.11817	33.14870	3.91720
10	1.13227	0.88318	10.58167	0.09450	9.34553	0.10700	41.09733	4.39754
11	1.14642	0.87228	11.71394	0.08537	10.21780	0.09787	49.82011	4.87581
12	1.16075	0.86151	12.86036	0.07776	11.07931	0.09026	59.29670	5.35202
13	1.17526	0.85087	14.02112	0.07132	11.93018	0.08382	69.50717	5.82616
14	1.18995	0.84037	15.19638	0.06581	12.77055	0.07831	80.43196	6.29824
15	1.20483	0.82999	16.38633	0.06103	13.60055	0.07353	92.05186	6.76825
16	1.21989	0.81975	17.59116	0.05685	14.42029	0.06935	104.34806	7.23620
17	1.23514	0.80963	18.81105	0.05316	15.22992	0.06566	117.30207	7.70208
18	1.25058	0.79963	20.04619	0.04988	16.02955	0.06238	130.89580	8.16591
19	1.26621	0.78976	21.29677	0.04696	16.81931	0.05946	145.11145	8.62767
20	1.28204	0.78001	22.56298	0.04432	17.59932	0.05682	159.93161	9.08738
21	1.29806	0.77038	23.84502	0.04194	18.36969	0.05444	175.33919	9.54502
22	1.31429	0.76087	25.14308	0.03977	19.13056	0.05227	191.31742	10.00062
23	1.33072	0.75147	26.45737	0.03780	19.88204	0.05030	207.84986	10.45415
24	1.34735	0.74220	27.78808	0.03599	20.62423	0.04849	224.92039	10.90564
25	1.36419	0.73303	29.13544	0.03432	21.35727	0.04682	242.51321	11.35507
26	1.38125	0.72398	30.49963	0.03279	22.08125	0.04529	260.61282	11.80245
27	1.39851	0.71505	31.88087	0.03137	22.79630	0.04387	279.20402	12.24778
28	1.41599	0.70622	33.27938	0.03005	23.50252	0.04255	298.27192	12.69106
29	1.43369	0.69750	34.69538	0.02882	24.20002	0.04132	317.80191	13.13230
30	1.45161	0.68889	36.12907	0.02768	24.88891	0.04018	337.77969	13.57150
36	1.56394	0.63941	45.11551	0.02217	28.84727	0.03467	466.28302	16.16385
40	1.64362	0.60841	51.48956	0.01942	31.32693	0.03192	559.23198	17.85148
48	1.81535	0.55086	65.22839	0.01533	35.93148	0.02783	759.22956	21.12993
50	1.86102	0.53734	68.88179	0.01452	37.01288	0.02702	811.67385	21.92950
52	1.90784	0.52415	72.62710	0.01377	38.06773	0.02627	864.94093	22.72110
55	1.98028	0.50498	78.42246	0.01275	39.60169	0.02525	946.22770	23.89362
60	2.10718	0.47457	88.57451	0.01129	42.03459	0.02379	1084.84285	25.80834
72	2.44592	0.40884	115.67362	8.6450E−03	47.29247	0.02115	1428.45610	30.20472
75	2.53879	0.39389	123.10349	8.1232E−03	48.48897	0.02062	1515.79039	31.26052
80	2.70148	0.37017	136.11880	7.3465E−03	50.38666	0.01985	1661.86513	32.98225
84	2.83911	0.35222	147.12904	6.7968E−03	51.82219	0.01930	1778.83839	34.32581
90	3.05881	0.32692	164.70501	6.0715E−03	53.84606	0.01857	1953.83026	36.28548
96	3.29551	0.30344	183.64106	5.4454E−03	55.72457	0.01795	2127.52438	38.17929
100	3.46340	0.28873	197.07234	5.0743E−03	56.90134	0.01757	2242.24109	39.40577
108	3.82528	0.26142	226.02255	4.4243E−03	59.08651	0.01692	2468.26361	41.77373
120	4.44021	0.22521	275.21706	3.6335E−03	61.98285	0.01613	2796.56945	45.11844
132	5.15400	0.19402	332.31981	3.0091E−03	64.47807	0.01551	3109.35041	48.22338
144	5.98253	0.16715	398.60208	2.5088E−03	66.62772	0.01501	3404.60974	51.09900
180	9.35633	0.10688	668.50676	1.4959E−03	71.44964	0.01400	4176.90718	58.45945
240	19.71549	0.05072	1497.23948	6.6790E−04	75.94228	0.01317	5101.52883	67.17640
360	87.54100	0.01142	6923.27961	1.4444E−04	79.08614	0.01264	5997.90267	75.84012
480	388.70068	2.5727E−03	3.1016E+04	3.2241E−05	79.79419	0.01253	6284.74422	78.76193
600	1725.91392	5.7940E−04	1.3799E+05	7.2467E−06	79.95365	0.01251	6368.48047	79.65216

TABLE A-a-6

	Single Sums		Uniform Series				Gradient Series	
n	To Find *F* Given *P* (*F*|*P* i%,n)	To Find *P* Given *F* (*P*|*F* i%,n)	To Find *F* Given *A* (*F*|*A* i%,n)	To Find *A* Given *F* (*A*|*F* i%,n)	To Find *P* Given *A* (*P*|*A* i%,n)	To Find *A* Given *P* (*A*|*P* i%,n)	To Find *P* Given *G* (*P*|*G* i%,n)	To Find *A* Given *G* (*A*|*G* i%,n)
1	1.01500	0.98522	1.00000	1.00000	0.98522	1.01500	0.00000	0.00000
2	1.03023	0.97066	2.01500	0.49628	1.95588	0.51128	0.97066	0.49628
3	1.04568	0.95632	3.04522	0.32838	2.91220	0.34338	2.88330	0.99007
4	1.06136	0.94218	4.09090	0.24444	3.85438	0.25944	5.70985	1.48139
5	1.07728	0.92826	5.15227	0.19409	4.78264	0.20909	9.42289	1.97023
6	1.09344	0.91454	6.22955	0.16053	5.69719	0.17553	13.99560	2.45658
7	1.10984	0.90103	7.32299	0.13656	6.59821	0.15156	19.40176	2.94046
8	1.12649	0.88771	8.43284	0.11858	7.48593	0.13358	25.61574	3.42185
9	1.14339	0.87459	9.55933	0.10461	8.36052	0.11961	32.61248	3.90077
10	1.16054	0.86167	10.70272	0.09343	9.22218	0.10843	40.36748	4.37721
11	1.17795	0.84893	11.86326	0.08429	10.07112	0.09929	48.85681	4.85118
12	1.19562	0.83639	13.04121	0.07668	10.90751	0.09168	58.05708	5.32267
13	1.21355	0.82403	14.23683	0.07024	11.73153	0.08524	67.94540	5.79169
14	1.23176	0.81185	15.45038	0.06472	12.54338	0.07972	78.49944	6.25824
15	1.25023	0.79985	16.68214	0.05994	13.34323	0.07494	89.69736	6.72231
16	1.26899	0.78803	17.93237	0.05577	14.13126	0.07077	101.51783	7.18392
17	1.28802	0.77639	19.20136	0.05208	14.90765	0.06708	113.93999	7.64306
18	1.30734	0.76491	20.48938	0.04881	15.67256	0.06381	126.94349	8.09973
19	1.32695	0.75361	21.79672	0.04588	16.42617	0.06088	140.50842	8.55394
20	1.34686	0.74247	23.12367	0.04325	17.16864	0.05825	154.61536	9.00569
21	1.36706	0.73150	24.47052	0.04087	17.90014	0.05587	169.24532	9.45497
22	1.38756	0.72069	25.83758	0.03870	18.62082	0.05370	184.37976	9.90180
23	1.40838	0.71004	27.22514	0.03673	19.33086	0.05173	200.00058	10.34618
24	1.42950	0.69954	28.63352	0.03492	20.03041	0.04992	216.09009	10.78810
25	1.45095	0.68921	30.06302	0.03326	20.71961	0.04826	232.63103	11.22758
26	1.47271	0.67902	31.51397	0.03173	21.39863	0.04673	249.60654	11.66460
27	1.49480	0.66899	32.98668	0.03032	22.06762	0.04532	267.00017	12.09918
28	1.51722	0.65910	34.48148	0.02900	22.72672	0.04400	284.79585	12.53132
29	1.53998	0.64936	35.99870	0.02778	23.37608	0.04278	302.97790	12.96102
30	1.56308	0.63976	37.53868	0.02664	24.01584	0.04164	321.53101	13.38829
36	1.70914	0.58509	47.27597	0.02115	27.66068	0.03615	439.83026	15.90092
40	1.81402	0.55126	54.26789	0.01843	29.91585	0.03343	524.35682	17.52773
48	2.04348	0.48936	69.56522	0.01437	34.04255	0.02937	703.54615	20.66667
50	2.10524	0.47500	73.68283	0.01357	34.99969	0.02857	749.96361	21.42772
52	2.16887	0.46107	77.92489	0.01283	35.92874	0.02783	796.87737	22.17938
55	2.26794	0.44093	84.52960	0.01183	37.27147	0.02683	868.02846	23.28936
60	2.44322	0.40930	96.21465	0.01039	39.38027	0.02539	988.16739	25.09296
72	2.92116	0.34233	128.07720	7.8078E−03	43.84467	0.02281	1279.79379	29.18927
75	3.05459	0.32738	136.97278	7.3007E−03	44.84160	0.02230	1352.56005	30.16306
80	3.29066	0.30389	152.71085	6.5483E−03	46.40732	0.02155	1473.07411	31.74228
84	3.49259	0.28632	166.17264	6.0178E−03	47.57863	0.02102	1568.51404	32.96677
90	3.81895	0.26185	187.92990	5.3211E−03	49.20985	0.02032	1709.54387	34.73987
96	4.17580	0.23947	211.72023	4.7232E−03	50.70168	0.01972	1847.47253	36.43810
100	4.43205	0.22563	228.80304	4.3706E−03	51.62470	0.01937	1937.45061	37.52953
108	4.99267	0.20029	266.17777	3.7569E−03	53.31375	0.01876	2112.13479	39.61708
120	5.96932	0.16752	331.28819	3.0185E−03	55.49845	0.01802	2359.71143	42.51851
132	7.13703	0.14011	409.13539	2.4442E−03	57.32571	0.01744	2588.70855	45.15789
144	8.53316	0.11719	502.21092	1.9912E−03	58.85401	0.01699	2798.57842	47.55119
180	14.58437	0.06857	905.62451	1.1042E−03	62.09556	0.01610	3316.90537	53.41614
240	35.63282	0.02806	2308.85437	4.3312E−04	64.79573	0.01543	3870.69117	59.73682
360	212.70378	4.7014E−03	1.4114E+04	7.0854E−05	66.35324	0.01507	4310.71648	64.96618
480	1269.69754	7.8759E−04	8.4580E+04	1.1823E−05	66.61416	0.01501	4415.74120	66.28833
600	7579.23459	1.3194E−04	5.0522E+05	1.9794E−06	66.65787	0.01500	4438.58047	66.58749

TABLE A-a-7

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A\ i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A\ i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.01750	0.98280	1.00000	1.00000	0.98280	1.01750	0.00000	0.00000
2	1.03531	0.96590	2.01750	0.49566	1.94870	0.51316	0.96590	0.49566
3	1.05342	0.94929	3.05281	0.32757	2.89798	0.34507	2.86447	0.98843
4	1.07186	0.93296	4.10623	0.24353	3.83094	0.26103	5.66334	1.47832
5	1.09062	0.91691	5.17809	0.19312	4.74786	0.21062	9.33099	1.96531
6	1.10970	0.90114	6.26871	0.15952	5.64900	0.17702	13.83671	2.44941
7	1.12912	0.88564	7.37841	0.13553	6.53464	0.15303	19.15057	2.93062
8	1.14888	0.87041	8.50753	0.11754	7.40505	0.13504	25.24345	3.40895
9	1.16899	0.85544	9.65641	0.10356	8.26049	0.12106	32.08698	3.88439
10	1.18944	0.84073	10.82540	0.09238	9.10122	0.10988	39.65354	4.35695
11	1.21026	0.82627	12.01484	0.08323	9.92749	0.10073	47.91623	4.82662
12	1.23144	0.81206	13.22510	0.07561	10.73955	0.09311	56.84886	5.29341
13	1.25299	0.79809	14.45654	0.06917	11.53764	0.08667	66.42596	5.75733
14	1.27492	0.78436	15.70953	0.06366	12.32201	0.08116	76.62270	6.21836
15	1.29723	0.77087	16.98445	0.05888	13.09288	0.07638	87.41495	6.67653
16	1.31993	0.75762	18.28168	0.05470	13.85050	0.07220	98.77919	7.13182
17	1.34303	0.74459	19.60161	0.05102	14.59508	0.06852	110.69257	7.58424
18	1.36653	0.73178	20.94463	0.04774	15.32686	0.06524	123.13283	8.03379
19	1.39045	0.71919	22.31117	0.04482	16.04606	0.06232	136.07832	8.48048
20	1.41478	0.70682	23.70161	0.04219	16.75288	0.05969	149.50799	8.92431
21	1.43954	0.69467	25.11639	0.03981	17.44755	0.05731	163.40134	9.36529
22	1.46473	0.68272	26.55593	0.03766	18.13027	0.05516	177.73847	9.80341
23	1.49036	0.67098	28.02065	0.03569	18.80125	0.05319	192.49999	10.23868
24	1.51644	0.65944	29.51102	0.03389	19.46069	0.05139	207.66706	10.67111
25	1.54298	0.64810	31.02746	0.03223	20.10878	0.04973	223.22138	11.10069
26	1.56998	0.63695	32.57044	0.03070	20.74573	0.04820	239.14512	11.52744
27	1.59746	0.62599	34.14042	0.02929	21.37173	0.04679	255.42098	11.95135
28	1.62541	0.61523	35.73788	0.02798	21.98695	0.04548	272.03215	12.37243
29	1.65386	0.60465	37.36329	0.02676	22.59160	0.04426	288.96226	12.79069
30	1.68280	0.59425	39.01715	0.02563	23.18585	0.04313	306.19544	13.20613
36	1.86741	0.53550	49.56613	0.02018	26.54275	0.03768	415.12498	15.63986
40	2.00160	0.49960	57.23413	0.01747	28.59423	0.03497	492.01087	17.20665
48	2.29960	0.43486	74.26278	0.01347	32.29380	0.03097	652.60539	20.20838
50	2.38079	0.42003	78.90222	0.01267	33.14121	0.03017	693.70101	20.93167
52	2.46485	0.40570	83.70547	0.01195	33.95972	0.02945	735.03220	21.64424
55	2.59653	0.38513	91.23016	0.01096	35.13545	0.02846	797.33210	22.69310
60	2.83182	0.35313	104.67522	9.5534E−03	36.96399	0.02705	901.49545	24.38848
72	3.48721	0.28676	142.12628	7.0360E−03	40.75645	0.02454	1149.11809	28.19476
75	3.67351	0.27222	152.77206	6.5457E−03	41.58748	0.02405	1209.77384	29.08986
80	4.00639	0.24960	171.79382	5.8209E−03	42.87993	0.02332	1309.24819	30.53289
84	4.29429	0.23287	188.24499	5.3122E−03	43.83614	0.02281	1387.15838	31.64417
90	4.76538	0.20985	215.16462	4.6476E−03	45.15161	0.02215	1500.87981	33.24089
96	5.28815	0.18910	245.03739	4.0810E−03	46.33703	0.02158	1610.47158	34.75560
100	5.66816	0.17642	266.75177	3.7488E−03	47.06147	0.02125	1681.08862	35.72112
108	6.51204	0.15356	314.97378	3.1749E−03	48.36790	0.02067	1816.18525	37.54939
120	8.01918	0.12470	401.09620	2.4932E−03	50.01709	0.01999	2003.02686	40.04685
132	9.87514	0.10126	507.15073	1.9718E−03	51.35632	0.01947	2170.82384	42.26985
144	12.16063	0.08223	637.75045	1.5680E−03	52.44385	0.01907	2320.13512	44.24036
180	22.70885	0.04404	1240.50595	8.0612E−04	54.62653	0.01831	2668.57763	48.85131
240	64.30730	0.01555	3617.56017	2.7643E−04	56.25427	0.01778	3001.26781	53.35183
360	515.69206	1.9391E−03	2.9411E+04	3.4001E−05	57.03205	0.01753	3219.08332	56.44341
480	4135.42921	2.4181E−04	2.3625E+05	4.2327E−06	57.12904	0.01750	3257.88395	57.02676
600	3.3163E+04	3.0154E−05	1.8950E+06	5.2772E−07	57.14113	0.01750	3264.17380	57.12476

TABLE A-a-8

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A\ i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A\ i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.02000	0.98039	1.00000	1.00000	0.98039	1.02000	0.00000	0.00000
2	1.04040	0.96117	2.02000	0.49505	1.94156	0.51505	0.96117	0.49505
3	1.06121	0.94232	3.06040	0.32675	2.88388	0.34675	2.84581	0.98680
4	1.08243	0.92385	4.12161	0.24262	3.80773	0.26262	5.61735	1.47525
5	1.10408	0.90573	5.20404	0.19216	4.71346	0.21216	9.24027	1.96040
6	1.12616	0.88797	6.30812	0.15853	5.60143	0.17853	13.68013	2.44226
7	1.14869	0.87056	7.43428	0.13451	6.47199	0.15451	18.90349	2.92082
8	1.17166	0.85349	8.58297	0.11651	7.32548	0.13651	24.87792	3.39608
9	1.19509	0.83676	9.75463	0.10252	8.16224	0.12252	31.57197	3.86805
10	1.21899	0.82035	10.94972	0.09133	8.98259	0.11133	38.95510	4.33674
11	1.24337	0.80426	12.16872	0.08218	9.78685	0.10218	46.99773	4.80213
12	1.26824	0.78849	13.41209	0.07456	10.57534	0.09456	55.67116	5.26424
13	1.29361	0.77303	14.68033	0.06812	11.34837	0.08812	64.94755	5.72307
14	1.31948	0.75788	15.97394	0.06260	12.10625	0.08260	74.79992	6.17862
15	1.34587	0.74301	17.29342	0.05783	12.84926	0.07783	85.20213	6.63090
16	1.37279	0.72845	18.63929	0.05365	13.57771	0.07365	96.12881	7.07990
17	1.40024	0.71416	20.01207	0.04997	14.29187	0.06997	107.55542	7.52564
18	1.42825	0.70016	21.41231	0.04670	14.99203	0.06670	119.45813	7.96811
19	1.45681	0.68643	22.84056	0.04378	15.67846	0.06378	131.81388	8.40732
20	1.48595	0.67297	24.29737	0.04116	16.35143	0.06116	144.60033	8.84328
21	1.51567	0.65978	25.78332	0.03878	17.01121	0.05878	157.79585	9.27599
22	1.54598	0.64684	27.29898	0.03663	17.65805	0.05663	171.37947	9.70546
23	1.57690	0.63416	28.84496	0.03467	18.29220	0.05467	185.33090	10.13169
24	1.60844	0.62172	30.42186	0.03287	18.91393	0.05287	199.63049	10.55468
25	1.64061	0.60953	32.03030	0.03122	19.52346	0.05122	214.25924	10.97445
26	1.67342	0.59758	33.67091	0.02970	20.12104	0.04970	229.19872	11.39100
27	1.70689	0.58586	35.34432	0.02829	20.70690	0.04829	244.43113	11.80433
28	1.74102	0.57437	37.05121	0.02699	21.28127	0.04699	259.93924	12.21446
29	1.77584	0.56311	38.79223	0.02578	21.84438	0.04578	275.70639	12.62138
30	1.81136	0.55207	40.56808	0.02465	22.39646	0.04465	291.71644	13.02512
36	2.03989	0.49022	51.99437	0.01923	25.48884	0.03923	392.04045	15.38087
40	2.20804	0.45289	60.40198	0.01656	27.35548	0.03656	461.99313	16.88850
48	2.58707	0.38654	79.35352	0.01260	30.67312	0.03260	605.96572	19.75559
50	2.69159	0.37153	84.57940	0.01182	31.42361	0.03182	642.36059	20.44198
52	2.80033	0.35710	90.01641	0.01111	32.14495	0.03111	678.78489	21.11638
55	2.97173	0.33650	98.58653	0.01014	33.17479	0.03014	733.35269	22.10572
60	3.28103	0.30478	114.05154	8.7680E−03	34.76089	0.02877	823.69753	23.69610
72	4.16114	0.24032	158.05702	6.3268E−03	37.98406	0.02633	1034.05570	27.22341
75	4.41584	0.22646	170.79177	5.8551E−03	38.67711	0.02586	1084.63929	28.04344
80	4.87544	0.20511	193.77196	5.1607E−03	39.74451	0.02516	1166.78677	29.35718
84	5.27733	0.18949	213.86661	4.6758E−03	40.52552	0.02468	1230.41912	30.36159
90	5.94313	0.16826	247.15666	4.0460E−03	41.58693	0.02405	1322.17008	31.79292
96	6.69293	0.14941	284.64666	3.5131E−03	42.52943	0.02351	1409.29734	33.13699
100	7.24465	0.13803	312.23231	3.2027E−03	43.09835	0.02320	1464.75275	33.98628
108	8.48826	0.11781	374.41288	2.6708E−03	44.10951	0.02267	1569.30251	35.57742
120	10.76516	0.09289	488.25815	2.0481E−03	45.35539	0.02205	1710.41605	37.71142
132	13.65283	0.07324	632.64148	1.5807E−03	46.33776	0.02158	1833.47151	39.56755
144	17.31509	0.05775	815.75446	1.2259E−03	47.11235	0.02123	1939.79497	41.17381
180	35.32083	0.02831	1716.04157	5.8274E−04	48.58440	0.02058	2174.41310	44.75537
240	115.88874	8.6290E−03	5744.43676	1.7408E−04	49.56855	0.02017	2374.87999	47.91102
360	1247.56113	8.0156E−04	6.2328E+04	1.6044E−05	49.95992	0.02002	2483.56794	49.71121
480	1.3430E+04	7.4459E−05	6.7146E+05	1.4893E−06	49.99628	0.02000	2498.02683	49.96426
600	1.4458E+05	6.9167E−06	7.2289E+06	1.3833E−07	49.99965	0.02000	2499.77521	49.99585

