

UNIVERSITI SAINS MALAYSIA

Peperiksaan Semester Kedua  
Sidang 1988/89

Mac/April 1989

ATP 200 - Prinsip-Prinsip Kewangan

Masa : [ 3 Jam ]

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Jawab SEMUA soalan daripada Bahagian A dan EMPAT soalan daripada Bahagian B.

BAHAGIAN A

Soalan 1

Berikut ialah maklumat kewangan untuk Firma Pencetakan dan Industri dan juga penyata pendapatan untuk tahun 1988.

Nisbah (% Jualan)	Firma Pencetakan 31/12/87	Purata Industri 31/12/88
-----	-----	-----
Kos barang dijual	74.5%	70%
Keuntungan kasar	25.5	30
Belanja jualan	8	7
Belanja pentadbiran am	5.1	4.9
Belanja susutnilai	2.4	2
Jumlah belanja operasi	15.5	13.9
Keuntungan daripada operasi	10	16.1
Belanja bunga	1.4	1.0
Keuntungan sebelum cukai	8.6	15.1
Cukai	2.4	6
Keuntungan selepas cukai	5.2	9.1

...2/-

[ATP 200]

Firma Pencetakan  
Penyata Pendapatan  
Untuk Tempoh Berakhir Pada 31/12/88

Hasil jualan		\$ 1,000,000
Tolak: Kos barang dijual		\$ 750,000
		-----
Keuntungan kasar		\$ 250,000
Belanja operasi:		
Belanja jualan	\$ 70,000	
Belanja pentadbiran am	\$ 48,000	
Belanja susutnilai	\$ 20,000	
	-----	
Jumlah belanja operasi		\$ 138,000
		-----
Keuntungan operasi		\$ 112,000
Tolak: Belanja bunga		\$ 20,000
		-----
Keuntungan sebelum cukai		\$ 92,000
Tolak: Cukai		\$ 36,800
		-----
Keuntungan selepas cukai		\$ 55,200
		=====

Dikehendaki

Sediakan penyata pendapatan berdasarkan peratusan jualan untuk firma bagi tahun berakhir pada 31/12/1988 dan komen mengenai pencapaian firma berbanding dengan [a] purata industri [b] pencapaian tahun 1987.

[10 markah]

Soalan 2

Untuk mendapatkan satu gambaran kedudukan kewangan, pengurus kewangan Syarikat Finas diperlukan untuk menyediakan kunci kira-kira proforma seperti pada 31/12/88, dengan menggunakan nisbah-nisbah kewangan yang berikut yang didapati daripada industri yang sama untuk 1987.

Ekuiti biasa/jumlah aset .....	60%
Nisbah pusing ganti jumlah aset .....	3
Hutang jangka panjang/jumlah permodalan .....	25%
Nisbah semasa .....	1.2
Nisbah ujian mampu .....	0.75
Purata tempoh kutipan (360 hari setahun) .....	10 hari

...3/-

[ATP 200]

Sediakan kunci kira-kira proforma dengan mengandaikan jualan 1988 pada \$450,000 (semuanya secara kredit).

[10 markah]

Soalan 3

[a] Anda diberikan tiga pilihan pelaburan untuk dikaji. Berikut ialah aliran tunai daripada ketiga-tiga jenis pelaburan tersebut :

Akhir Tahun	Pelaburan		
	A	B	C
1	\$10,000	-	\$10,000
2	10,000	-	-
3	10,000	-	-
4	10,000	-	-
5	10,000	\$10,000	-
6	-	10,000	50,000
7	-	10,000	-
8	-	10,000	-
9	-	10,000	-
10	-	10,000	10,000

Sekiranya kadar diskaun ialah 20%, cari nilai kini untuk setiap pelaburan.

[b] Firma meminjam \$25,000 dari bank pada kadar 12% setahun. Pinjaman ini perlu dibayar dengan jumlah yang sama pada akhir setiap tahun di dalam tempoh 5 tahun akan datang. Apakah jumlah bayaran tahunan yang perlu dibuat?

[Gunakan jadual di lampiran A]

[10 markah]

Soalan 4

Pengurus Syarikat Pembekal Ria bercadang untuk mengurangkan tempoh jualan kreditnya daripada 30 hari ke 20 hari dan pengurusnya mempercayai bahawa perubahan ini dapat mengurangkan

...4/-

[ATP 200]

purata tempoh kutipan daripada 36 hari kepada 30 hari. Belanja hutang lapuk juga dijangka akan berkurangan dari 1.2% ke 0.8% daripada jumlah jualan.

Pada masa ini syarikat mempunyai jualan sebanyak 300,000 unit dan dianggarkan selepas perubahan, jualan akan berkurangan kepada 275,000 unit. Daripada 300,000 unit, hasil jualan ialah \$4,200,000 di mana kos berubah berjumlah \$3,300,000 dan kos tetap berjumlah \$300,000.