TABLE A-a-9

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A\ i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A\ i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.03000	0.97087	1.00000	1.00000	0.97087	1.03000	0.00000	0.00000
2	1.06090	0.94260	2.03000	0.49261	1.91347	0.52261	0.94260	0.49261
3	1.09273	0.91514	3.09090	0.32353	2.82861	0.35353	2.77288	0.98030
4	1.12551	0.88849	4.18363	0.23903	3.71710	0.26903	5.43834	1.46306
5	1.15927	0.86261	5.30914	0.18835	4.57971	0.21835	8.88878	1.94090
6	1.19405	0.83748	6.46841	0.15460	5.41719	0.18460	13.07620	2.41383
7	1.22987	0.81309	7.66246	0.13051	6.23028	0.16051	17.95475	2.88185
8	1.26677	0.78941	8.89234	0.11246	7.01969	0.14246	23.48061	3.34496
9	1.30477	0.76642	10.15911	0.09843	7.78611	0.12843	29.61194	3.80318
10	1.34392	0.74409	11.46388	0.08723	8.53020	0.11723	36.30879	4.25650
11	1.38423	0.72242	12.80780	0.07808	9.25262	0.10808	43.53300	4.70494
12	1.42576	0.70138	14.19203	0.07046	9.95400	0.10046	51.24818	5.14850
13	1.46853	0.68095	15.61779	0.06403	10.63496	0.09403	59.41960	5.58720
14	1.51259	0.66112	17.08632	0.05853	11.29607	0.08853	68.01413	6.02104
15	1.55797	0.64186	18.59891	0.05377	11.93794	0.08377	77.00020	6.45004
16	1.60471	0.62317	20.15688	0.04961	12.56110	0.07961	86.34770	6.87421
17	1.65285	0.60502	21.76159	0.04595	13.16612	0.07595	96.02796	7.29357
18	1.70243	0.58739	23.41444	0.04271	13.75351	0.07271	106.01367	7.70812
19	1.75351	0.57029	25.11687	0.03981	14.32380	0.06981	116.27882	8.11788
20	1.80611	0.55368	26.87037	0.03722	14.87747	0.06722	126.79866	8.52286
21	1.86029	0.53755	28.67649	0.03487	15.41502	0.06487	137.54964	8.92309
22	1.91610	0.52189	30.53678	0.03275	15.93692	0.06275	148.50939	9.31858
23	1.97359	0.50669	32.45288	0.03081	16.44361	0.06081	159.65661	9.70934
24	2.03279	0.49193	34.42647	0.02905	16.93554	0.05905	170.97108	10.09540
25	2.09378	0.47761	36.45926	0.02743	17.41315	0.05743	182.43362	10.47677
26	2.15659	0.46369	38.55304	0.02594	17.87684	0.05594	194.02598	10.85348
27	2.22129	0.45019	40.70963	0.02456	18.32703	0.05456	205.73090	11.22554
28	2.28793	0.43708	42.93092	0.02329	18.76411	0.05329	217.53197	11.59298
29	2.35657	0.42435	45.21885	0.02211	19.18845	0.05211	229.41367	11.95582
30	2.42726	0.41199	47.57542	0.02102	19.60044	0.05102	241.36129	12.31407
36	2.89828	0.34503	63.27594	0.01580	21.83225	0.04580	313.70284	14.36878
40	3.26204	0.30656	75.40126	0.01326	23.11477	0.04326	361.74994	15.65016
48	4.13225	0.24200	104.40840	9.5778E−03	25.26671	0.03958	455.02547	18.00890
50	4.38391	0.22811	112.79687	8.8655E−03	25.72976	0.03887	477.48033	18.55751
52	4.65089	0.21501	121.69620	8.2172E−03	26.16624	0.03822	499.51915	19.09021
55	5.08215	0.19677	136.07162	7.3491E−03	26.77443	0.03735	531.74111	19.86004
60	5.89160	0.16973	163.05344	6.1330E−03	27.67556	0.03613	583.05261	21.06742
72	8.40002	0.11905	246.66724	4.0540E−03	29.36509	0.03405	693.12255	23.60363
75	9.17893	0.10895	272.63086	3.6680E−03	29.70183	0.03367	717.69785	24.16342
80	10.64089	0.09398	321.36302	3.1117E−03	30.20076	0.03311	756.08652	25.03534
84	11.97642	0.08350	365.88054	2.7331E−03	30.55009	0.03273	784.54337	25.68056
90	14.30047	0.06993	443.34890	2.2556E−03	31.00241	0.03226	823.63021	26.56665
96	17.07551	0.05856	535.85019	1.8662E−03	31.38122	0.03187	858.63770	27.36151
100	19.21863	0.05203	607.28773	1.6467E−03	31.59891	0.03165	879.85405	27.84445
108	24.34559	0.04108	778.18627	1.2850E−03	31.96416	0.03129	917.60126	28.70719
120	34.71099	0.02881	1123.69957	8.8992E−04	32.37302	0.03089	963.86347	29.77366
132	49.48957	0.02021	1616.31893	6.1869E−04	32.65979	0.03062	999.75206	30.61110
144	70.56029	0.01417	2318.67634	4.3128E−04	32.86092	0.03043	1027.33721	31.26319
180	204.50336	4.8899E−03	6783.44532	1.4742E−04	33.17034	0.03015	1076.33852	32.44883
240	1204.85263	8.2998E−04	4.0128E+04	2.4920E−05	33.30567	0.03002	1103.54910	33.13397
360	4.1822E+04	2.3911E−05	1.3940E+06	7.1735E−07	33.33254	0.03000	1110.79761	33.32473
480	1.4517E+06	6.8886E−07	4.8389E+07	2.0666E−08	33.33331	0.03000	1111.09932	33.33300
600	5.0389E+07	1.9846E−08	1.6796E+09	5.9537E−10	33.33333	0.03000	1111.11069	33.33332

TABLE A-a-10

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A\ i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A\ i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.04000	0.96154	1.00000	1.00000	0.96154	1.04000	0.00000	0.00000
2	1.08160	0.92456	2.04000	0.49020	1.88609	0.53020	0.92456	0.49020
3	1.12486	0.88900	3.12160	0.32035	2.77509	0.36035	2.70255	0.97386
4	1.16986	0.85480	4.24646	0.23549	3.62990	0.27549	5.26696	1.45100
5	1.21665	0.82193	5.41632	0.18463	4.45182	0.22463	8.55467	1.92161
6	1.26532	0.79031	6.63298	0.15076	5.24214	0.19076	12.50624	2.38571
7	1.31593	0.75992	7.89829	0.12661	6.00205	0.16661	17.06575	2.84332
8	1.36857	0.73069	9.21423	0.10853	6.73274	0.14853	22.18058	3.29443
9	1.42331	0.70259	10.58280	0.09449	7.43533	0.13449	27.80127	3.73908
10	1.48024	0.67556	12.00611	0.08329	8.11090	0.12329	33.88135	4.17726
11	1.53945	0.64958	13.48635	0.07415	8.76048	0.11415	40.37716	4.60901
12	1.60103	0.62460	15.02581	0.06655	9.38507	0.10655	47.24773	5.03435
13	1.66507	0.60057	16.62684	0.06014	9.98565	0.10014	54.45462	5.45329
14	1.73168	0.57748	18.29191	0.05467	10.56312	0.09467	61.96179	5.86586
15	1.80094	0.55526	20.02359	0.04994	11.11839	0.08994	69.73550	6.27209
16	1.87298	0.53391	21.82453	0.04582	11.65230	0.08582	77.74412	6.67200
17	1.94790	0.51337	23.69751	0.04220	12.16567	0.08220	85.95809	7.06563
18	2.02582	0.49363	25.64541	0.03899	12.65930	0.07899	94.34977	7.45300
19	2.10685	0.47464	27.67123	0.03614	13.13394	0.07614	102.89333	7.83416
20	2.19112	0.45639	29.77808	0.03358	13.59033	0.07358	111.56469	8.20912
21	2.27877	0.43883	31.96920	0.03128	14.02916	0.07128	120.34136	8.57794
22	2.36992	0.42196	34.24797	0.02920	14.45112	0.06920	129.20242	8.94065
23	2.46472	0.40573	36.61789	0.02731	14.85684	0.06731	138.12840	9.29729
24	2.56330	0.39012	39.08260	0.02559	15.24696	0.06559	147.10119	9.64790
25	2.66584	0.37512	41.64591	0.02401	15.62208	0.06401	156.10400	9.99252
26	2.77247	0.36069	44.31174	0.02257	15.98277	0.06257	165.12123	10.33120
27	2.88337	0.34682	47.08421	0.02124	16.32959	0.06124	174.13846	10.66399
28	2.99870	0.33348	49.96758	0.02001	16.66306	0.06001	183.14235	10.99092
29	3.11865	0.32065	52.96629	0.01888	16.98371	0.05888	192.12059	11.31205
30	3.24340	0.30832	56.08494	0.01783	17.29203	0.05783	201.06183	11.62743
36	4.10393	0.24367	77.59831	0.01289	18.90828	0.05289	253.40520	13.40181
40	4.80102	0.20829	95.02552	0.01052	19.79277	0.05052	286.53030	14.47651
48	6.57053	0.15219	139.26321	7.1806E−03	21.19513	0.04718	347.24455	16.38322
50	7.10668	0.14071	152.66708	6.5502E−03	21.48218	0.04655	361.16385	16.81225
52	7.68659	0.13010	167.16472	5.9821E−03	21.74758	0.04598	374.56381	17.22324
55	8.64637	0.11566	191.15917	5.2312E−03	22.10861	0.04523	393.68897	17.80704
60	10.51963	0.09506	237.99069	4.2018E−03	22.62349	0.04420	422.99665	18.69723
72	16.84226	0.05937	396.05656	2.5249E−03	23.51564	0.04252	481.01697	20.45519
75	18.94525	0.05278	448.63137	2.2290E−03	23.68041	0.04223	493.04083	20.82062
80	23.04980	0.04338	551.24498	1.8141E−03	23.91539	0.04181	511.11614	21.37185
84	26.96500	0.03709	649.12512	1.5405E−03	24.07287	0.04154	523.94309	21.76488
90	34.11933	0.02931	827.98333	1.2078E−03	24.26728	0.04121	540.73692	22.28255
96	43.17184	0.02316	1054.29603	9.4850E−04	24.42092	0.04095	554.93118	22.72360
100	50.50495	0.01980	1237.62370	8.0800E−04	24.50500	0.04081	563.12487	22.98000
108	69.11951	0.01447	1702.98772	5.8720E−04	24.63831	0.04059	576.89491	23.41455
120	110.66256	9.0365E−03	2741.56402	3.6476E−04	24.77409	0.04036	592.24276	23.90573
132	177.17433	5.6442E−03	4404.35813	2.2705E−04	24.85890	0.04023	602.84668	24.25074
144	283.66180	3.5253E−03	7066.54508	1.4151E−04	24.91187	0.04014	610.10550	24.49056
180	1164.12891	8.5901E−04	2.9078E+04	3.4390E−05	24.97852	0.04003	620.59757	24.84525
240	1.2246E+04	8.1658E−05	3.0613E+05	3.2666E−06	24.99796	0.04000	624.45902	24.98040
360	1.3552E+06	7.3790E−07	3.3880E+07	2.9516E−08	24.99998	0.04000	624.99290	24.99973
480	1.4997E+08	6.6680E−09	3.7492E+09	2.6672E−10	25.00000	0.04000	624.99992	25.00000
600	1.6596E+10	6.0255E−11	4.1490E+11	2.4102E−12	25.00000	0.04000	625.00000	25.00000

TABLE A-a-11

	Single Sums		Uniform Series				Gradient Series	
n	To Find *F* Given *P* (*F*|*P* i%,n)	To Find *P* Given *F* (*P*|*F* i%,n)	To Find *F* Given *A* (*F*|*A* i%,n)	To Find *A* Given *F* (*A*|*F* i%,n)	To Find *P* Given *A* (*P*|*A* i%,n)	To Find *A* Given *P* (*A*|*P* i%,n)	To Find *P* Given *G* (*P*|*G* i%,n)	To Find *A* Given *G* (*A*|*G* i%,n)
1	1.05000	0.95238	1.00000	1.00000	0.95238	1.05000	0.00000	0.00000
2	1.10250	0.90703	2.05000	0.48780	1.85941	0.53780	0.90703	0.48780
3	1.15763	0.86384	3.15250	0.31721	2.72325	0.36721	2.63470	0.96749
4	1.21551	0.82270	4.31013	0.23201	3.54595	0.28201	5.10281	1.43905
5	1.27628	0.78353	5.52563	0.18097	4.32948	0.23097	8.23692	1.90252
6	1.34010	0.74622	6.80191	0.14702	5.07569	0.19702	11.96799	2.35790
7	1.40710	0.71068	8.14201	0.12282	5.78637	0.17282	16.23208	2.80523
8	1.47746	0.67684	9.54911	0.10472	6.46321	0.15472	20.96996	3.24451
9	1.55133	0.64461	11.02656	0.09069	7.10782	0.14069	26.12683	3.67579
10	1.62889	0.61391	12.57789	0.07950	7.72173	0.12950	31.65205	4.09909
11	1.71034	0.58468	14.20679	0.07039	8.30641	0.12039	37.49884	4.51444
12	1.79586	0.55684	15.91713	0.06283	8.86325	0.11283	43.62405	4.92190
13	1.88565	0.53032	17.71298	0.05646	9.39357	0.10646	49.98791	5.32150
14	1.97993	0.50507	19.59863	0.05102	9.89864	0.10102	56.55379	5.71329
15	2.07893	0.48102	21.57856	0.04634	10.37966	0.09634	63.28803	6.09731
16	2.18287	0.45811	23.65749	0.04227	10.83777	0.09227	70.15970	6.47363
17	2.29202	0.43630	25.84037	0.03870	11.27407	0.08870	77.14045	6.84229
18	2.40662	0.41552	28.13238	0.03555	11.68959	0.08555	84.20430	7.20336
19	2.52695	0.39573	30.53900	0.03275	12.08532	0.08275	91.32751	7.55690
20	2.65330	0.37689	33.06595	0.03024	12.46221	0.08024	98.48841	7.90297
21	2.78596	0.35894	35.71925	0.02800	12.82115	0.07800	105.66726	8.24164
22	2.92526	0.34185	38.50521	0.02597	13.16300	0.07597	112.84611	8.57298
23	3.07152	0.32557	41.43048	0.02414	13.48857	0.07414	120.00868	8.89706
24	3.22510	0.31007	44.50200	0.02247	13.79864	0.07247	127.14024	9.21397
25	3.38635	0.29530	47.72710	0.02095	14.09394	0.07095	134.22751	9.52377
26	3.55567	0.28124	51.11345	0.01956	14.37519	0.06956	141.25852	9.82655
27	3.73346	0.26785	54.66913	0.01829	14.64303	0.06829	148.22258	10.12240
28	3.92013	0.25509	58.40258	0.01712	14.89813	0.06712	155.11011	10.41138
29	4.11614	0.24295	62.32271	0.01605	15.14107	0.06605	161.91261	10.69360
30	4.32194	0.23138	66.43885	0.01505	15.37245	0.06505	168.62255	10.96914
36	5.79182	0.17266	95.83632	0.01043	16.54685	0.06043	206.62370	12.48719
40	7.03999	0.14205	120.79977	8.2782E−03	17.15909	0.05828	229.54518	13.37747
48	10.40127	0.09614	188.02539	5.3184E−03	18.07716	0.05532	269.24673	14.89431
50	11.46740	0.08720	209.34800	4.7767E−03	18.25593	0.05478	277.91478	15.22326
52	12.64281	0.07910	232.85617	4.2945E−03	18.41807	0.05429	286.10125	15.53372
55	14.63563	0.06833	272.71262	3.6669E−03	18.63347	0.05367	297.51040	15.96645
60	18.67919	0.05354	353.58372	2.8282E−03	18.92929	0.05283	314.34316	16.60618
72	33.54513	0.02981	650.90268	1.5363E−03	19.40379	0.05154	345.14853	17.78769
75	38.83269	0.02575	756.65372	1.3216E−03	19.48497	0.05132	351.07215	18.01759
80	49.56144	0.02018	971.22882	1.0296E−03	19.59646	0.05103	359.64605	18.35260
84	60.24224	0.01660	1184.84483	8.4399E−04	19.66801	0.05084	365.47273	18.58209
90	80.73037	0.01239	1594.60730	6.2711E−04	19.75226	0.05063	372.74879	18.87120
96	108.18641	9.2433E−03	2143.72821	4.6648E−04	19.81513	0.05047	378.55553	19.10436
100	131.50126	7.6045E−03	2610.02516	3.8314E−04	19.84791	0.05038	381.74922	19.23372
108	194.28725	5.1470E−03	3865.74499	2.5868E−04	19.89706	0.05026	386.82363	19.44125
120	348.91199	2.8661E−03	6958.23971	1.4371E−04	19.94268	0.05014	391.97505	19.65509
132	626.59580	1.5959E−03	1.2512E+04	7.9924E−05	19.96808	0.05008	395.14839	19.78900
144	1125.27603	8.8867E−04	2.2486E+04	4.4473E−05	19.98223	0.05004	397.08516	19.87192
180	6517.39184	1.5344E−04	1.3033E+05	7.6730E−06	19.99693	0.05001	399.38626	19.97238
240	1.2174E+05	8.2143E−06	2.4348E+06	4.1072E−07	19.99984	0.05000	399.95729	19.99803
360	4.2476E+07	2.3542E−08	8.4953E+08	1.1771E−09	20.00000	0.05000	399.99982	19.99999
480	1.4821E+10	6.7474E−11	2.9641E+11	3.3737E−12	20.00000	0.05000	400.00000	20.00000
600	5.1711E+12	1.9338E−13	1.0342E+14	9.6692E−15	20.00000	0.05000	400.00000	20.00000

TABLE A-a-12

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A\ i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A\ i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.06000	0.94340	1.00000	1.00000	0.94340	1.06000	0.00000	0.00000
2	1.12360	0.89000	2.06000	0.48544	1.83339	0.54544	0.89000	0.48544
3	1.19102	0.83962	3.18360	0.31411	2.67301	0.37411	2.56924	0.96118
4	1.26248	0.79209	4.37462	0.22859	3.46511	0.28859	4.94552	1.42723
5	1.33823	0.74726	5.63709	0.17740	4.21236	0.23740	7.93455	1.88363
6	1.41852	0.70496	6.97532	0.14336	4.91732	0.20336	11.45935	2.33040
7	1.50363	0.66506	8.39384	0.11914	5.58238	0.17914	15.44969	2.76758
8	1.59385	0.62741	9.89747	0.10104	6.20979	0.16104	19.84158	3.19521
9	1.68948	0.59190	11.49132	0.08702	6.80169	0.14702	24.57677	3.61333
10	1.79085	0.55839	13.18079	0.07587	7.36009	0.13587	29.60232	4.02201
11	1.89830	0.52679	14.97164	0.06679	7.88687	0.12679	34.87020	4.42129
12	2.01220	0.49697	16.86994	0.05928	8.38384	0.11928	40.33686	4.81126
13	2.13293	0.46884	18.88214	0.05296	8.85268	0.11296	45.96293	5.19198
14	2.26090	0.44230	21.01507	0.04758	9.29498	0.10758	51.71284	5.56352
15	2.39656	0.41727	23.27597	0.04296	9.71225	0.10296	57.55455	5.92598
16	2.54035	0.39365	25.67253	0.03895	10.10590	0.09895	63.45925	6.27943
17	2.69277	0.37136	28.21288	0.03544	10.47726	0.09544	69.40108	6.62397
18	2.85434	0.35034	30.90565	0.03236	10.82760	0.09236	75.35692	6.95970
19	3.02560	0.33051	33.75999	0.02962	11.15812	0.08962	81.30615	7.28673
20	3.20714	0.31180	36.78559	0.02718	11.46992	0.08718	87.23044	7.60515
21	3.39956	0.29416	39.99273	0.02500	11.76408	0.08500	93.11355	7.91508
22	3.60354	0.27751	43.39229	0.02305	12.04158	0.08305	98.94116	8.21662
23	3.81975	0.26180	46.99583	0.02128	12.30338	0.08128	104.70070	8.50991
24	4.04893	0.24698	50.81558	0.01968	12.55036	0.07968	110.38121	8.79506
25	4.29187	0.23300	54.86451	0.01823	12.78336	0.07823	115.97317	9.07220
26	4.54938	0.21981	59.15638	0.01690	13.00317	0.07690	121.46842	9.34145
27	4.82235	0.20737	63.70577	0.01570	13.21053	0.07570	126.85999	9.60294
28	5.11169	0.19563	68.52811	0.01459	13.40616	0.07459	132.14200	9.85681
29	5.41839	0.18456	73.63980	0.01358	13.59072	0.07358	137.30959	10.10319
30	5.74349	0.17411	79.05819	0.01265	13.76483	0.07265	142.35879	10.34221
36	8.14725	0.12274	119.12087	8.3948E−03	14.62099	0.06839	170.03866	11.62977
40	10.28572	0.09722	154.76197	6.4615E−03	15.04630	0.06646	185.95682	12.35898
48	16.39387	0.06100	256.56453	3.8977E−03	15.65003	0.06390	212.03505	13.54854
50	18.42015	0.05429	290.33590	3.4443E−03	15.76186	0.06344	217.45738	13.79643
52	20.69689	0.04832	328.28142	3.0462E−03	15.86139	0.06305	222.48229	14.02666
55	24.65032	0.04057	394.17203	2.5370E−03	15.99054	0.06254	229.32225	14.34112
60	32.98769	0.03031	533.12818	1.8757E−03	16.16143	0.06188	239.04279	14.79095
72	66.37772	0.01507	1089.62859	9.1774E−04	16.41558	0.06092	255.51462	15.56537
75	79.05692	0.01265	1300.94868	7.6867E−04	16.45585	0.06077	258.45274	15.70583
80	105.79599	9.4522E−03	1746.59989	5.7254E−04	16.50913	0.06057	262.54931	15.90328
84	133.56500	7.4870E−03	2209.41674	4.5261E−04	16.54188	0.06045	265.21627	16.03302
90	189.46451	5.2780E−03	3141.07519	3.1836E−04	16.57870	0.06032	268.39461	16.18912
96	268.75903	3.7208E−03	4462.65050	2.2408E−04	16.60465	0.06022	270.79093	16.30814
100	339.30208	2.9472E−03	5638.36806	1.7736E−04	16.61755	0.06018	272.04706	16.37107
108	540.79597	1.8491E−03	8996.59954	1.1115E−04	16.63585	0.06011	273.93570	16.46659
120	1088.18775	9.1896E−04	1.8120E+04	5.5188E−05	16.65135	0.06006	275.68459	16.55629
132	2189.64755	4.5669E−04	3.6477E+04	2.7414E−05	16.65906	0.06003	276.64619	16.60636
144	4406.00107	2.2696E−04	7.3417E+04	1.3621E−05	16.66288	0.06001	277.17002	16.63398
180	3.5897E+04	2.7858E−05	5.9826E+05	1.6715E−06	16.66620	0.06000	277.68647	16.66165
240	1.1842E+06	8.4449E−07	1.9736E+07	5.0669E−08	16.66665	0.06000	277.77417	16.66646
360	1.2886E+09	7.7605E−10	2.1476E+10	4.6563E−11	16.66667	0.06000	277.77777	16.66667
480	1.4022E+12	7.1316E−13	2.3370E+13	4.2789E−14	16.66667	0.06000	277.77778	16.66667
600	1.5259E+15	6.5536E−16	2.5431E+16	3.9322E−17	16.66667	0.06000	277.77778	16.66667

TABLE A-a-13

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A\ i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A\ i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.07000	0.93458	1.00000	1.00000	0.93458	1.07000	0.00000	0.00000
2	1.14490	0.87344	2.07000	0.48309	1.80802	0.55309	0.87344	0.48309
3	1.22504	0.81630	3.21490	0.31105	2.62432	0.38105	2.50603	0.95493
4	1.31080	0.76290	4.43994	0.22523	3.38721	0.29523	4.79472	1.41554
5	1.40255	0.71299	5.75074	0.17389	4.10020	0.24389	7.64666	1.86495
6	1.50073	0.66634	7.15329	0.13980	4.76654	0.20980	10.97838	2.30322
7	1.60578	0.62275	8.65402	0.11555	5.38929	0.18555	14.71487	2.73039
8	1.71819	0.58201	10.25980	0.09747	5.97130	0.16747	18.78894	3.14654
9	1.83846	0.54393	11.97799	0.08349	6.51523	0.15349	23.14041	3.55174
10	1.96715	0.50835	13.81645	0.07238	7.02358	0.14238	27.71555	3.94607
11	2.10485	0.47509	15.78360	0.06336	7.49867	0.13336	32.46648	4.32963
12	2.25219	0.44401	17.88845	0.05590	7.94269	0.12590	37.35061	4.70252
13	2.40985	0.41496	20.14064	0.04965	8.35765	0.11965	42.33018	5.06484
14	2.57853	0.38782	22.55049	0.04434	8.74547	0.11434	47.37181	5.41673
15	2.75903	0.36245	25.12902	0.03979	9.10791	0.10979	52.44605	5.75829
16	2.95216	0.33873	27.88805	0.03586	9.44665	0.10586	57.52707	6.08968
17	3.15882	0.31657	30.84022	0.03243	9.76322	0.10243	62.59226	6.41102
18	3.37993	0.29586	33.99903	0.02941	10.05909	0.09941	67.62195	6.72247
19	3.61653	0.27651	37.37896	0.02675	10.33560	0.09675	72.59910	7.02418
20	3.86968	0.25842	40.99549	0.02439	10.59401	0.09439	77.50906	7.31631
21	4.14056	0.24151	44.86518	0.02229	10.83553	0.09229	82.33932	7.59901
22	4.43040	0.22571	49.00574	0.02041	11.06124	0.09041	87.07930	7.87247
23	4.74053	0.21095	53.43614	0.01871	11.27219	0.08871	91.72013	8.13685
24	5.07237	0.19715	58.17667	0.01719	11.46933	0.08719	96.25450	8.39234
25	5.42743	0.18425	63.24904	0.01581	11.65358	0.08581	100.67648	8.63910
26	5.80735	0.17220	68.67647	0.01456	11.82578	0.08456	104.98137	8.87733
27	6.21387	0.16093	74.48382	0.01343	11.98671	0.08343	109.16556	9.10722
28	6.64884	0.15040	80.69769	0.01239	12.13711	0.08239	113.22642	9.32894
29	7.11426	0.14056	87.34653	0.01145	12.27767	0.08145	117.16218	9.54270
30	7.61226	0.13137	94.46079	0.01059	12.40904	0.08059	120.97182	9.74868
36	11.42394	0.08754	148.91346	6.7153E−03	13.03521	0.07672	141.19902	10.83213
40	14.97446	0.06678	199.63511	5.0091E−03	13.33171	0.07501	152.29277	11.42335
48	25.72891	0.03887	353.27009	2.8307E−03	13.73047	0.07283	169.49812	12.34467
50	29.45703	0.03395	406.52893	2.4598E−03	13.80075	0.07246	172.90512	12.52868
52	33.72535	0.02965	467.50497	2.1390E−03	13.86212	0.07214	176.00368	12.69673
55	41.31500	0.02420	575.92859	1.7363E−03	13.93994	0.07174	180.12433	12.92146
60	57.94643	0.01726	813.52038	1.2292E−03	14.03918	0.07123	185.76774	13.23209
72	130.50646	7.6625E−03	1850.09222	5.4051E−04	14.17625	0.07054	194.63648	13.72976
75	159.87602	6.2548E−03	2269.65742	4.4060E−04	14.19636	0.07044	196.10351	13.81365
80	224.23439	4.4596E−03	3189.06268	3.1357E−04	14.22201	0.07031	198.07480	13.92735
84	293.92554	3.4022E−03	4184.65058	2.3897E−04	14.23711	0.07024	199.30463	13.99895
90	441.10298	2.2670E−03	6287.18543	1.5905E−04	14.25333	0.07016	200.70420	14.08122
96	661.97663	1.5106E−03	9442.52329	1.0590E−04	14.26413	0.07011	201.70162	14.14047
100	867.71633	1.1525E−03	1.2382E+04	8.0765E−05	14.26925	0.07008	202.20008	14.17034
108	1490.89820	6.7074E−04	2.1284E+04	4.6983E−05	14.27613	0.07005	202.90990	14.21323
120	3357.78838	2.9782E−04	4.7954E+04	2.0853E−05	14.28146	0.07002	203.51031	14.24997
132	7562.38275	1.3223E−04	1.0802E+05	9.2576E−06	14.28383	0.07001	203.80529	14.26826
144	1.7032E+04	5.8713E−05	2.4330E+05	4.1102E−06	14.28488	0.07000	203.94887	14.27726
180	1.9457E+05	5.1395E−06	2.7796E+06	3.5977E−07	14.28564	0.07000	204.06737	14.28479
240	1.1275E+07	8.8694E−08	1.6107E+08	6.2086E−09	14.28571	0.07000	204.08131	14.28569
360	3.7858E+10	2.6414E−11	5.4083E+11	1.8490E−12	14.28571	0.07000	204.08163	14.28571
480	1.2712E+14	7.8666E−15	1.8160E+15	5.5066E−16	14.28571	0.07000	204.08163	14.28571
600	4.2684E+17	2.3428E−18	6.0977E+18	1.6400E−19	14.28571	0.07000	204.08163	14.28571