Sekiranya kadar pulangan dikehendaki atas pelaburan adalah 15%, pertimbangkan dan beri pandangan mengenai cadangan yang baru ini kepada syarikat.

[10 markah]

#### BAHAGIAN B

5. [a] Belanjawan tunai dianggap berguna untuk membantu pengurus membuat perancangan kewangan masa hadapan. Kenapakah belanjawan tunai dianggap penting bagi firma yang mempunyai berlebihan tunai?
- [b] Terangkan kenapa belanjawan tunai dianggap penting terutamanya kepada firma yang mengalami jualan yang bermusim.
- [c] Terangkan sebab utama adanya perbezaan antara jumlah keuntungan selepas cukai untuk sesuatu tempoh dengan jumlah tambahan kepada baki tunai.

[15 markah]

6. [a] Terangkan perkaitan antara proses menkompaun dan proses mendiskaun.
- [b] Apakah kesan ke atas nilai hadapan apabila :
- [i] kadar faedah bertambah
  - [ii] bilangan tempoh (n) berkurangan dan kenapa?
- [c] Apakah perbezaan antara anuiti dan perpituiti dan berikan dua contoh untuk setiap jenis aliran.

[15 markah]

[ATP 200]

7. [a] Bincangkan pertukaran (tradeoff) antara risiko dan pulangan yang berkaitan dengan pengurusan modal kerja.
- [b] Bincangkan kebaikan dan keburukan yang berkaitan dengan penggunaan pinjaman jangka pendek?

[15 markah]

8. [a] Apakah yang dimaksudkan dengan kadar pulangan yang dikehendaki untuk seseorang pelabur?
- [b] Apakah yang dimaksudkan dengan risiko dan bagaimanakah ia diukur untuk sesuatu aset?
- [c] Apakah yang dimaksudkan dengan garis pasaran sekuriti (SML) dan apakah yang dibayangkan olehnya?

[15 markah]

9. [a] Apakah faktor-faktor yang menentukan saiz pelaburan sesebuah firma pada akaun belum terima? Faktor yang manakah boleh dikawal oleh pengurus kewangan?
- [b] Sekiranya pada tahun-tahun yang lepas firma tidak mengalami hutang lapuk, adakah ini menandakan pengurusan kredit yang bagus? Terangkan.
- [c] Apakah cara-cara yang boleh digunakan untuk menentukan pelaburan inventori dilakukan dengan berkesan.

[15 markah]