TABLE A-a-14

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A\ i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A\ i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.08000	0.92593	1.00000	1.00000	0.92593	1.08000	0.00000	0.00000
2	1.16640	0.85734	2.08000	0.48077	1.78326	0.56077	0.85734	0.48077
3	1.25971	0.79383	3.24640	0.30803	2.57710	0.38803	2.44500	0.94874
4	1.36049	0.73503	4.50611	0.22192	3.31213	0.30192	4.65009	1.40396
5	1.46933	0.68058	5.86660	0.17046	3.99271	0.25046	7.37243	1.84647
6	1.58687	0.63017	7.33593	0.13632	4.62288	0.21632	10.52327	2.27635
7	1.71382	0.58349	8.92280	0.11207	5.20637	0.19207	14.02422	2.69366
8	1.85093	0.54027	10.63663	0.09401	5.74664	0.17401	17.80610	3.09852
9	1.99900	0.50025	12.48756	0.08008	6.24689	0.16008	21.80809	3.49103
10	2.15892	0.46319	14.48656	0.06903	6.71008	0.14903	25.97683	3.87131
11	2.33164	0.42888	16.64549	0.06008	7.13896	0.14008	30.26566	4.23950
12	2.51817	0.39711	18.97713	0.05270	7.53608	0.13270	34.63391	4.59575
13	2.71962	0.36770	21.49530	0.04652	7.90378	0.12652	39.04629	4.94021
14	2.93719	0.34046	24.21492	0.04130	8.24424	0.12130	43.47228	5.27305
15	3.17217	0.31524	27.15211	0.03683	8.55948	0.11683	47.88566	5.59446
16	3.42594	0.29189	30.32428	0.03298	8.85137	0.11298	52.26402	5.90463
17	3.70002	0.27027	33.75023	0.02963	9.12164	0.10963	56.58832	6.20375
18	3.99602	0.25025	37.45024	0.02670	9.37189	0.10670	60.84256	6.49203
19	4.31570	0.23171	41.44626	0.02413	9.60360	0.10413	65.01337	6.76969
20	4.66096	0.21455	45.76196	0.02185	9.81815	0.10185	69.08979	7.03695
21	5.03383	0.19866	50.42292	0.01983	10.01680	0.09983	73.06291	7.29403
22	5.43654	0.18394	55.45676	0.01803	10.20074	0.09803	76.92566	7.54118
23	5.87146	0.17032	60.89330	0.01642	10.37106	0.09642	80.67259	7.77863
24	6.34118	0.15770	66.76476	0.01498	10.52876	0.09498	84.29968	8.00661
25	6.84848	0.14602	73.10594	0.01368	10.67478	0.09368	87.80411	8.22538
26	7.39635	0.13520	79.95442	0.01251	10.80998	0.09251	91.18415	8.43518
27	7.98806	0.12519	87.35077	0.01145	10.93516	0.09145	94.43901	8.63627
28	8.62711	0.11591	95.33883	0.01049	11.05108	0.09049	97.56868	8.82888
29	9.31727	0.10733	103.96594	9.6185E−03	11.15841	0.08962	100.57385	9.01328
30	10.06266	0.09938	113.28321	8.8274E−03	11.25778	0.08883	103.45579	9.18971
36	15.96817	0.06262	187.10215	5.3447E−03	11.71719	0.08534	118.28385	10.09490
40	21.72452	0.04603	259.05652	3.8602E−03	11.92461	0.08386	126.04220	10.56992
48	40.21057	0.02487	490.13216	2.0403E−03	12.18914	0.08204	137.44276	11.27584
50	46.90161	0.02132	573.77016	1.7429E−03	12.23348	0.08174	139.59279	11.41071
52	54.70604	0.01828	671.32551	1.4896E−03	12.27151	0.08149	141.51214	11.53177
55	68.91386	0.01451	848.92320	1.1780E−03	12.31861	0.08118	144.00645	11.69015
60	101.25706	9.8759E−03	1253.21330	7.9795E−04	12.37655	0.08080	147.30001	11.90154
72	254.98251	3.9218E−03	3174.78140	3.1498E−04	12.45098	0.08031	152.10756	12.21652
75	321.20453	3.1133E−03	4002.55662	2.4984E−04	12.46108	0.08025	152.84485	12.26577
80	471.95483	2.1188E−03	5886.93543	1.6987E−04	12.47351	0.08017	153.80008	12.33013
84	642.08934	1.5574E−03	8013.61677	1.2479E−04	12.48053	0.08012	154.37137	12.36897
90	1018.91509	9.8144E−04	1.2724E+04	7.8592E−05	12.48773	0.08008	154.99254	12.41158
96	1616.89019	6.1847E−04	2.0199E+04	4.9508E−05	12.49227	0.08005	155.41120	12.44059
100	2199.76126	4.5459E−04	2.7485E+04	3.6384E−05	12.49432	0.08004	155.61073	12.45452
108	4071.60456	2.4560E−04	5.0883E+04	1.9653E−05	12.49693	0.08002	155.88006	12.47347
120	1.0253E+04	9.7532E−05	1.2815E+05	7.8034E−06	12.49878	0.08001	156.08846	12.48829
132	2.5819E+04	3.8731E−05	3.2272E+05	3.0986E−06	12.49952	0.08000	156.18004	12.49489
144	6.5016E+04	1.5381E−05	8.1269E+05	1.2305E−06	12.49981	0.08000	156.21991	12.49779
180	1.0382E+06	9.6322E−07	1.2977E+07	7.7057E−08	12.49999	0.08000	156.24768	12.49983
240	1.0512E+08	9.5126E−09	1.3140E+09	7.6101E−10	12.50000	0.08000	156.24997	12.50000
360	1.0778E+12	9.2779E−13	1.3473E+13	7.4223E−14	12.50000	0.08000	156.25000	12.50000
480	1.1051E+16	9.0489E−17	1.3814E+17	7.2391E−18	12.50000	0.08000	156.25000	12.50000
600	1.1331E+20	8.8257E−21	1.4163E+21	7.0605E−22	12.50000	0.08000	156.25000	12.50000

TABLE A-a-15

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A\ i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A\ i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.09000	0.91743	1.00000	1.00000	0.91743	1.09000	0.00000	0.00000
2	1.18810	0.84168	2.09000	0.47847	1.75911	0.56847	0.84168	0.47847
3	1.29503	0.77218	3.27810	0.30505	2.53129	0.39505	2.38605	0.94262
4	1.41158	0.70843	4.57313	0.21867	3.23972	0.30867	4.51132	1.39250
5	1.53862	0.64993	5.98471	0.16709	3.88965	0.25709	7.11105	1.82820
6	1.67710	0.59627	7.52333	0.13292	4.48592	0.22292	10.09238	2.24979
7	1.82804	0.54703	9.20043	0.10869	5.03295	0.19869	13.37459	2.65740
8	1.99256	0.50187	11.02847	0.09067	5.53482	0.18067	16.88765	3.05117
9	2.17189	0.46043	13.02104	0.07680	5.99525	0.16680	20.57108	3.43123
10	2.36736	0.42241	15.19293	0.06582	6.41766	0.15582	24.37277	3.79777
11	2.58043	0.38753	17.56029	0.05695	6.80519	0.14695	28.24810	4.15096
12	2.81266	0.35553	20.14072	0.04965	7.16073	0.13965	32.15898	4.49102
13	3.06580	0.32618	22.95338	0.04357	7.48690	0.13357	36.07313	4.81816
14	3.34173	0.29925	26.01919	0.03843	7.78615	0.12843	39.96333	5.13262
15	3.64248	0.27454	29.36092	0.03406	8.06069	0.12406	43.80686	5.43463
16	3.97031	0.25187	33.00340	0.03030	8.31256	0.12030	47.58491	5.72446
17	4.32763	0.23107	36.97370	0.02705	8.54363	0.11705	51.28208	6.00238
18	4.71712	0.21199	41.30134	0.02421	8.75563	0.11421	54.88598	6.26865
19	5.14166	0.19449	46.01846	0.02173	8.95011	0.11173	58.38679	6.52358
20	5.60441	0.17843	51.16012	0.01955	9.12855	0.10955	61.77698	6.76745
21	6.10881	0.16370	56.76453	0.01762	9.29224	0.10762	65.05094	7.00056
22	6.65860	0.15018	62.87334	0.01590	9.44243	0.10590	68.20475	7.22322
23	7.25787	0.13778	69.53194	0.01438	9.58021	0.10438	71.23594	7.43574
24	7.91108	0.12640	76.78981	0.01302	9.70661	0.10302	74.14326	7.63843
25	8.62308	0.11597	84.70090	0.01181	9.82258	0.10181	76.92649	7.83160
26	9.39916	0.10639	93.32398	0.01072	9.92897	0.10072	79.58630	8.01556
27	10.24508	0.09761	102.72313	9.7349E−03	10.02658	0.09973	82.12410	8.19064
28	11.16714	0.08955	112.96822	8.8520E−03	10.11613	0.09885	84.54191	8.35714
29	12.17218	0.08215	124.13536	8.0557E−03	10.19828	0.09806	86.84224	8.51538
30	13.26768	0.07537	136.30754	7.3364E−03	10.27365	0.09734	89.02800	8.66566
36	22.25123	0.04494	236.12472	4.2350E−03	10.61176	0.09424	99.93194	9.41709
40	31.40942	0.03184	337.88245	2.9596E−03	10.75736	0.09296	105.37619	9.79573
48	62.58524	0.01598	684.28041	1.4614E−03	10.93358	0.09146	112.96246	10.33170
50	74.35752	0.01345	815.08356	1.2269E−03	10.96168	0.09123	114.32507	10.42952
52	88.34417	0.01132	970.49077	1.0304E−03	10.98534	0.09103	115.51926	10.51577
55	114.40826	8.7406E−03	1260.09180	7.9359E−04	11.01399	0.09079	117.03621	10.62614
60	176.03129	5.6808E−03	1944.79213	5.1419E−04	11.04799	0.09051	118.96825	10.76832
72	495.11702	2.0197E−03	5490.18906	1.8214E−04	11.08867	0.09018	121.59166	10.96540
75	641.19089	1.5596E−03	7113.23215	1.4058E−04	11.09378	0.09014	121.96458	10.99396
80	986.55167	1.0136E−03	1.0951E+04	9.1319E−05	11.09985	0.09009	122.43064	11.02994
84	1392.59819	7.1808E−04	1.5462E+04	6.4674E−05	11.10313	0.09006	122.69793	11.05075
90	2335.52658	4.2817E−04	2.5939E+04	3.8552E−05	11.10635	0.09004	122.97576	11.07256
96	3916.91189	2.5530E−04	4.3510E+04	2.2983E−05	11.10827	0.09002	123.15295	11.08660
100	5529.04079	1.8086E−04	6.1423E+04	1.6281E−05	11.10910	0.09002	123.23350	11.09302
108	1.1017E+04	9.0769E−05	1.2240E+05	8.1700E−06	11.11010	0.09001	123.33666	11.10131
120	3.0987E+04	3.2272E−05	3.4429E+05	2.9045E−06	11.11075	0.09000	123.40978	11.10724
132	8.7156E+04	1.1474E−05	9.6839E+05	1.0326E−06	11.11098	0.09000	123.43855	11.10960
144	2.4514E+05	4.0793E−06	2.7238E+06	3.6714E−07	11.11107	0.09000	123.44976	11.11052
180	5.4547E+06	1.8333E−07	6.0608E+07	1.6500E−08	11.11111	0.09000	123.45640	11.11108
240	9.6020E+08	1.0415E−09	1.0669E+10	9.3731E−11	11.11111	0.09000	123.45679	11.11111
360	2.9754E+13	3.3609E−14	3.3060E+14	3.0248E−15	11.11111	0.09000	123.45679	11.11111
480	9.2197E+17	1.0846E−18	1.0244E+19	9.7617E−20	11.11111	0.09000	123.45679	11.11111
600	2.8569E+22	3.5003E−23	3.1744E+23	3.1502E−24	11.11111	0.09000	123.45679	11.11111

TABLE A-a-16

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A\ i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A\ i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.10000	0.90909	1.00000	1.00000	0.90909	1.10000	0.00000	0.00000
2	1.21000	0.82645	2.10000	0.47619	1.73554	0.57619	0.82645	0.47619
3	1.33100	0.75131	3.31000	0.30211	2.48685	0.40211	2.32908	0.93656
4	1.46410	0.68301	4.64100	0.21547	3.16987	0.31547	4.37812	1.38117
5	1.61051	0.62092	6.10510	0.16380	3.79079	0.26380	6.86180	1.81013
6	1.77156	0.56447	7.71561	0.12961	4.35526	0.22961	9.68417	2.22356
7	1.94872	0.51316	9.48717	0.10541	4.86842	0.20541	12.76312	2.62162
8	2.14359	0.46651	11.43589	0.08744	5.33493	0.18744	16.02867	3.00448
9	2.35795	0.42410	13.57948	0.07364	5.75902	0.17364	19.42145	3.37235
10	2.59374	0.38554	15.93742	0.06275	6.14457	0.16275	22.89134	3.72546
11	2.85312	0.35049	18.53117	0.05396	6.49506	0.15396	26.39628	4.06405
12	3.13843	0.31863	21.38428	0.04676	6.81369	0.14676	29.90122	4.38840
13	3.45227	0.28966	24.52271	0.04078	7.10336	0.14078	33.37719	4.69879
14	3.79750	0.26333	27.97498	0.03575	7.36669	0.13575	36.80050	4.99553
15	4.17725	0.23939	31.77248	0.03147	7.60608	0.13147	40.15199	5.27893
16	4.59497	0.21763	35.94973	0.02782	7.82371	0.12782	43.41642	5.54934
17	5.05447	0.19784	40.54470	0.02466	8.02155	0.12466	46.58194	5.80710
18	5.55992	0.17986	45.59917	0.02193	8.20141	0.12193	49.63954	6.05256
19	6.11591	0.16351	51.15909	0.01955	8.36492	0.11955	52.58268	6.28610
20	6.72750	0.14864	57.27500	0.01746	8.51356	0.11746	55.40691	6.50808
21	7.40025	0.13513	64.00250	0.01562	8.64869	0.11562	58.10952	6.71888
22	8.14027	0.12285	71.40275	0.01401	8.77154	0.11401	60.68929	6.91889
23	8.95430	0.11168	79.54302	0.01257	8.88322	0.11257	63.14621	7.10848
24	9.84973	0.10153	88.49733	0.01130	8.98474	0.11130	65.48130	7.28805
25	10.83471	0.09230	98.34706	0.01017	9.07704	0.11017	67.69640	7.45798
26	11.91818	0.08391	109.18177	9.1590E−03	9.16095	0.10916	69.79404	7.61865
27	13.10999	0.07628	121.09994	8.2576E−03	9.23722	0.10826	71.77726	7.77044
28	14.42099	0.06934	134.20994	7.4510E−03	9.30657	0.10745	73.64953	7.91372
29	15.86309	0.06304	148.63093	6.7281E−03	9.36961	0.10673	75.41463	8.04886
30	17.44940	0.05731	164.49402	6.0792E−03	9.42691	0.10608	77.07658	8.17623
36	30.91268	0.03235	299.12681	3.3431E−03	9.67651	0.10334	85.11938	8.79650
40	45.25926	0.02209	442.59256	2.2594E−03	9.77905	0.10226	88.95254	9.09623
48	97.01723	0.01031	960.17234	1.0415E−03	9.89693	0.10104	94.02168	9.50009
50	117.39085	8.5186E−03	1163.90853	8.5917E−04	9.91481	0.10086	94.88887	9.57041
52	142.04293	7.0401E−03	1410.42932	7.0900E−04	9.92960	0.10071	95.63512	9.63132
55	189.05914	5.2894E−03	1880.59142	5.3175E−04	9.94711	0.10053	96.56192	9.70754
60	304.48164	3.2843E−03	3034.81640	3.2951E−04	9.96716	0.10033	97.70101	9.80229
72	955.59382	1.0465E−03	9545.93818	1.0476E−04	9.98954	0.10010	99.14189	9.92458
75	1271.89537	7.8623E−04	1.2709E+04	7.8685E−05	9.99214	0.10008	99.33171	9.94099
80	2048.40021	4.8819E−04	2.0474E+04	4.8842E−05	9.99512	0.10005	99.56063	9.96093
84	2999.06275	3.3344E−04	2.9981E+04	3.3355E−05	9.99667	0.10003	99.68657	9.97198
90	5313.02261	1.8822E−04	5.3120E+04	1.8825E−05	9.99812	0.10002	99.81178	9.98306
96	9412.34365	1.0624E−04	9.4113E+04	1.0625E−05	9.99894	0.10001	99.88738	9.98980
100	1.3781E+04	7.2566E−05	1.3780E+05	7.2571E−06	9.99927	0.10001	99.92018	9.99274
108	2.9540E+04	3.3852E−05	2.9539E+05	3.3854E−06	9.99966	0.10000	99.96005	9.99634
120	9.2709E+04	1.0786E−05	9.2708E+05	1.0787E−06	9.99989	0.10000	99.98598	9.99871
132	2.9096E+05	3.4369E−06	2.9096E+06	3.4369E−07	9.99997	0.10000	99.99512	9.99955
144	9.1316E+05	1.0951E−06	9.1316E+06	1.0951E−07	9.99999	0.10000	99.99831	9.99984
180	2.8228E+07	3.5426E−08	2.8228E+08	3.5426E−09	10.00000	0.10000	99.99993	9.99999
240	8.5950E+09	1.1635E−10	8.5950E+10	1.1635E−11	10.00000	0.10000	100.00000	10.00000
360	7.9683E+14	1.2550E−15	7.9683E+15	1.2550E−16	10.00000	0.10000	100.00000	10.00000
480	7.3874E+19	1.3537E−20	7.3874E+20	1.3537E−21	10.00000	0.10000	100.00000	10.00000
600	6.8487E+24	1.4601E−25	6.8487E+25	1.4601E−26	10.00000	0.10000	100.00000	10.00000

TABLE A-a-17

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A\ i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A\ i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.11000	0.90090	1.00000	1.00000	0.90090	1.11000	0.00000	0.00000
2	1.23210	0.81162	2.11000	0.47393	1.71252	0.58393	0.81162	0.47393
3	1.36763	0.73119	3.34210	0.29921	2.44371	0.40921	2.27401	0.93055
4	1.51807	0.65873	4.70973	0.21233	3.10245	0.32233	4.25020	1.36995
5	1.68506	0.59345	6.22780	0.16057	3.69590	0.27057	6.62400	1.79226
6	1.87041	0.53464	7.91286	0.12638	4.23054	0.23638	9.29721	2.19764
7	2.07616	0.48166	9.78327	0.10222	4.71220	0.21222	12.18716	2.58630
8	2.30454	0.43393	11.85943	0.08432	5.14612	0.19432	15.22464	2.95847
9	2.55804	0.39092	14.16397	0.07060	5.53705	0.18060	18.35204	3.31441
10	2.83942	0.35218	16.72201	0.05980	5.88923	0.16980	21.52170	3.65442
11	3.15176	0.31728	19.56143	0.05112	6.20652	0.16112	24.69454	3.97881
12	3.49845	0.28584	22.71319	0.04403	6.49236	0.15403	27.83878	4.28793
13	3.88328	0.25751	26.21164	0.03815	6.74987	0.14815	30.92896	4.58216
14	4.31044	0.23199	30.09492	0.03323	6.98187	0.14323	33.94489	4.86187
15	4.78459	0.20900	34.40536	0.02907	7.19087	0.13907	36.87095	5.12747
16	5.31089	0.18829	39.18995	0.02552	7.37916	0.13552	39.69533	5.37938
17	5.89509	0.16963	44.50084	0.02247	7.54879	0.13247	42.40945	5.61804
18	6.54355	0.15282	50.39594	0.01984	7.70162	0.12984	45.00743	5.84389
19	7.26334	0.13768	56.93949	0.01756	7.83929	0.12756	47.48563	6.05739
20	8.06231	0.12403	64.20283	0.01558	7.96333	0.12558	49.84227	6.25898
21	8.94917	0.11174	72.26514	0.01384	8.07507	0.12384	52.07712	6.44912
22	9.93357	0.10067	81.21431	0.01231	8.17574	0.12231	54.19116	6.62829
23	11.02627	0.09069	91.14788	0.01097	8.26643	0.12097	56.18640	6.79693
24	12.23916	0.08170	102.17415	9.7872E−03	8.34814	0.11979	58.06561	6.95552
25	13.58546	0.07361	114.41331	8.7402E−03	8.42174	0.11874	59.83220	7.10449
26	15.07986	0.06631	127.99877	7.8126E−03	8.48806	0.11781	61.49004	7.24430
27	16.73865	0.05974	143.07864	6.9892E−03	8.54780	0.11699	63.04334	7.37539
28	18.57990	0.05382	159.81729	6.2571E−03	8.60162	0.11626	64.49652	7.49818
29	20.62369	0.04849	178.39719	5.6055E−03	8.65011	0.11561	65.85418	7.61310
30	22.89230	0.04368	199.02088	5.0246E−03	8.69379	0.11502	67.12098	7.72056
36	42.81808	0.02335	380.16441	2.6304E−03	8.87859	0.11263	73.07116	8.23004
40	65.00087	0.01538	581.82607	1.7187E−03	8.95105	0.11172	75.77886	8.46592
48	149.79695	6.6757E−03	1352.69958	7.3926E−04	9.03022	0.11074	79.17988	8.76832
50	184.56483	5.4182E−03	1668.77115	5.9924E−04	9.04165	0.11060	79.73405	8.81853
52	227.40232	4.3975E−03	2058.20294	4.8586E−04	9.05093	0.11049	80.20238	8.86123
55	311.00247	3.2154E−03	2818.20424	3.5484E−04	9.06168	0.11035	80.77119	8.91349
60	524.05724	1.9082E−03	4755.06584	2.1030E−04	9.07356	0.11021	81.44610	8.97620
72	1833.38837	5.4544E−04	1.6658E+04	6.0031E−05	9.08595	0.11006	82.24254	9.05162
75	2507.39877	3.9882E−04	2.2785E+04	4.3888E−05	9.08728	0.11004	82.33975	9.06099
80	4225.11275	2.3668E−04	3.8401E+04	2.6041E−05	9.08876	0.11003	82.45294	9.07197
84	6414.01865	1.5591E−04	5.8300E+04	1.7153E−05	9.08949	0.11002	82.51269	9.07781
90	1.1997E+04	8.3355E−05	1.0905E+05	9.1698E−06	9.09015	0.11001	82.56954	9.08341
96	2.2439E+04	4.4565E−05	2.0398E+05	4.9024E−06	9.09050	0.11000	82.60205	9.08663
100	3.4064E+04	2.9356E−05	3.0967E+05	3.2293E−06	9.09064	0.11000	82.61551	9.08797
108	7.8502E+04	1.2738E−05	7.1365E+05	1.4013E−06	9.09079	0.11000	82.63107	9.08953
120	2.7464E+05	3.6412E−06	2.4967E+06	4.0053E−07	9.09088	0.11000	82.64035	9.09047
132	9.6080E+05	1.0408E−06	8.7345E+06	1.1449E−07	9.09090	0.11000	82.64329	9.09077
144	3.3613E+06	2.9750E−07	3.0557E+07	3.2725E−08	9.09091	0.11000	82.64421	9.09087
180	1.4392E+08	6.9481E−09	1.3084E+09	7.6429E−10	9.09091	0.11000	82.64462	9.09091
240	7.5425E+10	1.3258E−11	6.8568E+11	1.4584E−12	9.09091	0.11000	82.64463	9.09091
360	2.0714E+16	4.8276E−17	1.8831E+17	5.3103E−18	9.09091	0.11000	82.64463	9.09091
480	5.6889E+21	1.7578E−22	5.1717E+22	1.9336E−23	9.09091	0.11000	82.64463	9.09091
600	1.5624E+27	6.4005E−28	1.4203E+28	7.0405E−29	9.09091	0.11000	82.64463	9.09091

TABLE A-a-18

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A\ i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A\ i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.12000	0.89286	1.00000	1.00000	0.89286	1.12000	0.00000	0.00000
2	1.25440	0.79719	2.12000	0.47170	1.69005	0.59170	0.79719	0.47170
3	1.40493	0.71178	3.37440	0.29635	2.40183	0.41635	2.22075	0.92461
4	1.57352	0.63552	4.77933	0.20923	3.03735	0.32923	4.12731	1.35885
5	1.76234	0.56743	6.35285	0.15741	3.60478	0.27741	6.39702	1.77459
6	1.97382	0.50663	8.11519	0.12323	4.11141	0.24323	8.93017	2.17205
7	2.21068	0.45235	10.08901	0.09912	4.56376	0.21912	11.64427	2.55147
8	2.47596	0.40388	12.29969	0.08130	4.96764	0.20130	14.47145	2.91314
9	2.77308	0.36061	14.77566	0.06768	5.32825	0.18768	17.35633	3.25742
10	3.10585	0.32197	17.54874	0.05698	5.65022	0.17698	20.25409	3.58465
11	3.47855	0.28748	20.65458	0.04842	5.93770	0.16842	23.12885	3.89525
12	3.89598	0.25668	24.13313	0.04144	6.19437	0.16144	25.95228	4.18965
13	4.36349	0.22917	28.02911	0.03568	6.42355	0.15568	28.70237	4.46830
14	4.88711	0.20462	32.39260	0.03087	6.62817	0.15087	31.36242	4.73169
15	5.47357	0.18270	37.27971	0.02682	6.81086	0.14682	33.92017	4.98030
16	6.13039	0.16312	42.75328	0.02339	6.97399	0.14339	36.36700	5.21466
17	6.86604	0.14564	48.88367	0.02046	7.11963	0.14046	38.69731	5.43530
18	7.68997	0.13004	55.74971	0.01794	7.24967	0.13794	40.90798	5.64274
19	8.61276	0.11611	63.43968	0.01576	7.36578	0.13576	42.99790	5.83752
20	9.64629	0.10367	72.05244	0.01388	7.46944	0.13388	44.96757	6.02020
21	10.80385	0.09256	81.69874	0.01224	7.56200	0.13224	46.81876	6.19132
22	12.10031	0.08264	92.50258	0.01081	7.64465	0.13081	48.55425	6.35141
23	13.55235	0.07379	104.60289	9.5600E−03	7.71843	0.12956	50.17759	6.50101
24	15.17863	0.06588	118.15524	8.4634E−03	7.78432	0.12846	51.69288	6.64064
25	17.00006	0.05882	133.33387	7.5000E−03	7.84314	0.12750	53.10464	6.77084
26	19.04007	0.05252	150.33393	6.6519E−03	7.89566	0.12665	54.41766	6.89210
27	21.32488	0.04689	169.37401	5.9041E−03	7.94255	0.12590	55.63689	7.00491
28	23.88387	0.04187	190.69889	5.2439E−03	7.98442	0.12524	56.76736	7.10976
29	26.74993	0.03738	214.58275	4.6602E−03	8.02181	0.12466	57.81409	7.20712
30	29.95992	0.03338	241.33268	4.1437E−03	8.05518	0.12414	58.78205	7.29742
36	59.13557	0.01691	484.46312	2.0641E−03	8.19241	0.12206	63.19703	7.71409
40	93.05097	0.01075	767.09142	1.3036E−03	8.24378	0.12130	65.11587	7.89879
48	230.39078	4.3405E−03	1911.58980	5.2312E−04	8.29716	0.12052	67.40684	8.12408
50	289.00219	3.4602E−03	2400.01825	4.1666E−04	8.30450	0.12042	67.76241	8.15972
52	362.52435	2.7584E−03	3012.70289	3.3193E−04	8.31035	0.12033	68.05756	8.18950
55	509.32061	1.9634E−03	4236.00505	2.3607E−04	8.31697	0.12024	68.40821	8.22513
60	897.59693	1.1141E−03	7471.64111	1.3384E−04	8.32405	0.12013	68.81003	8.26641
72	3497.01610	2.8596E−04	2.9133E+04	3.4325E−05	8.33095	0.12003	69.25301	8.31274
75	4913.05584	2.0354E−04	4.0934E+04	2.4430E−05	8.33164	0.12002	69.30310	8.31806
80	8658.48310	1.1549E−04	7.2146E+04	1.3861E−05	8.33237	0.12001	69.35943	8.32409
84	1.3624E+04	7.3398E−05	1.1353E+05	8.8084E−06	8.33272	0.12001	69.38797	8.32717
90	2.6892E+04	3.7186E−05	2.2409E+05	4.4625E−06	8.33302	0.12000	69.41397	8.32999
96	5.3080E+04	1.8840E−05	4.4232E+05	2.2608E−06	8.33318	0.12000	69.42806	8.33152
100	8.3522E+04	1.1973E−05	6.9601E+05	1.4368E−06	8.33323	0.12000	69.43364	8.33214
108	2.0680E+05	4.8356E−06	1.7233E+06	5.8028E−07	8.33329	0.12000	69.43976	8.33281
120	8.0568E+05	1.2412E−06	6.7140E+06	1.4894E−07	8.33332	0.12000	69.44312	8.33318
132	3.1389E+06	3.1858E−07	2.6158E+07	3.8230E−08	8.33333	0.12000	69.44407	8.33329
144	1.2229E+07	8.1772E−08	1.0191E+08	9.8126E−09	8.33333	0.12000	69.44434	8.33332
180	7.2318E+08	1.3828E−09	6.0265E+09	1.6593E−10	8.33333	0.12000	69.44444	8.33333
240	6.4912E+11	1.5405E−12	5.4093E+12	1.8487E−13	8.33333	0.12000	69.44444	8.33333
360	5.2298E+17	1.9121E−18	4.3582E+18	2.2945E−19	8.33333	0.12000	69.44444	8.33333
480	4.2136E+23	2.3733E−24	3.5113E+24	2.8479E−25	8.33333	0.12000	69.44444	8.33333
600	3.3948E+29	2.9457E−30	2.8290E+30	3.5348E−31	8.33333	0.12000	69.44444	8.33333

TABLE A-a-19

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P ($F\|P$ i%,n)	To Find P Given F ($P\|F$ i%,n)	To Find F Given A ($F\|A$ i%,n)	To Find A Given F ($A\|F$ i%,n)	To Find P Given A ($P\|A$ i%,n)	To Find A Given P ($A\|P$ i%,n)	To Find P Given G ($P\|G$ i%,n)	To Find A Given G ($A\|G$ i%,n)
1	1.15000	0.86957	1.00000	1.00000	0.86957	1.15000	0.00000	0.00000
2	1.32250	0.75614	2.15000	0.46512	1.62571	0.61512	0.75614	0.46512
3	1.52088	0.65752	3.47250	0.28798	2.28323	0.43798	2.07118	0.90713
4	1.74901	0.57175	4.99338	0.20027	2.85498	0.35027	3.78644	1.32626
5	2.01136	0.49718	6.74238	0.14832	3.35216	0.29832	5.77514	1.72281
6	2.31306	0.43233	8.75374	0.11424	3.78448	0.26424	7.93678	2.09719
7	2.66002	0.37594	11.06680	0.09036	4.16042	0.24036	10.19240	2.44985
8	3.05902	0.32690	13.72682	0.07285	4.48732	0.22285	12.48072	2.78133
9	3.51788	0.28426	16.78584	0.05957	4.77158	0.20957	14.75481	3.09223
10	4.04556	0.24718	20.30372	0.04925	5.01877	0.19925	16.97948	3.38320
11	4.65239	0.21494	24.34928	0.04107	5.23371	0.19107	19.12891	3.65494
12	5.35025	0.18691	29.00167	0.03448	5.42062	0.18448	21.18489	3.90820
13	6.15279	0.16253	34.35192	0.02911	5.58315	0.17911	23.13522	4.14376
14	7.07571	0.14133	40.50471	0.02469	5.72448	0.17469	24.97250	4.36241
15	8.13706	0.12289	47.58041	0.02102	5.84737	0.17102	26.69302	4.56496
16	9.35762	0.10686	55.71747	0.01795	5.95423	0.16795	28.29599	4.75225
17	10.76126	0.09293	65.07509	0.01537	6.04716	0.16537	29.78280	4.92509
18	12.37545	0.08081	75.83636	0.01319	6.12797	0.16319	31.15649	5.08431
19	14.23177	0.07027	88.21181	0.01134	6.19823	0.16134	32.42127	5.23073
20	16.36654	0.06110	102.44358	9.7615E−03	6.25933	0.15976	33.58217	5.36514
21	18.82152	0.05313	118.81012	8.4168E−03	6.31246	0.15842	34.64479	5.48832
22	21.64475	0.04620	137.63164	7.2658E−03	6.35866	0.15727	35.61500	5.60102
23	24.89146	0.04017	159.27638	6.2784E−03	6.39884	0.15628	36.49884	5.70398
24	28.62518	0.03493	184.16784	5.4298E−03	6.43377	0.15543	37.30232	5.79789
25	32.91895	0.03038	212.79302	4.6994E−03	6.46415	0.15470	38.03139	5.88343
26	37.85680	0.02642	245.71197	4.0698E−03	6.49056	0.15407	38.69177	5.96123
27	43.53531	0.02297	283.56877	3.5265E−03	6.51353	0.15353	39.28899	6.03190
28	50.06561	0.01997	327.10408	3.0571E−03	6.53351	0.15306	39.82828	6.09600
29	57.57545	0.01737	377.16969	2.6513E−03	6.55088	0.15265	40.31460	6.15408
30	66.21177	0.01510	434.74515	2.3002E−03	6.56598	0.15230	40.75259	6.20663
36	153.15185	6.5295E−03	1014.34568	9.8586E−04	6.62314	0.15099	42.58717	6.43006
40	267.86355	3.7332E−03	1779.09031	5.6209E−04	6.64178	0.15056	43.28299	6.51678
48	819.40071	1.2204E−03	5456.00475	1.8328E−04	6.65853	0.15018	43.99967	6.60802
50	1083.65744	9.2280E−04	7217.71628	1.3855E−04	6.66051	0.15014	44.09583	6.62048
52	1433.13697	6.9777E−04	9547.57978	1.0474E−04	6.66201	0.15010	44.17154	6.63036
55	2179.62218	4.5880E−04	1.4524E+04	6.8851E−05	6.66361	0.15007	44.25583	6.64142
60	4383.99875	2.2810E−04	2.9220E+04	3.4223E−05	6.66515	0.15003	44.34307	6.65298
72	2.3455E+04	4.2634E−05	1.5636E+05	6.3954E−06	6.66638	0.15001	44.42209	6.66360
75	3.5673E+04	2.8033E−05	2.3781E+05	4.2050E−06	6.66648	0.15000	44.42918	6.66456
80	7.1751E+04	1.3937E−05	4.7833E+05	2.0906E−06	6.66657	0.15000	44.43639	6.66555
84	1.2549E+05	7.9686E−06	8.3661E+05	1.1953E−06	6.66661	0.15000	44.43963	6.66600
90	2.9027E+05	3.4450E−06	1.9351E+06	5.1676E−07	6.66664	0.15000	44.44222	6.66636
96	6.7142E+05	1.4894E−06	4.4761E+06	2.2341E−07	6.66666	0.15000	44.44343	6.66652
100	1.1743E+06	8.5156E−07	7.8287E+06	1.2773E−07	6.66666	0.15000	44.44384	6.66658
108	3.5923E+06	2.7838E−07	2.3948E+07	4.1757E−08	6.66666	0.15000	44.44423	6.66664
120	1.9219E+07	5.2031E−08	1.2813E+08	7.8046E−09	6.66667	0.15000	44.44440	6.66666
132	1.0283E+08	9.7249E−09	6.8553E+08	1.4587E−09	6.66667	0.15000	44.44444	6.66667
144	5.5016E+08	1.8177E−09	3.6677E+09	2.7265E−10	6.66667	0.15000	44.44444	6.66667
180	8.4258E+10	1.1868E−11	5.6172E+11	1.7802E−12	6.66667	0.15000	44.44444	6.66667
240	3.6939E+14	2.7072E−15	2.4626E+15	4.0608E−16	6.66667	0.15000	44.44444	6.66667
360	7.0994E+21	1.4086E−22	4.7329E+22	2.1129E−23	6.66667	0.15000	44.44444	6.66667
480	1.3645E+29	7.3289E−30	9.0965E+29	1.0993E−30	6.66667	0.15000	44.44444	6.66667
600	2.6224E+36	3.8133E−37	1.7483E+37	5.7199E−38	6.66667	0.15000	44.44444	6.66667

TABLE A-a-20

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A\ i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A\ i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.18000	0.84746	1.00000	1.00000	0.84746	1.18000	0.00000	0.00000
2	1.39240	0.71818	2.18000	0.45872	1.56564	0.63872	0.71818	0.45872
3	1.64303	0.60863	3.57240	0.27992	2.17427	0.45992	1.93545	0.89016
4	1.93878	0.51579	5.21543	0.19174	2.69006	0.37174	3.48281	1.29470
5	2.28776	0.43711	7.15421	0.13978	3.12717	0.31978	5.23125	1.67284
6	2.69955	0.37043	9.44197	0.10591	3.49760	0.28591	7.08341	2.02522
7	3.18547	0.31393	12.14152	0.08236	3.81153	0.26236	8.96696	2.35259
8	3.75886	0.26604	15.32700	0.06524	4.07757	0.24524	10.82922	2.65581
9	4.43545	0.22546	19.08585	0.05239	4.30302	0.23239	12.63287	2.93581
10	5.23384	0.19106	23.52131	0.04251	4.49409	0.22251	14.35245	3.19363
11	6.17593	0.16192	28.75514	0.03478	4.65601	0.21478	15.97164	3.43033
12	7.28759	0.13722	34.93107	0.02863	4.79322	0.20863	17.48106	3.64703
13	8.59936	0.11629	42.21866	0.02369	4.90951	0.20369	18.87651	3.84489
14	10.14724	0.09855	50.81802	0.01968	5.00806	0.19968	20.15765	4.02504
15	11.97375	0.08352	60.96527	0.01640	5.09158	0.19640	21.32687	4.18866
16	14.12902	0.07078	72.93901	0.01371	5.16235	0.19371	22.38852	4.33688
17	16.67225	0.05998	87.06804	0.01149	5.22233	0.19149	23.34820	4.47084
18	19.67325	0.05083	103.74028	9.6395E−03	5.27316	0.18964	24.21231	4.59161
19	23.21444	0.04308	123.41353	8.1028E−03	5.31624	0.18810	24.98769	4.70026
20	27.39303	0.03651	146.62797	6.8200E−03	5.35275	0.18682	25.68130	4.79778
21	32.32378	0.03094	174.02100	5.7464E−03	5.38368	0.18575	26.30004	4.88514
22	38.14206	0.02622	206.34479	4.8463E−03	5.40990	0.18485	26.85061	4.96324
23	45.00763	0.02222	244.48685	4.0902E−03	5.43212	0.18409	27.33942	5.03292
24	53.10901	0.01883	289.49448	3.4543E−03	5.45095	0.18345	27.77249	5.09498
25	62.66863	0.01596	342.60349	2.9188E−03	5.46691	0.18292	28.15546	5.15016
26	73.94898	0.01352	405.27211	2.4675E−03	5.48043	0.18247	28.49353	5.19914
27	87.25980	0.01146	479.22109	2.0867E−03	5.49189	0.18209	28.79149	5.24255
28	102.96656	9.7119E−03	566.48089	1.7653E−03	5.50160	0.18177	29.05371	5.28096
29	121.50054	8.2304E−03	669.44745	1.4938E−03	5.50983	0.18149	29.28416	5.31489
30	143.37064	6.9749E−03	790.94799	1.2643E−03	5.51681	0.18126	29.48643	5.34484
36	387.03680	2.5837E−03	2144.64890	4.6628E−04	5.54120	0.18047	30.26771	5.46230
40	750.37834	1.3327E−03	4163.21303	2.4020E−04	5.54815	0.18024	30.52692	5.50218
48	2820.56655	3.5454E−04	1.5664E+04	6.3840E−05	5.55359	0.18006	30.75871	5.53853
50	3927.35686	2.5462E−04	2.1813E+04	4.5844E−05	5.55414	0.18005	30.78561	5.54282
52	5468.45169	1.8287E−04	3.0375E+04	3.2922E−05	5.55454	0.18003	30.80573	5.54604
55	8984.84112	1.1130E−04	4.9910E+04	2.0036E−05	5.55494	0.18002	30.82675	5.54943
60	2.0555E+04	4.8650E−05	1.1419E+05	8.7574E−06	5.55529	0.18001	30.84648	5.55264
72	1.4980E+05	6.6757E−06	8.3220E+05	1.2016E−06	5.55552	0.18000	30.86132	5.55507
75	2.4612E+05	4.0630E−06	1.3673E+06	7.3135E−07	5.55553	0.18000	30.86238	5.55525
80	5.6307E+05	1.7760E−06	3.1281E+06	3.1968E−07	5.55555	0.18000	30.86335	5.55541
84	1.0917E+06	9.1603E−07	6.0648E+06	1.6489E−07	5.55555	0.18000	30.86374	5.55548
90	2.9470E+06	3.3933E−07	1.6372E+07	6.1079E−08	5.55555	0.18000	30.86402	5.55553
96	7.9556E+06	1.2570E−07	4.4198E+07	2.2626E−08	5.55555	0.18000	30.86413	5.55554
100	1.5424E+07	6.4833E−08	8.5690E+07	1.1670E−08	5.55556	0.18000	30.86416	5.55555
108	5.7977E+07	1.7248E−08	3.2210E+08	3.1047E−09	5.55556	0.18000	30.86419	5.55555
120	4.2251E+08	2.3668E−09	2.3473E+09	4.2602E−10	5.55556	0.18000	30.86420	5.55556
132	3.0791E+09	3.2477E−10	1.7106E+10	5.8458E−11	5.55556	0.18000	30.86420	5.55556
144	2.2439E+10	4.4565E−11	1.2466E+11	8.0216E−12	5.55556	0.18000	30.86420	5.55556
180	8.6848E+12	1.1514E−13	4.8249E+13	2.0726E−14	5.55556	0.18000	30.86420	5.55556
240	1.7852E+17	5.6017E−18	9.9177E+17	1.0083E−18	5.55556	0.18000	30.86420	5.55556
360	7.5426E+25	1.3258E−26	4.1903E+26	2.3864E−27	5.55556	0.18000	30.86420	5.55556
480	3.1869E+34	3.1379E−35	1.7705E+35	5.6482E−36	5.55556	0.18000	30.86420	5.55556
600	1.3465E+43	7.4267E−44	7.4805E+43	1.3368E−44	5.55556	0.18000	30.86420	5.55556

TABLE A-a-21

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A\ i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A\ i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.20000	0.83333	1.00000	1.00000	0.83333	1.20000	0.00000	0.00000
2	1.44000	0.69444	2.20000	0.45455	1.52778	0.65455	0.69444	0.45455
3	1.72800	0.57870	3.64000	0.27473	2.10648	0.47473	1.85185	0.87912
4	2.07360	0.48225	5.36800	0.18629	2.58873	0.38629	3.29861	1.27422
5	2.48832	0.40188	7.44160	0.13438	2.99061	0.33438	4.90612	1.64051
6	2.98598	0.33490	9.92992	0.10071	3.32551	0.30071	6.58061	1.97883
7	3.58318	0.27908	12.91590	0.07742	3.60459	0.27742	8.25510	2.29016
8	4.29982	0.23257	16.49908	0.06061	3.83716	0.26061	9.88308	2.57562
9	5.15978	0.19381	20.79890	0.04808	4.03097	0.24808	11.43353	2.83642
10	6.19174	0.16151	25.95868	0.03852	4.19247	0.23852	12.88708	3.07386
11	7.43008	0.13459	32.15042	0.03110	4.32706	0.23110	14.23296	3.28929
12	8.91610	0.11216	39.58050	0.02526	4.43922	0.22526	15.46668	3.48410
13	10.69932	0.09346	48.49660	0.02062	4.53268	0.22062	16.58825	3.65970
14	12.83918	0.07789	59.19592	0.01689	4.61057	0.21689	17.60078	3.81749
15	15.40702	0.06491	72.03511	0.01388	4.67547	0.21388	18.50945	3.95884
16	18.48843	0.05409	87.44213	0.01144	4.72956	0.21144	19.32077	4.08511
17	22.18611	0.04507	105.93056	9.4401E−03	4.77463	0.20944	20.04194	4.19759
18	26.62333	0.03756	128.11667	7.8054E−03	4.81219	0.20781	20.68048	4.29752
19	31.94800	0.03130	154.74000	6.4625E−03	4.84350	0.20646	21.24390	4.38607
20	38.33760	0.02608	186.68800	5.3565E−03	4.86958	0.20536	21.73949	4.46435
21	46.00512	0.02174	225.02560	4.4439E−03	4.89132	0.20444	22.17423	4.53339
22	55.20614	0.01811	271.03072	3.6896E−03	4.90943	0.20369	22.55462	4.59414
23	66.24737	0.01509	326.23686	3.0653E−03	4.92453	0.20307	22.88671	4.64750
24	79.49685	0.01258	392.48424	2.5479E−03	4.93710	0.20255	23.17603	4.69426
25	95.39622	0.01048	471.98108	2.1187E−03	4.94759	0.20212	23.42761	4.73516
26	114.47546	8.7355E−03	567.37730	1.7625E−03	4.95632	0.20176	23.64600	4.77088
27	137.37055	7.2796E−03	681.85276	1.4666E−03	4.96360	0.20147	23.83527	4.80201
28	164.84466	6.0663E−03	819.22331	1.2207E−03	4.96967	0.20122	23.99906	4.82911
29	197.81359	5.0553E−03	984.06797	1.0162E−03	4.97472	0.20102	24.14061	4.85265
30	237.37631	4.2127E−03	1181.88157	8.4611E−04	4.97894	0.20085	24.26277	4.87308
36	708.80187	1.4108E−03	3539.00937	2.8256E−04	4.99295	0.20028	24.71078	4.94914
40	1469.77157	6.8038E−04	7343.85784	1.3617E−04	4.99660	0.20014	24.84691	4.97277
48	6319.74872	1.5823E−04	3.1594E+04	3.1652E−05	4.99921	0.20003	24.95807	4.99240
50	9100.43815	1.0988E−04	4.5497E+04	2.1979E−05	4.99945	0.20002	24.96978	4.99451
52	1.3105E+04	7.6309E−05	6.5518E+04	1.5263E−05	4.99962	0.20002	24.97825	4.99603
55	2.2645E+04	4.4160E−05	1.1322E+05	8.8324E−06	4.99978	0.20001	24.98675	4.99757
60	5.6348E+04	1.7747E−05	2.8173E+05	3.5495E−06	4.99991	0.20000	24.99423	4.99894
72	5.0240E+05	1.9904E−06	2.5120E+06	3.9809E−07	4.99999	0.20000	24.99923	4.99986
75	8.6815E+05	1.1519E−06	4.3407E+06	2.3038E−07	4.99999	0.20000	24.99954	4.99991
80	2.1602E+06	4.6291E−07	1.0801E+07	9.2583E−08	5.00000	0.20000	24.99980	4.99996
84	4.4794E+06	2.2324E−07	2.2397E+07	4.4648E−08	5.00000	0.20000	24.99990	4.99998
90	1.3376E+07	7.4763E−08	6.6878E+07	1.4953E−08	5.00000	0.20000	24.99996	4.99999
96	3.9939E+07	2.5038E−08	1.9970E+08	5.0076E−09	5.00000	0.20000	24.99999	5.00000
100	8.2818E+07	1.2075E−08	4.1409E+08	2.4149E−09	5.00000	0.20000	24.99999	5.00000
108	3.5610E+08	2.8082E−09	1.7805E+09	5.6164E−10	5.00000	0.20000	25.00000	5.00000
120	3.1750E+09	3.1496E−10	1.5875E+10	6.2991E−11	5.00000	0.20000	25.00000	5.00000
132	2.8309E+10	3.5324E−11	1.4154E+11	7.0649E−12	5.00000	0.20000	25.00000	5.00000
144	2.5241E+11	3.9619E−12	1.2620E+12	7.9237E−13	5.00000	0.20000	25.00000	5.00000
180	1.7891E+14	5.5895E−15	8.9453E+14	1.1179E−15	5.00000	0.20000	25.00000	5.00000
240	1.0081E+19	9.9198E−20	5.0404E+19	1.9840E−20	5.00000	0.20000	25.00000	5.00000
360	3.2007E+28	3.1243E−29	1.6004E+29	6.2486E−30	5.00000	0.20000	25.00000	5.00000
480	1.0162E+38	9.8402E−39	5.0812E+38	1.9680E−39	5.00000	0.20000	25.00000	5.00000
600	3.2266E+47	3.0992E−48	1.6133E+48	6.1984E−49	5.00000	0.20000	25.00000	5.00000