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LAMPIRAN A

Table A-1  
Future-Value Interest Factors for One Dollar Compounded at  $k$  Percent for  $n$  Periods:  $FVIF_{k,n} = (1 + k)^n$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	25%	30%	35%
1	1.010	1.020	1.030	1.040	1.050	1.060	1.070	1.080	1.090	1.100	1.110	1.120	1.130	1.140	1.150	1.160	1.200	1.250	1.300	1.350
2	1.020	1.040	1.061	1.082	1.102	1.124	1.145	1.166	1.188	1.210	1.232	1.254	1.277	1.300	1.322	1.346	1.440	1.562	1.690	1.822
3	1.030	1.061	1.093	1.125	1.158	1.191	1.225	1.260	1.295	1.331	1.368	1.405	1.443	1.482	1.521	1.561	1.728	1.953	2.197	2.460
4	1.041	1.082	1.126	1.170	1.216	1.262	1.311	1.360	1.412	1.464	1.518	1.574	1.630	1.689	1.749	1.811	2.074	2.441	2.856	3.321
5	1.051	1.104	1.159	1.217	1.276	1.338	1.403	1.469	1.539	1.611	1.685	1.762	1.842	1.925	2.011	2.100	2.488	3.052	3.713	4.484
6	1.062	1.126	1.194	1.265	1.340	1.419	1.501	1.587	1.677	1.772	1.870	1.974	2.082	2.195	2.313	2.436	2.986	3.815	4.827	6.053
7	1.072	1.149	1.230	1.316	1.407	1.504	1.606	1.714	1.828	1.949	2.076	2.211	2.353	2.502	2.660	2.826	3.586	4.768	6.275	8.172
8	1.083	1.172	1.267	1.369	1.477	1.594	1.718	1.851	1.993	2.144	2.305	2.476	2.658	2.853	3.059	3.278	4.300	5.960	8.157	11.032
9	1.094	1.195	1.305	1.423	1.551	1.689	1.838	1.999	2.172	2.358	2.558	2.773	3.004	3.252	3.518	3.803	5.160	7.451	10.604	14.894
10	1.105	1.219	1.344	1.480	1.629	1.791	1.967	2.159	2.367	2.594	2.839	3.106	3.395	3.707	4.046	4.411	6.192	9.313	13.786	20.106
11	1.116	1.243	1.384	1.539	1.710	1.898	2.105	2.332	2.580	2.853	3.152	3.479	3.836	4.226	4.652	5.117	7.430	11.642	17.921	27.144
12	1.127	1.268	1.426	1.601	1.796	2.012	2.252	2.518	2.813	3.138	3.498	3.896	4.334	4.818	5.350	5.936	8.916	14.552	23.298	36.644
13	1.138	1.294	1.469	1.665	1.886	2.133	2.410	2.720	3.066	3.452	3.883	4.363	4.898	5.492	6.153	6.886	10.699	18.190	30.287	49.469
14	1.149	1.319	1.513	1.732	1.980	2.261	2.579	2.937	3.342	3.797	4.310	4.887	5.535	6.261	7.076	7.987	12.839	22.737	39.373	66.784
15	1.161	1.346	1.558	1.801	2.079	2.397	2.759	3.172	3.642	4.177	4.785	5.474	6.254	7.138	8.137	9.265	15.407	28.422	51.185	90.158
16	1.173	1.373	1.605	1.873	2.183	2.540	2.952	3.426	3.970	4.595	5.311	6.130	7.067	8.137	9.358	10.748	18.488	35.527	66.541	121.71
17	1.184	1.400	1.653	1.948	2.292	2.693	3.159	3.700	4.328	5.054	5.895	6.866	7.986	9.276	10.761	12.468	22.186	44.409	86.503	164.31
18	1.196	1.428	1.702	2.026	2.407	2.854	3.380	3.996	4.717	5.560	6.543	7.690	9.024	10.575	12.375	14.462	26.623	55.511	112.45	221.82
19	1.208	1.457	1.753	2.107	2.527	3.026	3.616	4.316	5.142	6.116	7.263	8.613	10.197	12.035	14.232	16.776	31.948	69.389	146.19	299.46
20	1.220	1.486	1.806	2.191	2.653	3.207	3.870	4.661	5.604	6.727	8.062	9.646	11.523	13.743	16.366	19.461	38.337	86.736	190.05	404.27
21	1.232	1.516	1.860	2.279	2.786	3.399	4.140	5.034	6.109	7.400	8.949	10.804	13.021	15.667	18.821	22.574	46.005	108.42	247.06	545.76
22	1.245	1.546	1.916	2.370	2.925	3.603	4.430	5.436	6.658	8.140	9.933	12.100	14.713	17.861	21.644	26.186	55.205	135.53	321.18	736.78
23	1.257	1.577	1.974	2.465	3.071	3.820	4.740	5.871	7.258	8.954	11.026	13.552	16.626	20.361	24.891	30.376	66.247	169.41	417.53	994.65
24	1.270	1.608	2.033	2.563	3.225	4.049	5.072	6.341	7.911	9.850	12.239	15.178	18.788	23.212	28.625	35.236	79.496	211.76	542.79	1342.8
25	1.282	1.641	2.094	2.666	3.386	4.292	5.427	6.848	8.623	10.834	13.585	17.000	21.230	26.461	32.918	40.874	95.395	264.70	705.63	1812.8
30	1.348	1.811	2.427	3.243	4.322	5.743	7.612	10.062	13.267	17.449	22.892	29.960	39.115	50.949	66.210	85.849	237.37	807.79	2619.9	8128.4
35	1.417	2.000	2.814	3.946	5.516	7.686	10.676	14.785	20.413	28.102	38.574	52.799	72.066	98.097	133.17	180.31	590.66	2465.2	9727.6	36448.
40	1.489	2.208	3.262	4.801	7.040	10.285	14.974	21.724	31.408	45.258	64.999	93.049	132.78	188.88	267.86	378.72	1469.7	7523.2	36118.	*
45	1.565	2.438	3.781	5.841	8.985	13.764	21.002	31.920	48.325	72.888	109.53	163.99	244.63	363.66	538.75	795.43	3657.2	22959.	*	*
50	1.645	2.691	4.384	7.106	11.467	18.419	29.456	46.900	74.354	117.39	184.56	289.00	450.71	700.20	1083.6	1670.7	9100.2	70065.	*	*

\*FVIF > 99,999.