TABLE A-a-22

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A\ i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A\ i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.25000	0.80000	1.00000	1.00000	0.80000	1.25000	0.00000	0.00000
2	1.56250	0.64000	2.25000	0.44444	1.44000	0.69444	0.64000	0.44444
3	1.95313	0.51200	3.81250	0.26230	1.95200	0.51230	1.66400	0.85246
4	2.44141	0.40960	5.76563	0.17344	2.36160	0.42344	2.89280	1.22493
5	3.05176	0.32768	8.20703	0.12185	2.68928	0.37185	4.20352	1.56307
6	3.81470	0.26214	11.25879	0.08882	2.95142	0.33882	5.51424	1.86833
7	4.76837	0.20972	15.07349	0.06634	3.16114	0.31634	6.77253	2.14243
8	5.96046	0.16777	19.84186	0.05040	3.32891	0.30040	7.94694	2.38725
9	7.45058	0.13422	25.80232	0.03876	3.46313	0.28876	9.02068	2.60478
10	9.31323	0.10737	33.25290	0.03007	3.57050	0.28007	9.98705	2.79710
11	11.64153	0.08590	42.56613	0.02349	3.65640	0.27349	10.84604	2.96631
12	14.55192	0.06872	54.20766	0.01845	3.72512	0.26845	11.60195	3.11452
13	18.18989	0.05498	68.75958	0.01454	3.78010	0.26454	12.26166	3.24374
14	22.73737	0.04398	86.94947	0.01150	3.82408	0.26150	12.83341	3.35595
15	28.42171	0.03518	109.68684	9.1169E−03	3.85926	0.25912	13.32599	3.45299
16	35.52714	0.02815	138.10855	7.2407E−03	3.88741	0.25724	13.74820	3.53660
17	44.40892	0.02252	173.63568	5.7592E−03	3.90993	0.25576	14.10849	3.60838
18	55.51115	0.01801	218.04460	4.5862E−03	3.92794	0.25459	14.41473	3.66979
19	69.38894	0.01441	273.55576	3.6556E−03	3.94235	0.25366	14.67414	3.72218
20	86.73617	0.01153	342.94470	2.9159E−03	3.95388	0.25292	14.89320	3.76673
21	108.42022	9.2234E−03	429.68087	2.3273E−03	3.96311	0.25233	15.07766	3.80451
22	135.52527	7.3787E−03	538.10109	1.8584E−03	3.97049	0.25186	15.23262	3.83646
23	169.40659	5.9030E−03	673.62636	1.4845E−03	3.97639	0.25148	15.36248	3.86343
24	211.75824	4.7224E−03	843.03295	1.1862E−03	3.98111	0.25119	15.47109	3.88613
25	264.69780	3.7779E−03	1054.79118	9.4805E−04	3.98489	0.25095	15.56176	3.90519
26	330.87225	3.0223E−03	1319.48898	7.5787E−04	3.98791	0.25076	15.63732	3.92118
27	413.59031	2.4179E−03	1650.36123	6.0593E−04	3.99033	0.25061	15.70019	3.93456
28	516.98788	1.9343E−03	2063.95153	4.8451E−04	3.99226	0.25048	15.75241	3.94574
29	646.23485	1.5474E−03	2580.93941	3.8746E−04	3.99381	0.25039	15.79574	3.95506
30	807.79357	1.2379E−03	3227.17427	3.0987E−04	3.99505	0.25031	15.83164	3.96282
36	3081.48791	3.2452E−04	1.2322E+04	8.1156E−05	3.99870	0.25008	15.94808	3.98831
40	7523.16385	1.3292E−04	3.0089E+04	3.3235E−05	3.99947	0.25003	15.97661	3.99468
48	4.4842E+04	2.2301E−05	1.7936E+05	5.5753E−06	3.99991	0.25001	15.99536	3.99893
50	7.0065E+04	1.4272E−05	2.8026E+05	3.5682E−06	3.99994	0.25000	15.99692	3.99929
52	1.0948E+05	9.1344E−06	4.3790E+05	2.2836E−06	3.99996	0.25000	15.99795	3.99953
55	2.1382E+05	4.6768E−06	8.5528E+05	1.1692E−06	3.99998	0.25000	15.99890	3.99974
60	6.5253E+05	1.5325E−06	2.6101E+06	3.8312E−07	3.99999	0.25000	15.99961	3.99991
72	9.4956E+06	1.0531E−07	3.7982E+07	2.6328E−08	4.00000	0.25000	15.99997	3.99999
75	1.8546E+07	5.3920E−08	7.4184E+07	1.3480E−08	4.00000	0.25000	15.99998	4.00000
80	5.6598E+07	1.7668E−08	2.2639E+08	4.4171E−09	4.00000	0.25000	15.99999	4.00000
84	1.3818E+08	7.2370E−09	5.5271E+08	1.8093E−09	4.00000	0.25000	16.00000	4.00000
90	5.2711E+08	1.8971E−09	2.1084E+09	4.7428E−10	4.00000	0.25000	16.00000	4.00000
96	2.0108E+09	4.9732E−10	8.0431E+09	1.2433E−10	4.00000	0.25000	16.00000	4.00000
100	4.9091E+09	2.0370E−10	1.9636E+10	5.0926E−11	4.00000	0.25000	16.00000	4.00000
108	2.9260E+10	3.4176E−11	1.1704E+11	8.5439E−12	4.00000	0.25000	16.00000	4.00000
120	4.2580E+11	2.3485E−12	1.7032E+12	5.8714E−13	4.00000	0.25000	16.00000	4.00000
132	6.1961E+12	1.6139E−13	2.4785E+13	4.0348E−14	4.00000	0.25000	16.00000	4.00000
144	9.0166E+13	1.1091E−14	3.6066E+14	2.7727E−15	4.00000	0.25000	16.00000	4.00000
180	2.7784E+17	3.5991E−18	1.1114E+18	8.9978E−19	4.00000	0.25000	16.00000	4.00000
240	1.8130E+23	5.5157E−24	7.2521E+23	1.3789E−24	4.00000	0.25000	16.00000	4.00000
360	7.7198E+34	1.2954E−35	3.0879E+35	3.2384E−36	4.00000	0.25000	16.00000	4.00000
480	3.2870E+46	3.0422E−47	1.3148E+47	7.6056E−48	4.00000	0.25000	16.00000	4.00000
600	1.3996E+58	7.1448E−59	5.5984E+58	1.7862E−59	4.00000	0.25000	16.00000	4.00000

TABLE A-a-23

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A\ i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A\ i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.30000	0.76923	1.00000	1.00000	0.76923	1.30000	0.00000	0.00000
2	1.69000	0.59172	2.30000	0.43478	1.36095	0.73478	0.59172	0.43478
3	2.19700	0.45517	3.99000	0.25063	1.81611	0.55063	1.50205	0.82707
4	2.85610	0.35013	6.18700	0.16163	2.16624	0.46163	2.55243	1.17828
5	3.71293	0.26933	9.04310	0.11058	2.43557	0.41058	3.62975	1.49031
6	4.82681	0.20718	12.75603	0.07839	2.64275	0.37839	4.66563	1.76545
7	6.27485	0.15937	17.58284	0.05687	2.80211	0.35687	5.62183	2.00628
8	8.15731	0.12259	23.85769	0.04192	2.92470	0.34192	6.47995	2.21559
9	10.60450	0.09430	32.01500	0.03124	3.01900	0.33124	7.23435	2.39627
10	13.78585	0.07254	42.61950	0.02346	3.09154	0.32346	7.88719	2.55122
11	17.92160	0.05580	56.40535	0.01773	3.14734	0.31773	8.44518	2.68328
12	23.29809	0.04292	74.32695	0.01345	3.19026	0.31345	8.91732	2.79517
13	30.28751	0.03302	97.62504	0.01024	3.22328	0.31024	9.31352	2.88946
14	39.37376	0.02540	127.91255	7.8178E−03	3.24867	0.30782	9.64369	2.96850
15	51.18589	0.01954	167.28631	5.9778E−03	3.26821	0.30598	9.91721	3.03444
16	66.54166	0.01503	218.47220	4.5772E−03	3.28324	0.30458	10.14263	3.08921
17	86.50416	0.01156	285.01386	3.5086E−03	3.29480	0.30351	10.32759	3.13451
18	112.45541	8.8924E−03	371.51802	2.6917E−03	3.30369	0.30269	10.47876	3.17183
19	146.19203	6.8403E−03	483.97343	2.0662E−03	3.31053	0.30207	10.60189	3.20247
20	190.04964	5.2618E−03	630.16546	1.5869E−03	3.31579	0.30159	10.70186	3.22754
21	247.06453	4.0475E−03	820.21510	1.2192E−03	3.31984	0.30122	10.78281	3.24799
22	321.18389	3.1135E−03	1067.27963	9.3696E−04	3.32296	0.30094	10.84819	3.26462
23	417.53905	2.3950E−03	1388.46351	7.2022E−04	3.32535	0.30072	10.90088	3.27812
24	542.80077	1.8423E−03	1806.00257	5.5371E−04	3.32719	0.30055	10.94326	3.28904
25	705.64100	1.4172E−03	2348.80334	4.2575E−04	3.32861	0.30043	10.97727	3.29785
26	917.33330	1.0901E−03	3054.44434	3.2739E−04	3.32970	0.30033	11.00452	3.30496
27	1192.53329	8.3855E−04	3971.77764	2.5178E−04	3.33054	0.30025	11.02632	3.31067
28	1550.29328	6.4504E−04	5164.31093	1.9364E−04	3.33118	0.30019	11.04374	3.31526
29	2015.38126	4.9618E−04	6714.60421	1.4893E−04	3.33168	0.30015	11.05763	3.31894
30	2619.99564	3.8168E−04	8729.98548	1.1455E−04	3.33206	0.30011	11.06870	3.32188
36	1.2646E+04	7.9075E−05	4.2151E+04	2.3724E−05	3.33307	0.30002	11.10074	3.33049
40	3.6119E+04	2.7686E−05	1.2039E+05	8.3061E−06	3.33324	0.30001	11.10711	3.33223
48	2.9463E+05	3.3941E−06	9.8211E+05	1.0182E−06	3.33332	0.30000	11.11053	3.33317
50	4.9793E+05	2.0083E−06	1.6598E+06	6.0250E−07	3.33333	0.30000	11.11075	3.33323
52	8.4150E+05	1.1884E−06	2.8050E+06	3.5651E−07	3.33333	0.30000	11.11089	3.33327
55	1.8488E+06	5.4090E−07	6.1626E+06	1.6227E−07	3.33333	0.30000	11.11101	3.33330
60	6.8644E+06	1.4568E−07	2.2881E+07	4.3704E−08	3.33333	0.30000	11.11108	3.33332
72	1.5993E+08	6.2529E−09	5.3309E+08	1.8759E−09	3.33333	0.30000	11.11111	3.33333
75	3.5136E+08	2.8461E−09	1.1712E+09	8.5383E−10	3.33333	0.30000	11.11111	3.33333
80	1.3046E+09	7.6653E−10	4.3486E+09	2.2996E−10	3.33333	0.30000	11.11111	3.33333
84	3.7260E+09	2.6839E−10	1.2420E+10	8.0516E−11	3.33333	0.30000	11.11111	3.33333
90	1.7985E+10	5.5603E−11	5.9949E+10	1.6681E−11	3.33333	0.30000	11.11111	3.33333
96	8.6808E+10	1.1520E−11	2.8936E+11	3.4559E−12	3.33333	0.30000	11.11111	3.33333
100	2.4793E+11	4.0333E−12	8.2645E+11	1.2100E−12	3.33333	0.30000	11.11111	3.33333
108	2.0225E+12	4.9444E−13	6.7416E+12	1.4833E−13	3.33333	0.30000	11.11111	3.33333
120	4.7120E+13	2.1223E−14	1.5707E+14	6.3668E−15	3.33333	0.30000	11.11111	3.33333
132	1.0978E+15	9.1091E−16	3.6593E+15	2.7327E−16	3.33333	0.30000	11.11111	3.33333
144	2.5577E+16	3.9098E−17	8.5255E+16	1.1729E−17	3.33333	0.30000	11.11111	3.33333
180	3.2345E+20	3.0917E−21	1.0782E+21	9.2751E−22	3.33333	0.30000	11.11111	3.33333
240	2.2203E+27	4.5040E−28	7.4009E+27	1.3512E−28	3.33333	0.30000	11.11111	3.33333
360	1.0462E+41	9.5586E−42	3.4873E+41	2.8676E−42	3.33333	0.30000	11.11111	3.33333
480	4.9296E+54	2.0286E−55	1.6432E+55	6.0857E−56	3.33333	0.30000	11.11111	3.33333
600	2.3228E+68	4.3052E−69	7.7427E+68	1.2915E−69	3.33333	0.30000	11.11111	3.33333

TABLE A-a-24

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A\ i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A\ i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.40000	0.71429	1.00000	1.00000	0.71429	1.40000	0.00000	0.00000
2	1.96000	0.51020	2.40000	0.41667	1.22449	0.81667	0.51020	0.41667
3	2.74400	0.36443	4.36000	0.22936	1.58892	0.62936	1.23907	0.77982
4	3.84160	0.26031	7.10400	0.14077	1.84923	0.54077	2.01999	1.09234
5	5.37824	0.18593	10.94560	0.09136	2.03516	0.49136	2.76373	1.35799
6	7.52954	0.13281	16.32384	0.06126	2.16797	0.46126	3.42778	1.58110
7	10.54135	0.09486	23.85338	0.04192	2.26284	0.44192	3.99697	1.76635
8	14.75789	0.06776	34.39473	0.02907	2.33060	0.42907	4.47129	1.91852
9	20.66105	0.04840	49.15262	0.02034	2.37900	0.42034	4.85849	2.04224
10	28.92547	0.03457	69.81366	0.01432	2.41357	0.41432	5.16964	2.14190
11	40.49565	0.02469	98.73913	0.01013	2.43826	0.41013	5.41658	2.22149
12	56.69391	0.01764	139.23478	7.1821E−03	2.45590	0.40718	5.61060	2.28454
13	79.37148	0.01260	195.92869	5.1039E−03	2.46850	0.40510	5.76179	2.33412
14	111.12007	8.9993E−03	275.30017	3.6324E−03	2.47750	0.40363	5.87878	2.37287
15	155.56810	6.4281E−03	386.42024	2.5879E−03	2.48393	0.40259	5.96877	2.40296
16	217.79533	4.5915E−03	541.98833	1.8451E−03	2.48852	0.40185	6.03764	2.42620
17	304.91347	3.2796E−03	759.78367	1.3162E−03	2.49180	0.40132	6.09012	2.44406
18	426.87885	2.3426E−03	1064.69714	9.3923E−04	2.49414	0.40094	6.12994	2.45773
19	597.63040	1.6733E−03	1491.57599	6.7043E−04	2.49582	0.40067	6.16006	2.46815
20	836.68255	1.1952E−03	2089.20639	4.7865E−04	2.49701	0.40048	6.18277	2.47607
21	1171.35558	8.5371E−04	2925.88894	3.4178E−04	2.49787	0.40034	6.19984	2.48206
22	1639.89781	6.0979E−04	4097.24452	2.4407E−04	2.49848	0.40024	6.21265	2.48658
23	2295.85693	4.3557E−04	5737.14232	1.7430E−04	2.49891	0.40017	6.22223	2.48998
24	3214.19970	3.1112E−04	8032.99925	1.2449E−04	2.49922	0.40012	6.22939	2.49253
25	4499.87958	2.2223E−04	1.1247E+04	8.8911E−05	2.49944	0.40009	6.23472	2.49444
26	6299.83141	1.5873E−04	1.5747E+04	6.3504E−05	2.49960	0.40006	6.23869	2.49587
27	8819.76398	1.1338E−04	2.2047E+04	4.5358E−05	2.49972	0.40005	6.24164	2.49694
28	1.2348E+04	8.0987E−05	3.0867E+04	3.2397E−05	2.49980	0.40003	6.24382	2.49773
29	1.7287E+04	5.7848E−05	4.3214E+04	2.3140E−05	2.49986	0.40002	6.24544	2.49832
30	2.4201E+04	4.1320E−05	6.0501E+04	1.6529E−05	2.49990	0.40002	6.24664	2.49876
36	1.8223E+05	5.4877E−06	4.5556E+05	2.1951E−06	2.49999	0.40000	6.24947	2.49980
40	7.0004E+05	1.4285E−06	1.7501E+06	5.7140E−07	2.50000	0.40000	6.24985	2.49994
48	1.0331E+07	9.6795E−08	2.5828E+07	3.8718E−08	2.50000	0.40000	6.24999	2.50000
50	2.0249E+07	4.9385E−08	5.0622E+07	1.9754E−08	2.50000	0.40000	6.24999	2.50000
52	3.9688E+07	2.5197E−08	9.9220E+07	1.0079E−08	2.50000	0.40000	6.25000	2.50000
55	1.0890E+08	9.1824E−09	2.7226E+08	3.6730E−09	2.50000	0.40000	6.25000	2.50000
60	5.8571E+08	1.7073E−09	1.4643E+09	6.8293E−10	2.50000	0.40000	6.25000	2.50000
72	3.3206E+10	3.0115E−11	8.3015E+10	1.2046E−11	2.50000	0.40000	6.25000	2.50000
75	9.1118E+10	1.0975E−11	2.2779E+11	4.3899E−12	2.50000	0.40000	6.25000	2.50000
80	4.9005E+11	2.0406E−12	1.2251E+12	8.1624E−13	2.50000	0.40000	6.25000	2.50000
84	1.8826E+12	5.3118E−13	4.7065E+12	2.1247E−13	2.50000	0.40000	6.25000	2.50000
90	1.4175E+13	7.0547E−14	3.5438E+13	2.8219E−14	2.50000	0.40000	6.25000	2.50000
96	1.0673E+14	9.3693E−15	2.6683E+14	3.7477E−15	2.50000	0.40000	6.25000	2.50000
100	4.1002E+14	2.4389E−15	1.0250E+15	9.7557E−16	2.50000	0.40000	6.25000	2.50000
108	6.0510E+15	1.6526E−16	1.5128E+16	6.6105E−17	2.50000	0.40000	6.25000	2.50000
120	3.4306E+17	2.9150E−18	8.5764E+17	1.1660E−18	2.50000	0.40000	6.25000	2.50000
132	1.9449E+19	5.1416E−20	4.8623E+19	2.0566E−20	2.50000	0.40000	6.25000	2.50000
144	1.1026E+21	9.0691E−22	2.7566E+21	3.6276E−22	2.50000	0.40000	6.25000	2.50000
180	2.0093E+26	4.9768E−27	5.0233E+26	1.9907E−27	2.50000	0.40000	6.25000	2.50000
240	1.1769E+35	8.4971E−36	2.9422E+35	3.3988E−36	2.50000	0.40000	6.25000	2.50000
360	4.0373E+52	2.4769E−53	1.0093E+53	9.9076E−54	2.50000	0.40000	6.25000	2.50000
480	1.3850E+70	7.2201E−71	3.4626E+70	2.8880E−71	2.50000	0.40000	6.25000	2.50000
600	4.7514E+87	2.1046E−88	1.1878E+88	8.4186E−89	2.50000	0.40000	6.25000	2.50000

TABLE A-a-25

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ i\%,n)$	To Find P Given F $(P\|F\ i\%,n)$	To Find F Given A $(F\|A\ i\%,n)$	To Find A Given F $(A\|F\ i\%,n)$	To Find P Given A $(P\|A\ i\%,n)$	To Find A Given P $(A\|P\ i\%,n)$	To Find P Given G $(P\|G\ i\%,n)$	To Find A Given G $(A\|G\ i\%,n)$
1	1.50000	0.66667	1.00000	1.00000	0.66667	1.50000	0.00000	0.00000
2	2.25000	0.44444	2.50000	0.40000	1.11111	0.90000	0.44444	0.40000
3	3.37500	0.29630	4.75000	0.21053	1.40741	0.71053	1.03704	0.73684
4	5.06250	0.19753	8.12500	0.12308	1.60494	0.62308	1.62963	1.01538
5	7.59375	0.13169	13.18750	0.07583	1.73663	0.57583	2.15638	1.24171
6	11.39063	0.08779	20.78125	0.04812	1.82442	0.54812	2.59534	1.42256
7	17.08594	0.05853	32.17188	0.03108	1.88294	0.53108	2.94650	1.56484
8	25.62891	0.03902	49.25781	0.02030	1.92196	0.52030	3.21963	1.67518
9	38.44336	0.02601	74.88672	0.01335	1.94798	0.51335	3.42773	1.75964
10	57.66504	0.01734	113.33008	8.8238E−03	1.96532	0.50882	3.58380	1.82352
11	86.49756	0.01156	170.99512	5.8481E−03	1.97688	0.50585	3.69941	1.87134
12	129.74634	7.7073E−03	257.49268	3.8836E−03	1.98459	0.50388	3.78419	1.90679
13	194.61951	5.1382E−03	387.23901	2.5824E−03	1.98972	0.50258	3.84585	1.93286
14	291.92926	3.4255E−03	581.85852	1.7186E−03	1.99315	0.50172	3.89038	1.95188
15	437.89389	2.2837E−03	873.78778	1.1444E−03	1.99543	0.50114	3.92236	1.96567
16	656.84084	1.5224E−03	1311.68167	7.6238E−04	1.99696	0.50076	3.94519	1.97560
17	985.26125	1.0150E−03	1968.52251	5.0800E−04	1.99797	0.50051	3.96143	1.98273
18	1477.89188	6.7664E−04	2953.78376	3.3855E−04	1.99865	0.50034	3.97293	1.98781
19	2216.83782	4.5109E−04	4431.67564	2.2565E−04	1.99910	0.50023	3.98105	1.99143
20	3325.25673	3.0073E−04	6648.51346	1.5041E−04	1.99940	0.50015	3.98677	1.99398
21	4987.88510	2.0049E−04	9973.77019	1.0026E−04	1.99960	0.50010	3.99078	1.99579
22	7481.82764	1.3366E−04	1.4962E+04	6.6838E−05	1.99973	0.50007	3.99358	1.99706
23	1.1223E+04	8.9105E−05	2.2443E+04	4.4556E−05	1.99982	0.50004	3.99554	1.99795
24	1.6834E+04	5.9403E−05	3.3666E+04	2.9703E−05	1.99988	0.50003	3.99691	1.99857
25	2.5251E+04	3.9602E−05	5.0500E+04	1.9802E−05	1.99992	0.50002	3.99786	1.99901
26	3.7877E+04	2.6401E−05	7.5752E+04	1.3201E−05	1.99995	0.50001	3.99852	1.99931
27	5.6815E+04	1.7601E−05	1.1363E+05	8.8006E−06	1.99996	0.50001	3.99898	1.99952
28	8.5223E+04	1.1734E−05	1.7044E+05	5.8671E−06	1.99998	0.50001	3.99930	1.99967
29	1.2783E+05	7.8226E−06	2.5567E+05	3.9114E−06	1.99998	0.50000	3.99951	1.99977
30	1.9175E+05	5.2151E−06	3.8350E+05	2.6076E−06	1.99999	0.50000	3.99967	1.99984
36	2.1842E+06	4.5784E−07	4.3683E+06	2.2892E−07	2.00000	0.50000	3.99997	1.99998
40	1.1057E+07	9.0438E−08	2.2115E+07	4.5219E−08	2.00000	0.50000	3.99999	2.00000
48	2.8339E+08	3.5287E−09	5.6677E+08	1.7644E−09	2.00000	0.50000	4.00000	2.00000
50	6.3762E+08	1.5683E−09	1.2752E+09	7.8416E−10	2.00000	0.50000	4.00000	2.00000
52	1.4346E+09	6.9703E−10	2.8693E+09	3.4852E−10	2.00000	0.50000	4.00000	2.00000
55	4.8419E+09	2.0653E−10	9.6839E+09	1.0326E−10	2.00000	0.50000	4.00000	2.00000
60	3.6768E+10	2.7197E−11	7.3537E+10	1.3599E−11	2.00000	0.50000	4.00000	2.00000
72	4.7706E+12	2.0962E−13	9.5411E+12	1.0481E−13	2.00000	0.50000	4.00000	2.00000
75	1.6101E+13	6.2109E−14	3.2201E+13	3.1055E−14	2.00000	0.50000	4.00000	2.00000
80	1.2226E+14	8.1790E−15	2.4453E+14	4.0895E−15	2.00000	0.50000	4.00000	2.00000
84	6.1896E+14	1.6156E−15	1.2379E+15	8.0780E−16	2.00000	0.50000	4.00000	2.00000
90	7.0504E+15	1.4184E−16	1.4101E+16	7.0918E−17	2.00000	0.50000	4.00000	2.00000
96	8.0308E+16	1.2452E−17	1.6062E+17	6.2260E−18	2.00000	0.50000	4.00000	2.00000
100	4.0656E+17	2.4597E−18	8.1312E+17	1.2298E−18	2.00000	0.50000	4.00000	2.00000
108	1.0420E+19	9.5972E−20	2.0839E+19	4.7986E−20	2.00000	0.50000	4.00000	2.00000
120	1.3519E+21	7.3969E−22	2.7038E+21	3.6984E−22	2.00000	0.50000	4.00000	2.00000
132	1.7541E+23	5.7010E−24	3.5081E+23	2.8505E−24	2.00000	0.50000	4.00000	2.00000
144	2.2758E+25	4.3940E−26	4.5517E+25	2.1970E−26	2.00000	0.50000	4.00000	2.00000
180	4.9708E+31	2.0117E−32	9.9416E+31	1.0059E−32	2.00000	0.50000	4.00000	2.00000
240	1.8277E+42	5.4714E−43	3.6554E+42	2.7357E−43	2.00000	0.50000	4.00000	2.00000
360	2.4709E+63	4.0471E−64	4.9418E+63	2.0236E−64	2.00000	0.50000	4.00000	2.00000
480	3.3404E+84	2.9936E−85	6.6809E+84	1.4968E−85	2.00000	0.50000	4.00000	2.00000
600	4.5160E+105	2.2143E−106	9.0320E+105	1.1072E−106	2.00000	0.50000	4.00000	2.00000

TABLE A-b-1

j	4%	5%	6%	10%	15%
n	To Find P Given A_1 $(P\|A_1$ i%, j%,n)	To Find P Given A_1 $(P\|A_1$ i%, j%,n)	To Find P Given A_1 $(P\|A_1$ i%, j%,n)	To Find P Given A_1 $(P\|A_1$ i%, j%,n)	To Find P Given A_1 $(P\|A_1$ i%, j%,n)
1	0.96154	0.96154	0.96154	0.96154	0.96154
2	1.92308	1.93232	1.94157	1.97855	2.02478
3	2.88462	2.91244	2.94044	3.05424	3.20048
4	3.84615	3.90198	3.95853	4.19198	4.50053
5	4.80769	4.90104	4.99619	5.39536	5.93808
6	5.76923	5.90971	6.05381	6.66817	7.52769
7	6.73077	6.92807	7.13177	8.01441	9.28542
8	7.69231	7.95622	8.23046	9.43832	11.22907
9	8.65385	8.99426	9.35028	10.94438	13.37830
10	9.61538	10.04228	10.49163	12.53732	15.75485
11	10.57692	11.10038	11.65493	14.22217	18.38277
12	11.53846	12.16866	12.84060	16.00422	21.28864
13	12.50000	13.24720	14.04907	17.88908	24.50186
14	13.46154	14.33612	15.28078	19.88268	28.05494
15	14.42308	15.43550	16.53618	21.99129	31.98383
16	15.38462	16.54546	17.81573	24.22156	36.32828
17	16.34615	17.66609	19.11988	26.58050	41.13223
18	17.30769	18.79749	20.44910	29.07553	46.44429
19	18.26923	19.93978	21.80389	31.71450	52.31821
20	19.23077	21.09304	23.18474	34.50572	58.81340
21	20.19231	22.25740	24.59214	37.45797	65.99559
22	21.15385	23.43295	26.02660	40.58055	73.93743
23	22.11538	24.61981	27.48865	43.88327	82.71927
24	23.07692	25.81807	28.97882	47.37654	92.42996
25	24.03846	27.02786	30.49764	51.07134	103.16775
26	25.00000	28.24929	32.04567	54.97930	115.04126
27	25.96154	29.48245	33.62347	59.11272	128.17062
28	26.92308	30.72748	35.23162	63.48461	142.68867
29	27.88462	31.98447	36.87069	68.10872	158.74228
30	28.84615	33.25355	38.54128	72.99961	176.49387
36	34.61538	41.12844	49.26152	108.87422	330.16651
40	38.46154	46.63525	57.12012	140.45012	498.11856
48	46.15385	58.30188	74.75307	229.42525	1124.62271
50	48.07692	61.36078	79.59740	258.63957	1377.12975
52	50.00000	64.47879	84.62985	291.32200	1685.87657
55	52.88462	69.26914	92.54728	347.76220	2282.59383
60	57.69231	77.56509	106.79116	465.73578	3779.49708
72	69.23077	99.17238	147.05700	928.96423	1.2651E+04
75	72.11538	104.97315	158.64571	1102.25501	1.7109E+04
80	76.92308	115.01897	179.49439	1464.47438	2.8290E+04
84	80.76923	123.40898	197.66360	1837.00923	4.2299E+04
90	86.53846	136.61179	227.64978	2578.64714	7.7332E+04
96	92.30769	150.59485	261.26658	3617.00726	1.4137E+05
100	96.15385	160.37302	285.90974	4530.94462	2.1137E+05
108	103.84615	181.08887	341.20357	7106.25392	4.7246E+05
120	115.38462	215.29361	441.66933	1.3946E+04	1.5789E+06
132	126.92308	253.66061	567.93591	2.7354E+04	5.2762E+06
144	138.46154	296.69635	726.62925	5.3636E+04	1.7632E+07
180	173.07692	459.85139	1491.78806	4.0412E+05	6.5799E+08
240	230.76923	894.10062	4784.77465	1.1697E+07	2.7421E+11
360	346.15385	3034.33576	4.7492E+04	9.7997E+09	4.7624E+16
480	461.53846	9782.36045	4.6745E+05	8.2098E+12	8.2712E+21
600	576.92308	3.1058E+04	4.5971E+06	6.8779E+15	1.4365E+27

TABLE A-b-2

j	4%	5%	6%	10%	15%
n	To Find P Given A_1 $(P\|A_1$ i%,j%,n)	To Find P Given A_1 $(P\|A_1$ i%,j%,n)	To Find P Given A_1 $(P\|A_1$ i%,j%,n)	To Find P Given A_1 $(P\|A_1$ i%,j%,n)	To Find P Given A_1 $(P\|A_1$ i%,j%,n)
1	0.95238	0.95238	0.95238	0.95238	0.95238
2	1.89569	1.90476	1.91383	1.95011	1.99546
3	2.83002	2.85714	2.88444	2.99536	3.13789
4	3.75545	3.80952	3.86429	4.09037	4.38912
5	4.67206	4.76190	4.85348	5.23753	5.75951
6	5.57995	5.71429	5.85208	6.43932	7.26042
7	6.47919	6.66667	6.86020	7.69834	8.90426
8	7.36986	7.61905	7.87791	9.01731	10.70467
9	8.25205	8.57143	8.90532	10.39908	12.67654
10	9.12584	9.52381	9.94251	11.84666	14.83622
11	9.99131	10.47619	10.98959	13.36316	17.20157
12	10.84854	11.42857	12.04663	14.95189	19.79219
13	11.69760	12.38095	13.11374	16.61626	22.62955
14	12.53857	13.33333	14.19101	18.35989	25.73712
15	13.37154	14.28571	15.27855	20.18656	29.14066
16	14.19657	15.23810	16.37644	22.10020	32.86834
17	15.01375	16.19048	17.48478	24.10497	36.95104
18	15.82314	17.14286	18.60369	26.20521	41.42257
19	16.62482	18.09524	19.73325	28.40546	46.31995
20	17.41887	19.04762	20.87356	30.71048	51.68376
21	18.20536	20.00000	22.02474	33.12526	57.55840
22	18.98436	20.95238	23.18688	35.65504	63.99254
23	19.75593	21.90476	24.36009	38.30528	71.03944
24	20.52016	22.85714	25.54447	41.08172	78.75749
25	21.27711	23.80952	26.74013	43.99037	87.21058
26	22.02686	24.76190	27.94718	47.03753	96.46873
27	22.76946	25.71429	29.16573	50.22980	106.60861
28	23.50499	26.66667	30.39588	53.57407	117.71419
29	24.23351	27.61905	31.63774	57.07760	129.87745
30	24.95510	28.57143	32.89143	60.74796	143.19911
36	29.14256	34.28571	40.66835	86.74607	254.42803
40	31.80357	38.09524	46.10418	108.57764	370.48860
48	36.82956	45.71429	57.61414	166.54883	777.78913
50	38.02707	47.61905	60.63061	184.73840	934.98968
52	39.20189	49.52381	63.70481	204.70155	1123.55905
55	40.92249	52.38095	68.42678	238.35462	1479.25741
60	43.68262	57.14286	76.60133	306.01168	2336.99669
72	49.79223	68.57143	97.87584	549.73617	6982.21820
75	51.21312	71.42857	103.58345	635.06433	9176.29941
80	53.49248	76.19048	113.46432	806.61043	1.4467E+04
84	55.23904	80.00000	121.71321	975.66772	2.0821E+04
90	57.73668	85.71429	134.68804	1296.23897	3.5946E+04
96	60.09495	91.42857	148.42217	1720.02329	6.2051E+04
100	61.59356	95.23810	158.02193	2075.89057	8.9291E+04
108	64.42406	102.85714	178.34867	3020.85487	1.8488E+05
120	68.28353	114.28571	211.88030	5294.18080	5.5083E+05
132	71.72430	125.71429	249.45136	9267.03237	1.6411E+06
144	74.79180	137.14286	291.54847	1.6210E+04	4.8891E+06
180	82.13812	171.42857	450.78476	8.6604E+04	1.2928E+08
240	89.94066	228.57143	872.69322	1.4120E+06	3.0342E+10
360	96.80953	342.85714	2933.63852	3.7519E+08	1.6714E+15
480	98.98810	457.14286	9361.32092	9.9691E+10	9.2066E+19
600	99.67906	571.42857	2.9408E+04	2.6489E+13	5.0714E+24

TABLE A-b-3

j	4%	5%	6%	10%	15%
n	To Find P Given A_1 $(P\|A_1\ i\%,j\%,n)$	To Find P Given A_1 $(P\|A_1\ i\%,j\%,n)$	To Find P Given A_1 $(P\|A_1\ i\%,j\%,n)$	To Find P Given A_1 $(P\|A_1\ i\%,j\%,n)$	To Find P Given A_1 $(P\|A_1\ i\%,j\%,n)$
1	0.94340	0.94340	0.94340	0.94340	0.94340
2	1.86899	1.87789	1.88679	1.92239	1.96689
3	2.77712	2.80357	2.83019	2.93833	3.07729
4	3.66812	3.72052	3.77358	3.99261	4.28196
5	4.54231	4.62882	4.71698	5.08667	5.58892
6	5.40000	5.52855	5.66038	6.22201	7.00685
7	6.24151	6.41979	6.60377	7.40020	8.54517
8	7.06714	7.30262	7.54717	8.62285	10.21410
9	7.87720	8.17712	8.49057	9.89164	12.02473
10	8.67197	9.04337	9.43396	11.20831	13.98909
11	9.45174	9.90146	10.37736	12.57466	16.12024
12	10.21680	10.75144	11.32075	13.99257	18.43234
13	10.96743	11.59341	12.26415	15.46399	20.94074
14	11.70389	12.42743	13.20755	16.99093	23.66213
15	12.42646	13.25359	14.15094	18.57549	26.61457
16	13.13539	14.07195	15.09434	20.21985	29.81770
17	13.83095	14.88259	16.03774	21.92626	33.29278
18	14.51339	15.68559	16.98113	23.69706	37.06293
19	15.18295	16.48101	17.92453	25.53469	41.15317
20	15.83987	17.26892	18.86792	27.44166	45.59071
21	16.48440	18.04941	19.81132	29.42059	50.40501
22	17.11677	18.82252	20.75472	31.47419	55.62808
23	17.73721	19.58835	21.69811	33.60530	61.29462
24	18.34594	20.34695	22.64151	35.81682	67.44227
25	18.94319	21.09839	23.58491	38.11179	74.11190
26	19.52917	21.84275	24.52830	40.49337	81.34781
27	20.10409	22.58008	25.47170	42.96482	89.19810
28	20.66816	23.31046	26.41509	45.52953	97.71492
29	21.22159	24.03394	27.35849	48.19102	106.95487
30	21.76458	24.75060	28.30189	50.95294	116.97934
36	24.81401	28.91080	33.96226	69.85616	197.75529
40	26.66171	31.55569	37.73585	85.00510	278.24756
48	29.96041	36.55392	45.28302	122.94741	544.24595
50	30.70949	37.74537	47.16981	134.32393	642.55541
52	31.43057	38.91444	49.05660	146.57525	758.26765
55	32.46196	40.62702	51.88679	166.74105	971.35170
60	34.05522	43.37529	56.60377	205.75398	1465.53354
72	37.31332	49.46326	67.92453	334.90762	3915.15469
75	38.01797	50.88009	70.75472	377.20874	5002.55747
80	39.10649	53.15376	75.47170	459.04485	7524.44829
84	39.90566	54.89669	79.24528	536.34890	1.0428E+04
90	40.99585	57.39024	84.90566	676.05776	1.7012E+04
96	41.96830	59.74594	90.56604	850.53743	2.7747E+04
100	42.55752	61.24360	94.33962	990.36455	3.8444E+04
108	43.60947	64.07384	101.88679	1340.57814	7.3795E+04
120	44.91528	67.93642	113.20755	2104.89599	1.9623E+05
132	45.95427	71.38371	124.52830	3297.00464	5.2178E+05
144	46.78096	74.46038	135.84906	5156.33978	1.3874E+06
180	48.37851	81.84409	169.81132	1.9634E+04	2.6080E+07
240	49.48291	89.71927	226.41509	1.8143E+05	3.4660E+09
360	49.94742	96.70363	339.62264	1.5459E+07	6.1217E+13
480	49.99465	98.94307	452.83019	1.3171E+09	1.0812E+18
600	49.99946	99.66111	566.03774	1.1221E+11	1.9096E+22

TABLE A-b-4

j	4%	5%	6%	10%	15%
n	To Find P Given A_1 $(P\|A_1$ i%,j%,n)	To Find P Given A_1 $(P\|A_1$ i%,j%,n)	To Find P Given A_1 $(P\|A_1$ i%,j%,n)	To Find P Given A_1 $(P\|A_1$ i%,j%,n)	To Find P Given A_1 $(P\|A_1$ i%,j%,n)
1	0.90909	0.90909	0.90909	0.90909	0.90909
2	1.76860	1.77686	1.78512	1.81818	1.85950
3	2.58122	2.60518	2.62930	2.72727	2.85312
4	3.34951	3.39586	3.44278	3.63636	3.89190
5	4.07590	4.15059	4.22668	4.54545	4.97789
6	4.76267	4.87102	4.98207	5.45455	6.11325
7	5.41198	5.55870	5.71000	6.36364	7.30022
8	6.02587	6.21512	6.41145	7.27273	8.54113
9	6.60628	6.84171	7.08740	8.18182	9.83846
10	7.15503	7.43981	7.73877	9.09091	11.19475
11	7.67385	8.01073	8.36645	10.00000	12.61270
12	8.16436	8.55570	8.97130	10.90909	14.09509
13	8.62813	9.07589	9.55417	11.81818	15.64487
14	9.06659	9.57244	10.11583	12.72727	17.26509
15	9.48114	10.04642	10.65708	13.63636	18.95896
16	9.87308	10.49886	11.17864	14.54545	20.72982
17	10.24364	10.93073	11.68123	15.45455	22.58117
18	10.59398	11.34297	12.16555	16.36364	24.51668
19	10.92522	11.73647	12.63226	17.27273	26.54017
20	11.23839	12.11208	13.08199	18.18182	28.65563
21	11.53448	12.47063	13.51538	19.09091	30.86725
22	11.81442	12.81287	13.93300	20.00000	33.17940
23	12.07909	13.13956	14.33543	20.90909	35.59664
24	12.32932	13.45140	14.72324	21.81818	38.12376
25	12.56590	13.74906	15.09694	22.72727	40.76575
26	12.78958	14.03319	15.45705	23.63636	43.52783
27	13.00106	14.30441	15.80407	24.54545	46.41546
28	13.20100	14.56330	16.13846	25.45455	49.43434
29	13.39003	14.81042	16.46070	26.36364	52.59045
30	13.56876	15.04631	16.77122	27.27273	55.89002
36	14.45402	16.25279	18.41108	32.72727	79.08675
40	14.89870	16.88904	19.31845	36.36364	98.36852
48	15.53791	17.85579	20.77553	43.63636	148.91859
50	15.65769	18.04629	21.07717	45.45455	164.62383
52	15.76476	18.21986	21.35728	47.27273	181.78927
55	15.90444	18.45174	21.74040	50.00000	210.57570
60	16.09085	18.77305	22.29149	54.54545	267.96474
72	16.37292	19.29792	23.26344	65.45455	470.90920
75	16.41841	19.38937	23.44608	68.18182	540.94029
80	16.47912	19.51610	23.70880	72.72727	680.55528
84	16.51681	19.59826	23.88661	76.36364	816.87970
90	16.55964	19.69610	24.10849	81.81818	1072.68244
96	16.59022	19.77012	24.28615	87.27273	1406.67449
100	16.60558	19.80915	24.38446	90.90909	1684.29792
108	16.62767	19.86846	24.54232	98.18182	2412.12984
120	16.64677	19.92473	24.70656	109.09091	4126.18446
132	16.65652	19.95693	24.81186	120.00000	7048.22688
144	16.66149	19.97535	24.87937	130.90909	1.2030E+04
180	16.66598	19.99538	24.96821	163.63636	5.9678E+04
240	16.66664	19.99972	24.99656	218.18182	8.5952E+05
360	16.66667	20.00000	24.99996	327.27273	1.7819E+08
480	16.66667	20.00000	25.00000	436.36364	3.6941E+10
600	16.66667	20.00000	25.00000	545.45455	7.6581E+12

TABLE A-b-5

j	4%	5%	6%	10%	15%
n	To Find P Given A_1 $(P\|A_1\ i\%,j\%,n)$	To Find P Given A_1 $(P\|A_1\ i\%,j\%,n)$	To Find P Given A_1 $(P\|A_1\ i\%,j\%,n)$	To Find P Given A_1 $(P\|A_1\ i\%,j\%,n)$	To Find P Given A_1 $(P\|A_1\ i\%,j\%,n)$
1	0.86957	0.86957	0.86957	0.86957	0.86957
2	1.65595	1.66352	1.67108	1.70132	1.73913
3	2.36712	2.38843	2.40986	2.49692	2.60870
4	3.01027	3.05030	3.09083	3.25792	3.47826
5	3.59190	3.65462	3.71850	3.98584	4.34783
6	4.11789	4.20640	4.29706	4.68211	5.21739
7	4.59357	4.71019	4.83033	5.34810	6.08696
8	5.02375	5.17017	5.32187	5.98514	6.95652
9	5.41278	5.59016	5.77494	6.59448	7.82609
10	5.76460	5.97362	6.19255	7.17733	8.69565
11	6.08277	6.32374	6.57748	7.73484	9.56522
12	6.37051	6.64342	6.93229	8.26811	10.43478
13	6.63072	6.93529	7.25933	8.77819	11.30435
14	6.86604	7.20179	7.56077	9.26609	12.17391
15	7.07885	7.44511	7.83862	9.73278	13.04348
16	7.27131	7.66728	8.09473	10.17919	13.91304
17	7.44536	7.87012	8.33080	10.60618	14.78261
18	7.60276	8.05533	8.54839	11.01460	15.65217
19	7.74511	8.22443	8.74895	11.40527	16.52174
20	7.87383	8.37883	8.93381	11.77896	17.39130
21	7.99025	8.51980	9.10421	12.13639	18.26087
22	8.09553	8.64851	9.26127	12.47829	19.13043
23	8.19074	8.76603	9.40604	12.80532	20.00000
24	8.27684	8.87333	9.53948	13.11813	20.86957
25	8.35471	8.97131	9.66248	13.41734	21.73913
26	8.42513	9.06076	9.77585	13.70355	22.60870
27	8.48881	9.14243	9.88035	13.97731	23.47826
28	8.54640	9.21700	9.97667	14.23916	24.34783
29	8.59849	9.28509	10.06545	14.48963	25.21739
30	8.64559	9.34725	10.14729	14.72921	26.08696
36	8.84730	9.62183	10.52003	15.96313	31.30435
40	8.92797	9.73718	10.68445	16.62072	34.78261
48	9.01801	9.87306	10.88881	17.63200	41.73913
50	9.03129	9.89418	10.92224	17.83343	43.47826
52	9.04215	9.91178	10.95065	18.01773	45.21739
55	9.05485	9.93285	10.98545	18.26521	47.82609
60	9.06909	9.95739	11.02750	18.61094	52.17391
72	9.08438	9.98570	11.07967	19.18519	62.60870
75	9.08608	9.98911	11.08649	19.28691	65.21739
80	9.08799	9.99309	11.09473	19.42902	69.56522
84	9.08896	9.99520	11.09929	19.52203	73.04348
90	9.08984	9.99722	11.10386	19.63393	78.26087
96	9.09032	9.99839	11.10666	19.71963	83.47826
100	9.09052	9.99888	11.10790	19.76530	86.95652
108	9.09073	9.99946	11.10944	19.83554	93.91304
120	9.09086	9.99982	11.11048	19.90353	104.34783
132	9.09089	9.99994	11.11087	19.94341	114.78261
144	9.09090	9.99998	11.11102	19.96680	125.21739
180	9.09091	10.00000	11.11111	19.99330	156.52174
240	9.09091	10.00000	11.11111	19.99953	208.69565
360	9.09091	10.00000	11.11111	20.00000	313.04348
480	9.09091	10.00000	11.11111	20.00000	417.39130
600	9.09091	10.00000	11.11111	20.00000	521.73913

TABLE A-c-1

j	4%	5%	6%	10%	15%
n	To Find F Given A_1 $(F\|A_1$ i%,j%,n)	To Find F Given A_1 $(F\|A_1$ i%,j%,n)	To Find F Given A_1 $(F\|A_1$ i%,j%,n)	To Find F Given A_1 $(F\|A_1$ i%,j%,n)	To Find F Given A_1 $(F\|A_1$ i%,j%,n)
1	1.00000	1.00000	1.00000	1.00000	1.00000
2	2.08000	2.09000	2.10000	2.14000	2.19000
3	3.24480	3.27610	3.30760	3.43560	3.60010
4	4.49946	4.56477	4.63092	4.90402	5.26498
5	5.84929	5.96287	6.07863	6.56428	7.22458
6	7.29992	7.47766	7.66000	8.43737	9.52492
7	8.85723	9.11686	9.38492	10.54642	12.21898
8	10.52745	10.88864	11.26395	12.91700	15.36776
9	12.31712	12.80164	13.30836	15.57726	19.04150
10	14.23312	14.86503	15.53017	18.55830	23.32103
11	16.28269	17.08853	17.94223	21.89438	28.29943
12	18.47345	19.48241	20.55821	25.62327	34.08380
13	20.81342	22.05756	23.39274	29.78663	40.79740
14	23.31103	24.82552	26.46138	34.43036	48.58208
15	25.97515	27.79847	29.78073	39.60508	57.60107
16	28.81510	30.98933	33.36852	45.36653	68.04218
17	31.84068	34.41178	37.24361	51.77616	80.12149
18	35.06221	38.08027	41.42613	58.90168	94.08761
19	38.49051	42.01010	45.93752	66.81766	110.22657
20	42.13698	46.21746	50.80062	75.60628	128.86740
21	46.01359	50.71945	56.03978	85.35803	150.38864
22	50.13290	55.53419	61.68093	96.17260	175.22570
23	54.50813	60.68082	67.75171	108.15978	203.87947
24	59.15317	66.17958	74.28152	121.44048	236.92611
25	64.08260	72.05186	81.30172	136.14783	275.02833
26	69.31174	78.32029	88.84566	152.42845	318.94842
27	74.85668	85.00877	96.94887	170.44376	369.56315
28	80.73432	92.14258	105.64917	190.37150	427.88099
29	86.96240	99.74841	114.98682	212.40736	495.06184
30	93.55954	107.85449	125.00468	236.76675	572.43977
36	142.05920	168.78836	202.16597	446.81247	1354.98109
40	184.65464	223.89681	274.23487	674.30392	2391.47751
48	303.25515	383.07414	491.16717	1507.44509	7389.36531
50	341.66747	436.07164	565.67355	1838.06949	9786.82507
52	384.32944	495.62196	650.51483	2239.27239	1.2959E+04
55	457.25979	598.92640	800.19773	3006.87959	1.9736E+04
60	606.90158	815.95585	1123.40317	4899.36687	3.9759E+04
72	1166.00278	1670.28717	2476.77264	1.5646E+04	2.1308E+05
75	1366.24433	1988.74313	3005.58331	2.0883E+04	3.2413E+05
80	1773.06147	2651.16420	4137.30972	3.3756E+04	6.5207E+05
84	2177.94269	3327.72366	5329.99997	4.9535E+04	1.1406E+06
90	2952.63462	4661.10317	7767.25889	8.7982E+04	2.6385E+06
96	3985.09305	6501.45689	1.1279E+04	1.5615E+05	6.1034E+06
100	4856.24502	8099.63097	1.4440E+04	2.2884E+05	1.0675E+07
108	7177.79516	1.2517E+04	2.3584E+04	4.9118E+05	3.2656E+07
120	1.2769E+04	2.3825E+04	4.8876E+04	1.5433E+06	1.7472E+08
132	2.2488E+04	4.4942E+04	1.0062E+05	4.8464E+06	9.3481E+08
144	3.9276E+04	8.4161E+04	2.0612E+05	1.5215E+07	5.0015E+09
180	2.0148E+05	5.3533E+05	1.7366E+06	4.7045E+08	7.6598E+11
240	2.8260E+06	1.0949E+07	5.8595E+07	1.4325E+11	3.3581E+15
360	4.6911E+08	4.1121E+09	6.4361E+10	1.3281E+16	6.4540E+22
480	6.9217E+10	1.4671E+12	7.0103E+13	1.2312E+21	1.2404E+30
600	9.5746E+12	5.1545E+14	7.6293E+16	1.1415E+26	2.3840E+37

TABLE A-c-2

j	4%	5%	6%	10%	15%
n	To Find F Given A_1 $(F\|A_1$ i%,j%,n)	To Find F Given A_1 $(F\|A_1$ i%,j%,n)	To Find F Given A_1 $(F\|A_1$ i%,j%,n)	To Find F Given A_1 $(F\|A_1$ i%,j%,n)	To Find F Given A_1 $(F\|A_1$ i%,j%,n)
1	1.00000	1.00000	1.00000	1.00000	1.00000
2	2.09000	2.10000	2.11000	2.15000	2.20000
3	3.27610	3.30750	3.33910	3.46750	3.63250
4	4.56477	4.63050	4.69707	4.97188	5.33500
5	5.96287	6.07753	6.19440	6.68457	7.35076
6	7.47766	7.65769	7.84235	8.62931	9.72965
7	9.11686	9.38067	9.65298	10.83233	12.52919
8	10.88864	11.25680	11.63926	13.32267	15.81567
9	12.80164	13.29710	13.81507	16.13239	19.66548
10	14.86503	15.51328	16.19531	19.29696	24.16663
11	17.08853	17.91784	18.79592	22.85555	29.42052
12	19.48241	20.52407	21.63401	26.85144	35.54394
13	22.05756	23.34613	24.72791	31.33244	42.67138
14	24.82552	26.39909	28.09724	36.35133	50.95774
15	27.79847	29.69897	31.76300	41.96640	60.58133
16	30.98933	33.26285	35.74771	48.24197	71.74746
17	34.41178	37.10887	40.07545	55.24904	84.69246
18	38.08027	41.25633	44.77199	63.06596	99.68834
19	42.01010	45.72577	49.86493	71.77918	117.04821
20	46.21746	50.53900	55.38378	81.48404	137.13240
21	50.71945	55.71925	61.36010	92.28575	160.35555
22	55.53419	61.29118	67.82767	104.30028	187.19485
23	60.68082	67.28100	74.82259	117.65557	218.19934
24	66.17958	73.71657	82.38347	132.49265	254.00076
25	72.05186	80.62750	90.55158	148.96702	295.32598
26	78.32029	88.04523	99.37103	167.25008	343.01123
27	85.00877	96.00316	108.88896	187.53076	398.01859
28	92.14258	104.53678	119.15576	210.01729	461.45483
29	99.74841	113.68375	130.22523	234.93915	534.59318
30	107.85449	123.48407	142.15488	262.54920	618.89830
36	168.78836	198.57655	235.54359	502.41729	1473.60036
40	223.89681	268.19005	324.57292	764.38534	2608.23558
48	383.07414	475.48661	599.26021	1732.31928	8089.99442
50	436.07164	546.06666	695.27545	2118.46906	1.0722E+04
52	495.62196	626.12003	805.40771	2588.00247	1.4205E+04
55	598.92640	766.62829	1001.46907	3488.47023	2.1650E+04
60	815.95585	1067.38205	1430.85050	5716.04907	4.3653E+04
72	1670.28717	2300.23777	3283.25810	1.8441E+04	2.3422E+05
75	1988.74313	2773.76328	4022.42349	2.4661E+04	3.5634E+05
80	2651.16420	3776.10980	5623.45524	3.9977E+04	7.1701E+05
84	3327.72366	4819.37931	7332.27629	5.8776E+04	1.2543E+06
90	4661.10317	6919.74558	1.0873E+04	1.0465E+05	2.9019E+06
96	6501.45689	9891.32894	1.6057E+04	1.8608E+05	6.7131E+06
100	8099.63097	1.2524E+04	2.0780E+04	2.7298E+05	1.1742E+07
108	1.2517E+04	1.9984E+04	3.4651E+04	5.8691E+05	3.5921E+07
120	2.3825E+04	3.9876E+04	7.3928E+04	1.8472E+06	1.9219E+08
132	4.4942E+04	7.8772E+04	1.5631E+05	5.8067E+06	1.0283E+09
144	8.4161E+04	1.5432E+05	3.2807E+05	1.8241E+07	5.5016E+09
180	5.3533E+05	1.1173E+06	2.9379E+06	5.6443E+08	8.4258E+11
240	1.0949E+07	2.7826E+07	1.0624E+08	1.7190E+11	3.6939E+15
360	4.1121E+09	1.4563E+10	1.2461E+11	1.5937E+16	7.0994E+22
480	1.4671E+12	6.7751E+12	1.3874E+14	1.4775E+21	1.3645E+30
600	5.1545E+14	2.9549E+15	1.5207E+17	1.3697E+26	2.6224E+37

TABLE A-c-3

j	4%	5%	6%	10%	15%
n	To Find F Given A_1 $(F\|A_1$ i%,j%,n)	To Find F Given A_1 $(F\|A_1$ i%,j%,n)	To Find F Given A_1 $(F\|A_1$ i%,j%,n)	To Find F Given A_1 $(F\|A_1$ i%,j%,n)	To Find F Given A_1 $(F\|A_1$ i%,j%,n)
1	1.00000	1.00000	1.00000	1.00000	1.00000
2	2.10000	2.11000	2.12000	2.16000	2.21000
3	3.30760	3.33910	3.37080	3.49960	3.66510
4	4.63092	4.69707	4.76406	5.04058	5.40588
5	6.07863	6.19440	6.31238	6.80711	7.47924
6	7.66000	7.84235	8.02935	8.82605	9.93935
7	9.38492	9.65298	9.92963	11.12717	12.84877
8	11.26395	11.63926	12.02904	13.74352	16.27972
9	13.30836	13.81507	14.34463	16.71172	20.31553
10	15.53017	16.19531	16.89479	20.07237	25.05233
11	17.94223	18.79592	19.69932	23.87045	30.60103
12	20.55821	21.63401	22.77958	28.15580	37.08948
13	23.39274	24.72791	26.15855	32.98357	44.66510
14	26.46138	28.09724	29.86100	38.41486	53.49780
15	29.78073	31.76300	33.91356	44.51725	63.78337
16	33.36852	35.74771	38.34493	51.36553	75.74744
17	37.24361	40.07545	43.18598	59.04244	89.64990
18	41.42613	44.77199	48.46991	67.63945	105.79016
19	45.93752	49.86493	54.23244	77.25774	124.51302
20	50.80062	55.38378	60.51199	88.00911	146.21558
21	56.03978	61.36010	67.34984	100.01716	171.35505
22	61.68093	67.82767	74.79040	113.41844	200.45787
23	67.75171	74.82259	82.88136	128.36382	234.13009
24	74.28152	82.38347	91.67399	145.01995	273.06935
25	81.30172	90.55158	101.22337	163.57088	318.07869
26	88.84566	99.37103	111.58864	184.21984	370.08236
27	96.94887	108.88896	122.83334	207.19121	430.14410
28	105.64917	119.15576	135.02569	232.73267	499.48806
29	114.98682	130.22523	148.23891	261.11763	579.52296
30	125.00468	142.15488	162.55164	292.64778	671.86979
36	202.16597	235.54359	276.69912	569.13571	1611.16222
40	274.23487	324.57292	388.14030	874.33844	2861.97587
48	491.16717	599.26021	742.36400	2015.58405	8922.29822
50	565.67355	695.27545	868.87520	2474.26747	1.1836E+04
52	650.51483	805.40771	1015.31890	3033.65117	1.5694E+04
55	800.19773	1001.46907	1279.02612	4110.22052	2.3944E+04
60	1123.40317	1430.85050	1867.22778	6787.34872	4.8345E+04
72	2476.77264	3283.25810	4508.67499	2.2230E+04	2.5988E+05
75	3005.58331	4022.42349	5593.65006	2.9821E+04	3.9549E+05
80	4137.30972	5623.45524	7984.60328	4.8565E+04	7.9606E+05
84	5329.99997	7332.27629	1.0584E+04	7.1637E+04	1.3929E+06
90	7767.25889	1.0873E+04	1.6087E+04	1.2809E+05	3.2231E+06
96	1.1279E+04	1.6057E+04	2.4340E+04	2.2859E+05	7.4572E+06
100	1.4440E+04	2.0780E+04	3.2010E+04	3.3603E+05	1.3044E+07
108	2.3584E+04	3.4651E+04	5.5100E+04	7.2498E+05	3.9908E+07
120	4.8876E+04	7.3928E+04	1.2319E+05	2.2905E+06	2.1354E+08
132	1.0062E+05	1.5631E+05	2.7267E+05	7.2193E+06	1.1425E+09
144	2.0612E+05	3.2807E+05	5.9855E+05	2.2719E+07	6.1128E+09
180	1.7366E+06	2.9379E+06	6.0957E+06	7.0481E+08	9.3620E+11
240	5.8595E+07	1.0624E+08	2.6811E+08	2.1484E+11	4.1043E+15
360	6.4361E+10	1.2461E+11	4.3763E+11	1.9921E+16	7.8882E+22
480	7.0103E+13	1.3874E+14	6.3497E+14	1.8468E+21	1.5161E+30
600	7.6293E+16	1.5207E+17	8.6370E+17	1.7122E+26	2.9138E+37

TABLE A-c-4

j	4%	5%	6%	10%	15%
n	To Find F Given A_1 $(F\|A_1$ i%,j%,n)	To Find F Given A_1 $(F\|A_1$ i%,j%,n)	To Find F Given A_1 $(F\|A_1$ i%,j%,n)	To Find F Given A_1 $(F\|A_1$ i%,j%,n)	To Find F Given A_1 $(F\|A_1$ i%,j%,n)
1	1.00000	1.00000	1.00000	1.00000	1.00000
2	2.14000	2.15000	2.16000	2.20000	2.25000
3	3.43560	3.46750	3.49960	3.63000	3.79750
4	4.90402	4.97188	5.04058	5.32400	5.69812
5	6.56428	6.68457	6.80711	7.32050	8.01694
6	8.43737	8.62931	8.82605	9.66306	10.83000
7	10.54642	10.83233	11.12717	12.40093	14.22606
8	12.91700	13.32267	13.74352	15.58974	18.30868
9	15.57726	16.13239	16.71172	19.29230	23.19857
10	18.55830	19.29696	20.07237	23.57948	29.03631
11	21.89438	22.85555	23.87045	28.53117	35.98549
12	25.62327	26.85144	28.15580	34.23740	44.23643
13	29.78663	31.33244	32.98357	40.79957	54.01033
14	34.43036	36.35133	38.41486	48.33180	65.56415
15	39.60508	41.96640	44.51725	56.96248	79.19627
16	45.36653	48.24197	51.36553	66.83597	95.25296
17	51.77616	55.24904	59.04244	78.11454	114.13587
18	58.90168	63.06596	67.63945	90.98047	136.31073
19	66.81766	71.77918	77.25774	105.63843	162.31725
20	75.60628	81.48404	88.00911	122.31818	192.78075
21	85.35803	92.28575	100.01716	141.27750	228.42536
22	96.17260	104.30028	113.41844	162.80550	270.08942
23	108.15978	117.65557	128.36382	187.22632	318.74310
24	121.44048	132.49265	145.01995	214.90326	375.50887
25	136.14783	148.96702	163.57088	246.24332	441.68493
26	152.42845	167.25008	184.21984	281.70235	518.77238
27	170.44376	187.53076	207.19121	321.79077	608.50641
28	190.37150	210.01729	232.73267	367.07984	712.89237
29	212.40736	234.93915	261.11763	418.20881	834.24722
30	236.76675	262.54920	292.64778	475.89279	975.24739
36	446.81247	502.41729	569.13571	1011.68773	2444.78343
40	674.30392	764.38534	874.33844	1645.79111	4452.08581
48	1507.44509	1732.31928	2015.58405	4233.47929	1.4448E+04
50	1838.06949	2118.46906	2474.26747	5335.94786	1.9325E+04
52	2239.27239	2588.00247	3033.65117	6714.75678	2.5822E+04
55	3006.87959	3488.47023	4110.22052	9452.95712	3.9811E+04
60	4899.36687	5716.04907	6787.34872	1.6608E+04	8.1590E+04
72	1.5646E+04	1.8441E+04	2.2230E+04	6.2548E+04	4.5000E+05
75	2.0883E+04	2.4661E+04	2.9821E+04	8.6720E+04	6.8802E+05
80	3.3756E+04	3.9977E+04	4.8565E+04	1.4897E+05	1.3940E+06
84	4.9535E+04	5.8776E+04	7.1637E+04	2.2902E+05	2.4499E+06
90	8.7982E+04	1.0465E+05	1.2809E+05	4.3470E+05	5.6992E+06
96	1.5615E+05	1.8608E+05	2.2859E+05	8.2144E+05	1.3240E+07
100	2.2884E+05	2.7298E+05	3.3603E+05	1.2528E+06	2.3211E+07
108	4.9118E+05	5.8691E+05	7.2498E+05	2.9003E+06	7.1254E+07
120	1.5433E+06	1.8472E+06	2.2905E+06	1.0114E+07	3.8253E+08
132	4.8464E+06	5.8067E+06	7.2193E+06	3.4915E+07	2.0508E+09
144	1.5215E+07	1.8241E+07	2.2719E+07	1.1954E+08	1.0985E+10
180	4.7045E+08	5.6443E+08	7.0481E+08	4.6192E+09	1.6846E+12
240	1.4325E+11	1.7190E+11	2.1484E+11	1.8753E+12	7.3876E+15
360	1.3281E+16	1.5937E+16	1.9921E+16	2.6078E+17	1.4199E+23
480	1.2312E+21	1.4775E+21	1.8468E+21	3.2236E+22	2.7289E+30
600	1.1415E+26	1.3697E+26	1.7122E+26	3.7357E+27	5.2449E+37

TABLE A-c-5

j	4%	5%	6%	10%	15%
n	To Find F Given A_1 $(F\|A_1$ i%,j%,n)	To Find F Given A_1 $(F\|A_1$ i%,j%,n)	To Find F Given A_1 $(F\|A_1$ i%,j%,n)	To Find F Given A_1 $(F\|A_1$ i%,j%,n)	To Find F Given A_1 $(F\|A_1$ i%,j%,n)
1	1.00000	1.00000	1.00000	1.00000	1.00000
2	2.19000	2.20000	2.21000	2.25000	2.30000
3	3.60010	3.63250	3.66510	3.79750	3.96750
4	5.26498	5.33500	5.40588	5.69812	6.08350
5	7.22458	7.35076	7.47924	8.01694	8.74503
6	9.52492	9.72965	9.93935	10.83000	12.06814
7	12.21898	12.52919	12.84877	14.22606	16.19143
8	15.36776	15.81567	16.27972	18.30868	21.28016
9	19.04150	19.66548	20.31553	23.19857	27.53121
10	23.32103	24.16663	25.05233	29.03631	35.17876
11	28.29943	29.42052	30.60103	35.98549	44.50114
12	34.08380	35.54394	37.08948	44.23643	55.82870
13	40.79740	42.67138	44.66510	54.01033	69.55325
14	48.58208	50.95774	53.49780	65.56415	86.13903
15	57.60107	60.58133	63.78337	79.19627	106.13559
16	68.04218	71.74746	75.74744	95.25296	130.19299
17	80.12149	84.69246	89.64990	114.13587	159.07955
18	94.08761	99.68834	105.79016	136.31073	193.70275
19	110.22657	117.04821	124.51302	162.31725	235.13362
20	128.86740	137.13240	146.21558	192.78075	284.63543
21	150.38864	160.35555	171.35505	228.42536	343.69729
22	175.22570	187.19485	200.45787	270.08942	414.07340
23	203.87947	218.19934	234.13009	318.74310	497.82915
24	236.92611	254.00076	273.06935	375.50887	597.39498
25	275.02833	295.32598	318.07869	441.68493	715.62940
26	318.94842	343.01123	370.08236	518.77238	855.89277
27	369.56315	398.01859	430.14410	608.50641	1022.13348
28	427.88099	461.45483	499.48806	712.89237	1218.98882
29	495.06184	534.59318	579.52296	834.24722	1451.90275
30	572.43977	618.89830	671.86979	975.24739	1727.26362
36	1354.98109	1473.60036	1611.16222	2444.78343	4794.31884
40	2391.47751	2608.23558	2861.97587	4452.08581	9316.99291
48	7389.36531	8089.99442	8922.29822	1.4448E+04	3.4201E+04
50	9786.82507	1.0722E+04	1.1836E+04	1.9325E+04	4.7116E+04
52	1.2959E+04	1.4205E+04	1.5694E+04	2.5822E+04	6.4803E+04
55	1.9736E+04	2.1650E+04	2.3944E+04	3.9811E+04	1.0424E+05
60	3.9759E+04	4.3653E+04	4.8345E+04	8.1590E+04	2.2873E+05
72	2.1308E+05	2.3422E+05	2.5988E+05	4.5000E+05	1.4685E+06
75	3.2413E+05	3.5634E+05	3.9549E+05	6.8802E+05	2.3265E+06
80	6.5207E+05	7.1701E+05	7.9606E+05	1.3940E+06	4.9914E+06
84	1.1406E+06	1.2543E+06	1.3929E+06	2.4499E+06	9.1664E+06
90	2.6385E+06	2.9019E+06	3.2231E+06	5.6992E+06	2.2717E+07
96	6.1034E+06	6.7131E+06	7.4572E+06	1.3240E+07	5.6049E+07
100	1.0675E+07	1.1742E+07	1.3044E+07	2.3211E+07	1.0211E+08
108	3.2656E+07	3.5921E+07	3.9908E+07	7.1254E+07	3.3736E+08
120	1.7472E+08	1.9219E+08	2.1354E+08	3.8253E+08	2.0055E+09
132	9.3481E+08	1.0283E+09	1.1425E+09	2.0508E+09	1.1803E+10
144	5.0015E+09	5.5016E+09	6.1128E+09	1.0985E+10	6.8890E+10
180	7.6598E+11	8.4258E+11	9.3620E+11	1.6846E+12	1.3188E+13
240	3.3581E+15	3.6939E+15	4.1043E+15	7.3876E+15	7.7089E+16
360	6.4540E+22	7.0994E+22	7.8882E+22	1.4199E+23	2.2224E+24
480	1.2404E+30	1.3645E+30	1.5161E+30	2.7289E+30	5.6952E+31
600	2.3840E+37	2.6224E+37	2.9138E+37	5.2449E+37	1.3682E+39

Appendix B

TABLE B-a-1

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ r\%,n)_\infty$	To Find P Given F $(P\|F\ r\%,n)_\infty$	To Find F Given A $(F\|A\ r\%,n)_\infty$	To Find A Given F $(A\|F\ r\%,n)_\infty$	To Find P Given A $(P\|A\ r\%,n)_\infty$	To Find A Given P $(A\|P\ r\%,n)_\infty$	To Find P Given G $(P\|G\ r\%,n)_\infty$	To Find A Given G $(A\|G\ r\%,n)_\infty$
1	1.05127	0.95123	1.00000	1.00000	0.95123	1.05127	0.00000	0.00000
2	1.10517	0.90484	2.05127	0.48750	1.85607	0.53877	0.90484	0.48750
3	1.16183	0.86071	3.15644	0.31681	2.71677	0.36808	2.62625	0.96668
4	1.22140	0.81873	4.31828	0.23157	3.53551	0.28284	5.08245	1.43754
5	1.28403	0.77880	5.53968	0.18052	4.31431	0.23179	8.19765	1.90011
6	1.34986	0.74082	6.82370	0.14655	5.05512	0.19782	11.90174	2.35439
7	1.41907	0.70469	8.17356	0.12235	5.75981	0.17362	16.12987	2.80042
8	1.49182	0.67032	9.59263	0.10425	6.43013	0.15552	20.82211	3.23821
9	1.56831	0.63763	11.08446	0.09022	7.06776	0.14149	25.92313	3.66780
10	1.64872	0.60653	12.65277	0.07903	7.67429	0.13031	31.38191	4.08923
11	1.73325	0.57695	14.30149	0.06992	8.25124	0.12119	37.15141	4.50252
12	1.82212	0.54881	16.03474	0.06236	8.80005	0.11364	43.18834	4.90774
13	1.91554	0.52205	17.85686	0.05600	9.32210	0.10727	49.45289	5.30491
14	2.01375	0.49659	19.77240	0.05058	9.81868	0.10185	55.90849	5.69409
15	2.11700	0.47237	21.78615	0.04590	10.29105	0.09717	62.52163	6.07534
16	2.22554	0.44933	23.90315	0.04184	10.74038	0.09311	69.26156	6.44871
17	2.33965	0.42741	26.12870	0.03827	11.16779	0.08954	76.10020	6.81425
18	2.45960	0.40657	28.46834	0.03513	11.57436	0.08640	83.01188	7.17205
19	2.58571	0.38674	30.92795	0.03233	11.96111	0.08360	89.97322	7.52215
20	2.71828	0.36788	33.51365	0.02984	12.32898	0.08111	96.96293	7.86463
21	2.85765	0.34994	36.23194	0.02760	12.67892	0.07887	103.96169	8.19957
22	3.00417	0.33287	39.08959	0.02558	13.01179	0.07685	110.95198	8.52703
23	3.15819	0.31664	42.09375	0.02376	13.32843	0.07503	117.91799	8.84710
24	3.32012	0.30119	45.25195	0.02210	13.62962	0.07337	124.84545	9.15986
25	3.49034	0.28650	48.57206	0.02059	13.91613	0.07186	131.72157	9.46539
26	3.66930	0.27253	52.06241	0.01921	14.18866	0.07048	138.53486	9.76377
27	3.85743	0.25924	55.73170	0.01794	14.44790	0.06921	145.27511	10.05510
28	4.05520	0.24660	59.58913	0.01678	14.69450	0.06805	151.93323	10.33946
29	4.26311	0.23457	63.64433	0.01571	14.92907	0.06698	158.50120	10.61695
30	4.48169	0.22313	67.90744	0.01473	15.15220	0.06600	164.97197	10.88766
35	5.75460	0.17377	92.73456	0.01078	16.11485	0.06205	195.68067	12.14288
40	7.38906	0.13534	124.61321	8.0248E−03	16.86456	0.05930	223.34520	13.24346
45	9.48774	0.10540	165.54621	6.0406E−03	17.44844	0.05731	247.80975	14.20240
50	12.18249	0.08208	218.10522	4.5849E−03	17.90317	0.05586	269.13638	15.03289
55	15.64263	0.06393	285.59233	3.5015E−03	18.25731	0.05477	287.51627	15.74801
60	20.08554	0.04979	372.24749	2.6864E−03	18.53311	0.05396	303.20957	16.36042
65	25.79034	0.03877	483.51492	2.0682E−03	18.74791	0.05334	316.50551	16.88218
70	33.11545	0.03020	626.38512	1.5965E−03	18.91519	0.05287	327.69681	17.32453
75	42.52108	0.02352	809.83410	1.2348E−03	19.04547	0.05251	337.06401	17.69786
80	54.59815	0.01832	1045.38724	9.5658E−04	19.14694	0.05223	344.86651	18.01158
85	70.10541	0.01426	1347.84347	7.4193E−04	19.22595	0.05201	351.33820	18.27416
90	90.01713	0.01111	1736.20495	5.7597E−04	19.28749	0.05185	356.68605	18.49313
95	115.58428	8.6517E−03	2234.87096	4.4745E−04	19.33542	0.05172	361.09061	18.67508
100	148.41316	6.7379E−03	2875.17080	3.4781E−04	19.37275	0.05162	364.70751	18.82580

TABLE B-a-2

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ r\%,n)_\infty$	To Find P Given F $(P\|F\ r\%,n)_\infty$	To Find F Given A $(F\|A\ r\%,n)_\infty$	To Find A Given F $(A\|F\ r\%,n)_\infty$	To Find P Given A $(P\|A\ r\%,n)_\infty$	To Find A Given P $(A\|P\ r\%,n)_\infty$	To Find P Given G $(P\|G\ r\%,n)_\infty$	To Find A Given G $(A\|G\ r\%,n)_\infty$
1	1.10517	0.90484	1.00000	1.00000	0.90484	1.10517	0.00000	0.00000
2	1.22140	0.81873	2.10517	0.47502	1.72357	0.58019	0.81873	0.47502
3	1.34986	0.74082	3.32657	0.30061	2.46439	0.40578	2.30037	0.93344
4	1.49182	0.67032	4.67643	0.21384	3.13471	0.31901	4.31133	1.37535
5	1.64872	0.60653	6.16826	0.16212	3.74124	0.26729	6.73745	1.80086
6	1.82212	0.54881	7.81698	0.12793	4.29005	0.23310	9.48151	2.21012
7	2.01375	0.49659	9.63910	0.10374	4.78663	0.20892	12.46102	2.60329
8	2.22554	0.44933	11.65285	0.08582	5.23596	0.19099	15.60632	2.98060
9	2.45960	0.40657	13.87839	0.07205	5.64253	0.17723	18.85888	3.34227
10	2.71828	0.36788	16.33799	0.06121	6.01041	0.16638	22.16979	3.68856
11	3.00417	0.33287	19.05628	0.05248	6.34328	0.15765	25.49851	4.01976
12	3.32012	0.30119	22.06044	0.04533	6.64448	0.15050	28.81164	4.33618
13	3.66930	0.27253	25.38056	0.03940	6.91701	0.14457	32.08202	4.63814
14	4.05520	0.24660	29.04986	0.03442	7.16361	0.13959	35.28778	4.92598
15	4.48169	0.22313	33.10506	0.03021	7.38674	0.13538	38.41161	5.20008
16	4.95303	0.20190	37.58674	0.02661	7.58863	0.13178	41.44005	5.46081
17	5.47395	0.18268	42.53978	0.02351	7.77132	0.12868	44.36299	5.70856
18	6.04965	0.16530	48.01372	0.02083	7.93662	0.12600	47.17307	5.94373
19	6.68589	0.14957	54.06337	0.01850	8.08618	0.12367	49.86531	6.16673
20	7.38906	0.13534	60.74927	0.01646	8.22152	0.12163	52.43668	6.37798
21	8.16617	0.12246	68.13832	0.01468	8.34398	0.11985	54.88581	6.57790
22	9.02501	0.11080	76.30449	0.01311	8.45478	0.11828	57.21267	6.76690
23	9.97418	0.10026	85.32951	0.01172	8.55504	0.11689	59.41837	6.94542
24	11.02318	0.09072	95.30369	0.01049	8.64576	0.11566	61.50488	7.11388
25	12.18249	0.08208	106.32686	9.4050E−03	8.72784	0.11458	63.47492	7.27269
26	13.46374	0.07427	118.50936	8.4382E−03	8.80211	0.11361	65.33176	7.42228
27	14.87973	0.06721	131.97310	7.5773E−03	8.86932	0.11275	67.07910	7.56305
28	16.44465	0.06081	146.85283	6.8095E−03	8.93013	0.11198	68.72097	7.69541
29	18.17415	0.05502	163.29748	6.1238E−03	8.98515	0.11129	70.26162	7.81975
30	20.08554	0.04979	181.47162	5.5105E−03	9.03494	0.11068	71.70545	7.93646
35	33.11545	0.03020	305.36438	3.2748E−03	9.22121	0.10845	77.62884	8.41851
40	54.59815	0.01832	509.62900	1.9622E−03	9.33418	0.10713	81.78644	8.76204
45	90.01713	0.01111	846.40443	1.1815E−03	9.40270	0.10635	84.65077	9.00281
50	148.41316	6.7379E−03	1401.65325	7.1344E−04	9.44427	0.10588	86.59588	9.16915
55	244.69193	4.0868E−03	2317.10378	4.3157E−04	9.46947	0.10560	87.90169	9.28264
60	403.42879	2.4788E−03	3826.42655	2.6134E−04	9.48476	0.10543	88.77015	9.35924
65	665.14163	1.5034E−03	6314.87911	1.5836E−04	9.49404	0.10533	89.34326	9.41046
70	1096.63316	9.1188E−04	1.0418E+04	9.5991E−05	9.49966	0.10527	89.71900	9.44444
75	1808.04241	5.5308E−04	1.7182E+04	5.8201E−05	9.50307	0.10523	89.96395	9.46683
80	2980.95799	3.3546E−04	2.8334E+04	3.5293E−05	9.50514	0.10521	90.12287	9.48149
85	4914.76884	2.0347E−04	4.6722E+04	2.1403E−05	9.50640	0.10519	90.22554	9.49103
90	8103.08393	1.2341E−04	7.7037E+04	1.2981E−05	9.50716	0.10518	90.29161	9.49722
95	1.3360E+04	7.4852E−05	1.2702E+05	7.8728E−06	9.50762	0.10518	90.33400	9.50122
100	2.2026E+04	4.5400E−05	2.0943E+05	4.7750E−06	9.50790	0.10518	90.36110	9.50379

TABLE B-a-3

	Single Sums		Uniform Series				Gradient Series	
n	To Find F Given P $(F\|P\ r\%,n)_\infty$	To Find P Given F $(P\|F\ r\%,n)_\infty$	To Find F Given A $(F\|A\ r\%,n)_\infty$	To Find A Given F $(A\|F\ r\%,n)_\infty$	To Find P Given A $(P\|A\ r\%,n)_\infty$	To Find A Given P $(A\|P\ r\%,n)_\infty$	To Find P Given G $(P\|G\ r\%,n)_\infty$	To Find A Given G $(A\|G\ r\%,n)_\infty$
1	1.16183	0.86071	1.00000	1.00000	0.86071	1.16183	0.00000	0.00000
2	1.34986	0.74082	2.16183	0.46257	1.60153	0.62440	0.74082	0.46257
3	1.56831	0.63763	3.51169	0.28476	2.23915	0.44660	2.01607	0.90037
4	1.82212	0.54881	5.08001	0.19685	2.78797	0.35868	3.66251	1.31369
5	2.11700	0.47237	6.90212	0.14488	3.26033	0.30672	5.55198	1.70289
6	2.45960	0.40657	9.01912	0.11088	3.66690	0.27271	7.58482	2.06846
7	2.85765	0.34994	11.47873	0.08712	4.01684	0.24895	9.68445	2.41096
8	3.32012	0.30119	14.33638	0.06975	4.31803	0.23159	11.79281	2.73106
9	3.85743	0.25924	17.65650	0.05664	4.57727	0.21847	13.86673	3.02947
10	4.48169	0.22313	21.51392	0.04648	4.80040	0.20832	15.87490	3.30699
11	5.20698	0.19205	25.99561	0.03847	4.99245	0.20030	17.79540	3.56446
12	6.04965	0.16530	31.20259	0.03205	5.15775	0.19388	19.61369	3.80276
13	7.02869	0.14227	37.25224	0.02684	5.30003	0.18868	21.32098	4.02281
14	8.16617	0.12246	44.28092	0.02258	5.42248	0.18442	22.91291	4.22554
15	9.48774	0.10540	52.44709	0.01907	5.52788	0.18090	24.38850	4.41191
16	11.02318	0.09072	61.93483	0.01615	5.61860	0.17798	25.74927	4.58286
17	12.80710	0.07808	72.95801	0.01371	5.69668	0.17554	26.99858	4.73935
18	14.87973	0.06721	85.76511	0.01166	5.76389	0.17349	28.14107	4.88231
19	17.28778	0.05784	100.64484	9.9359E−03	5.82173	0.17177	29.18227	5.01264
20	20.08554	0.04979	117.93262	8.4794E−03	5.87152	0.17031	30.12822	5.13125
21	23.33606	0.04285	138.01816	7.2454E−03	5.91437	0.16908	30.98527	5.23898
22	27.11264	0.03688	161.35423	6.1975E−03	5.95125	0.16803	31.75981	5.33666
23	31.50039	0.03175	188.46686	5.3060E−03	5.98300	0.16714	32.45822	5.42507
24	36.59823	0.02732	219.96726	4.5461E−03	6.01032	0.16638	33.08666	5.50497
25	42.52108	0.02352	256.56549	3.8976E−03	6.03384	0.16573	33.65109	5.57706
26	49.40245	0.02024	299.08657	3.3435E−03	6.05408	0.16518	34.15714	5.64200
27	57.39746	0.01742	348.48902	2.8695E−03	6.07151	0.16470	34.61012	5.70042
28	66.68633	0.01500	405.88648	2.4637E−03	6.08650	0.16430	35.01500	5.75289
29	77.47846	0.01291	472.57281	2.1161E−03	6.09941	0.16395	35.37639	5.79997
30	90.01713	0.01111	550.05127	1.8180E−03	6.11052	0.16365	35.69855	5.84215
35	190.56627	5.2475E−03	1171.36068	8.5371E−04	6.14674	0.16269	36.84680	5.99453
40	403.42879	2.4788E−03	2486.67270	4.0214E−04	6.16385	0.16224	37.47473	6.07977
45	854.05876	1.1709E−03	5271.18827	1.8971E−04	6.17193	0.16202	37.81176	6.12641
50	1808.04241	5.5308E−04	1.1166E+04	8.9558E−05	6.17574	0.16192	37.99005	6.15149
55	3827.62582	2.6126E−04	2.3645E+04	4.2292E−05	6.17755	0.16188	38.08328	6.16479
60	8103.08393	1.2341E−04	5.0064E+04	1.9974E−05	6.17840	0.16185	38.13158	6.17176
65	1.7154E+04	5.8295E−05	1.0599E+05	9.4346E−06	6.17880	0.16184	38.15640	6.17537
70	3.6316E+04	2.7536E−05	2.2439E+05	4.4565E−06	6.17899	0.16184	38.16908	6.17723
75	7.6880E+04	1.3007E−05	4.7505E+05	2.1051E−06	6.17908	0.16184	38.17552	6.17819
80	1.6275E+05	6.1442E−06	1.0057E+06	9.9435E−07	6.17912	0.16184	38.17877	6.17867
85	3.4455E+05	2.9023E−06	2.1290E+06	4.6970E−07	6.17914	0.16183	38.18041	6.17892
90	7.2942E+05	1.3710E−06	4.5072E+06	2.2187E−07	6.17915	0.16183	38.18123	6.17904
95	1.5442E+06	6.4760E−07	9.5417E+06	1.0480E−07	6.17916	0.16183	38.18164	6.17910
100	3.2690E+06	3.0590E−07	2.0200E+07	4.9505E−08	6.17916	0.16183	38.18184	6.17913

TABLE B-b-1

n	To Find P Given $\overline{A}$ $(P\|\overline{A}\ r\%,n)$	To Find $\overline{A}$ Given P $(\overline{A}\|P\ r\%,n)$	To Find F Given $\overline{A}$ $(F\|\overline{A}\ r\%,n)$	To Find $\overline{A}$ Given F $(\overline{A}\|F\ r\%,n)$
1	0.97541	1.02521	1.02542	0.97521
2	1.90325	0.52542	2.10342	0.47542
3	2.78584	0.35896	3.23668	0.30896
4	3.62538	0.27583	4.42806	0.22583
5	4.42398	0.22604	5.68051	0.17604
6	5.18364	0.19291	6.99718	0.14291
7	5.90624	0.16931	8.38135	0.11931
8	6.59360	0.15166	9.83649	0.10166
9	7.24744	0.13798	11.36624	0.08798
10	7.86939	0.12707	12.97443	0.07707
11	8.46100	0.11819	14.66506	0.06819
12	9.02377	0.11082	16.44238	0.06082
13	9.55908	0.10461	18.31082	0.05461
14	10.06829	0.09932	20.27505	0.04932
15	10.55267	0.09476	22.34000	0.04476
16	11.01342	0.09080	24.51082	0.04080
17	11.45170	0.08732	26.79294	0.03732
18	11.86861	0.08426	29.19206	0.03426
19	12.26518	0.08153	31.71419	0.03153
20	12.64241	0.07910	34.36564	0.02910
21	13.00125	0.07692	37.15302	0.02692
22	13.34258	0.07495	40.08332	0.02495
23	13.66726	0.07317	43.16386	0.02317
24	13.97612	0.07155	46.40234	0.02155
25	14.26990	0.07008	49.80686	0.02008
26	14.54936	0.06873	53.38593	0.01873
27	14.81519	0.06750	57.14851	0.01750
28	15.06806	0.06637	61.10400	0.01637
29	15.30859	0.06532	65.26229	0.01532
30	15.53740	0.06436	69.63378	0.01436
35	16.52452	0.06052	95.09205	0.01052
40	17.29329	0.05783	127.78112	7.8259E−03
45	17.89202	0.05589	169.75472	5.8909E−03
50	18.35830	0.05447	223.64988	4.4713E−03
55	18.72144	0.05341	292.85264	3.4147E−03
60	19.00426	0.05262	381.71074	2.6198E−03
65	19.22452	0.05202	495.80680	2.0169E−03
70	19.39605	0.05156	642.30904	1.5569E−03
75	19.52965	0.05120	830.42164	1.2042E−03
80	19.63369	0.05093	1071.96300	9.3287E−04
85	19.71472	0.05072	1382.10825	7.2353E−04
90	19.77782	0.05056	1780.34263	5.6169E−04
95	19.82697	0.05044	2291.68569	4.3636E−04
100	19.86524	0.05034	2948.26318	3.3918E−04

TABLE B-b-2

n	To Find P Given $\overline{A}$ ($P\|\overline{A}$ r%,n)	To Find $\overline{A}$ Given P ($\overline{A}\|P$ r%,n)	To Find F Given $\overline{A}$ ($F\|\overline{A}$ r%,n)	To Find $\overline{A}$ Given F ($\overline{A}\|F$ r%,n)
1	0.95163	1.05083	1.05171	0.95083
2	1.81269	0.55167	2.21403	0.45167
3	2.59182	0.38583	3.49859	0.28583
4	3.29680	0.30332	4.91825	0.20332
5	3.93469	0.25415	6.48721	0.15415
6	4.51188	0.22164	8.22119	0.12164
7	5.03415	0.19864	10.13753	0.09864
8	5.50671	0.18160	12.25541	0.08160
9	5.93430	0.16851	14.59603	0.06851
10	6.32121	0.15820	17.18282	0.05820
11	6.67129	0.14990	20.04166	0.04990
12	6.98806	0.14310	23.20117	0.04310
13	7.27468	0.13746	26.69297	0.03746
14	7.53403	0.13273	30.55200	0.03273
15	7.76870	0.12872	34.81689	0.02872
16	7.98103	0.12530	39.53032	0.02530
17	8.17316	0.12235	44.73947	0.02235
18	8.34701	0.11980	50.49647	0.01980
19	8.50431	0.11759	56.85894	0.01759
20	8.64665	0.11565	63.89056	0.01565
21	8.77544	0.11395	71.66170	0.01395
22	8.89197	0.11246	80.25013	0.01246
23	8.99741	0.11114	89.74182	0.01114
24	9.09282	0.10998	100.23176	9.9769E−03
25	9.17915	0.10894	111.82494	8.9425E−03
26	9.25726	0.10802	124.63738	8.0233E−03
27	9.32794	0.10720	138.79732	7.2048E−03
28	9.39190	0.10647	154.44647	6.4747E−03
29	9.44977	0.10582	171.74145	5.8227E−03
30	9.50213	0.10524	190.85537	5.2396E−03
35	9.69803	0.10311	321.15452	3.1138E−03
40	9.81684	0.10187	535.98150	1.8657E−03
45	9.88891	0.10112	890.17131	1.1234E−03
50	9.93262	0.10068	1474.13159	6.7837E−04
55	9.95913	0.10041	2436.91932	4.1035E−04
60	9.97521	0.10025	4024.28793	2.4849E−04
65	9.98497	0.10015	6641.41633	1.5057E−04
70	9.99088	0.10009	1.0956E+04	9.1271E−05
75	9.99447	0.10006	1.8070E+04	5.5339E−05
80	9.99665	0.10003	2.9800E+04	3.3558E−05
85	9.99797	0.10002	4.9138E+04	2.0351E−05
90	9.99877	0.10001	8.1021E+04	1.2343E−05
95	9.99925	0.10001	1.3359E+05	7.4857E−06
100	9.99955	0.10000	2.2025E+05	4.5402E−06

TABLE B-b-3

n	To Find P Given $\overline{A}$ $(P\|\overline{A}\ r\%, n)$	To Find $\overline{A}$ Given P $(\overline{A}\|P\ r\%, n)$	To Find F Given $\overline{A}$ $(F\|\overline{A}\ r\%, n)$	To Find $\overline{A}$ Given F $(\overline{A}\|F\ r\%, n)$
1	0.92861	1.07687	1.07889	0.92687
2	1.72788	0.57874	2.33239	0.42874
3	2.41581	0.41394	3.78875	0.26394
4	3.00792	0.33246	5.48079	0.18246
5	3.51756	0.28429	7.44667	0.13429
6	3.95620	0.25277	9.73069	0.10277
7	4.33375	0.23075	12.38434	0.08075
8	4.65871	0.21465	15.46745	0.06465
9	4.93840	0.20249	19.04950	0.05249
10	5.17913	0.19308	23.21126	0.04308
11	5.38633	0.18566	28.04653	0.03566
12	5.56467	0.17971	33.66432	0.02971
13	5.71817	0.17488	40.19125	0.02488
14	5.85029	0.17093	47.77447	0.02093
15	5.96401	0.16767	56.58491	0.01767
16	6.06188	0.16497	66.82118	0.01497
17	6.14612	0.16270	78.71403	0.01270
18	6.21863	0.16081	92.53154	0.01081
19	6.28104	0.15921	108.58521	9.2094E−03
20	6.33475	0.15786	127.23691	7.8594E−03
21	6.38099	0.15672	148.90710	6.7156E−03
22	6.42078	0.15574	174.08426	5.7443E−03
23	6.45503	0.15492	203.33595	4.9180E−03
24	6.48451	0.15421	237.32156	4.2137E−03
25	6.50988	0.15361	276.80721	3.6126E−03
26	6.53172	0.15310	322.68299	3.0990E−03
27	6.55052	0.15266	375.98305	2.6597E−03
28	6.56670	0.15228	437.90887	2.2836E−03
29	6.58062	0.15196	509.85642	1.9613E−03
30	6.59261	0.15169	593.44754	1.6851E−03
35	6.63168	0.15079	1263.77512	7.9128E−04
40	6.65014	0.15037	2682.85862	3.7274E−04
45	6.65886	0.15018	5687.05842	1.7584E−04
50	6.66298	0.15008	1.2047E+04	8.3009E−05
55	6.66492	0.15004	2.5511E+04	3.9199E−05
60	6.66584	0.15002	5.4014E+04	1.8514E−05
65	6.66628	0.15001	1.1435E+05	8.7447E−06
70	6.66648	0.15000	2.4210E+05	4.1306E−06
75	6.66658	0.15000	5.1253E+05	1.9511E−06
80	6.66663	0.15000	1.0850E+06	9.2164E−07
85	6.66665	0.15000	2.2970E+06	4.3535E−07
90	6.66666	0.15000	4.8628E+06	2.0564E−07
95	6.66666	0.15000	1.0294E+07	9.7139E−08
100	6.66666	0.15000	2.1793E+07	4.5885E−08

TABLE 2.6
Summary of Discrete Compounding Interest Factors.

To Find	Given	Factor	Symbol	Name
P	F	$(1+i)^{-n}$	$(P\|F\,i\%,n)$	Single sum, present worth factor
F	P	$(1+i)^{n}$	$(F\|P\,i\%,n)$	Single sum, compound amount factor
P	A	$\frac{(1+i)^{n}-1}{i(1+i)^{n}}$	$(P\|A\,i\%,n)$	Uniform series, present worth factor
A	P	$\frac{i(1+i)^{n}}{(1+i)^{n}-1}$	$(A\|P\,i\%,n)$	Uniform series, capital recovery factor
F	A	$\frac{(1+i)^{n}-1}{i}$	$(F\|A\,i\%,n)$	Uniform series, compound amount factor
A	F	$\frac{i}{(1+i)^{n}-1}$	$(A\|F\,i\%,n)$	Uniform series, sinking fund factor
P	G	$\frac{[1-(1+ni)(1+i)^{-n}]}{i^{2}}$	$(P\|G\,i\%,n)$	Gradient series, present worth factor
A	G	$\frac{(1+i)^{n}-(1+ni)}{i[(1+i)^{n}-1]}$	$(A\|G\,i\%,n)$	Gradient to uniform series conversion factor
P	A_1,j	$\frac{1-(1+j)^{n}(1+i)^{-n}}{i-j}$ for $i\neq j$	$(P\|A_1\,i\%,j\%,n)$	Geometric series, present worth factor
F	A_1,j	$\frac{(1+i)^{n}-(1+j)^{n}}{i-j}$ for $i\neq j$	$(F\|A_1\,i\%,j\%,n)$	Geometric series, future worth factor

TABLE 2.A.1
Summary of Continuous Compounding Interest Factors for Discrete Flows.

To Find	Given	Factor	Symbol
P	F	e^{-rn}	$(P\|F\ r,n)_\infty$
F	P	e^{rn}	$(F\|P\ r,n)_\infty$
F	A	$\dfrac{e^{rn}-1}{e^{r}-1}$	$(F\|A\ r,n)_\infty$
A	F	$\dfrac{e^{r}-1}{e^{rn}-1}$	$(A\|F\ r,n)_\infty$
P	A	$\dfrac{e^{rn}-1}{e^{rn}(e^{r}-1)}$	$(P\|A\ r,n)_\infty$
A	P	$\dfrac{e^{rn}(e^{r}-1)}{e^{rn}-1}$	$(A\|P\ r,n)_\infty$
P	G	$\dfrac{e^{rn}-1-n(e^{r}-1)}{e^{rn}(e^{r}-1)^2}$	$(P\|G\ r,n)_\infty$
A	G	$\dfrac{1}{e^{r}-1}-\dfrac{n}{e^{rn}-1}$	$(A\|G\ r,n)_\infty$
P	A_1, c	$\dfrac{1-e^{(c-r)n}}{e^{r}-e^{c}}$	$(P\|A_1\ r,c,n)_\infty$*
F	A_1, c	$\dfrac{e^{rn}-e^{cn}}{e^{r}-e^{c}}$	$(F\|A_1\ r,c,n)_\infty$*

*$r \neq c$.

- $d_t = (P - F)/n$
- $B_t = P - td$
- $d_t = pP(1-p)^{t-1}$
- $B_t = P(1-p)^t$
- $d_t = \frac{n-t+1}{n(n+1)/2}(P - F)$
- $B_t = (P - F)\frac{(n-t)(n-t+1)}{n(n+1)} + F$
- $i_{eff} = \left(1 + \frac{r}{m}\right)^m - 1$