Table A-2  
Future-Value Interest Factors for a One-Dollar Annuity Compounded at  $k$  Percent for  $n$  Periods:  $FVIFA_{k,n} = \sum_{t=1}^n (1 + k)^{t-1}$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	25%	30%	35%
1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2	2.010	2.020	2.030	2.040	2.050	2.060	2.070	2.080	2.090	2.100	2.110	2.120	2.130	2.140	2.150	2.160	2.200	2.250	2.300	2.350
3	3.030	3.060	3.091	3.122	3.152	3.184	3.215	3.246	3.278	3.310	3.342	3.374	3.407	3.440	3.472	3.506	3.640	3.813	3.990	4.172
4	4.060	4.122	4.184	4.246	4.310	4.375	4.440	4.506	4.573	4.641	4.710	4.779	4.850	4.921	4.993	5.066	5.368	5.766	6.187	6.633
5	5.101	5.204	5.309	5.416	5.526	5.637	5.751	5.867	5.985	6.105	6.228	6.353	6.480	6.610	6.742	6.877	7.442	8.207	9.043	9.954
6	6.152	6.308	6.468	6.633	6.802	6.975	7.153	7.336	7.523	7.716	7.913	8.115	8.323	8.535	8.754	8.977	9.930	11.259	12.756	14.438
7	7.214	7.434	7.662	7.898	8.142	8.394	8.654	8.923	9.200	9.487	9.783	10.089	10.405	10.730	11.067	11.414	12.916	15.073	17.583	20.492
8	8.286	8.583	8.892	9.214	9.549	9.897	10.260	10.637	11.028	11.436	11.859	12.300	12.757	13.233	13.727	14.240	16.499	19.842	23.858	28.664
9	9.368	9.755	10.159	10.583	11.027	11.491	11.978	12.488	13.021	13.579	14.164	14.776	15.416	16.085	16.786	17.518	20.799	25.802	32.015	39.696
10	10.462	10.950	11.464	12.006	12.578	13.181	13.816	14.487	15.193	15.937	16.722	17.549	18.420	19.337	20.304	21.321	25.959	33.253	42.619	54.590
11	11.567	12.169	12.808	13.486	14.207	14.972	15.784	16.645	17.560	18.531	19.561	20.655	21.814	23.044	24.349	25.733	32.150	42.566	56.405	74.696
12	12.682	13.412	14.192	15.026	15.917	16.870	17.888	18.977	20.141	21.384	22.713	24.133	25.650	27.271	29.001	30.850	39.580	54.208	74.326	101.84
13	13.809	14.680	15.618	16.627	17.713	18.882	20.141	21.495	22.953	24.523	26.211	28.029	29.984	32.088	34.352	36.786	48.496	68.760	97.624	138.48
14	14.947	15.974	17.086	18.292	19.598	21.015	22.550	24.215	26.019	27.975	30.095	32.392	34.882	37.581	40.504	43.672	59.196	86.949	127.91	187.95
15	16.097	17.293	18.599	20.023	21.578	23.276	25.129	27.152	29.361	31.772	34.405	37.280	40.417	43.842	47.580	51.659	72.035	109.69	167.29	254.74
16	17.258	18.639	20.157	21.824	23.657	25.672	27.888	30.324	33.003	35.949	39.190	42.753	46.671	50.980	55.717	60.925	87.442	138.11	218.47	344.90
17	18.430	20.012	21.761	23.697	25.840	28.213	30.840	33.750	36.973	40.544	44.500	48.883	53.738	59.117	65.075	71.673	105.93	173.64	285.01	466.61
18	19.614	21.412	23.414	25.645	28.132	30.905	33.999	37.450	41.301	45.599	50.396	55.749	61.724	68.393	75.836	84.140	128.12	218.05	371.51	630.92
19	20.811	22.840	25.117	27.671	30.539	33.760	37.379	41.446	46.018	51.158	56.939	63.439	70.748	78.968	88.211	98.603	154.74	273.56	483.97	852.74
20	22.019	24.297	26.870	29.778	33.066	36.785	40.995	45.762	51.159	57.274	64.202	72.052	80.946	91.024	102.44	115.38	186.69	342.95	630.16	1152.2
21	23.239	25.783	28.676	31.969	35.719	39.992	44.865	50.422	56.764	64.002	72.264	81.698	92.468	104.77	118.81	134.84	225.02	429.68	820.20	1556.5
22	24.471	27.299	30.536	34.248	38.505	43.392	49.005	55.456	62.872	71.402	81.213	92.502	105.49	120.43	137.63	157.41	271.03	538.10	1067.3	2102.2
23	25.716	28.845	32.452	36.618	41.430	46.995	53.435	60.893	69.531	79.542	91.147	10								

SAMBUNGAN LAMPIRAN A

Table A-3  
Present-Value Interest Factors for One Dollar Discounted at  $k$  Percent for  $n$  Periods:  $PVIF_{k,n} = 1/(1+k)^n$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	25%	30%	35%
1	.990	.980	.971	.962	.952	.943	.935	.926	.917	.909	.901	.893	.885	.877	.870	.862	.855	.847	.840	.833	.800	.769	.741
2	.980	.961	.943	.925	.907	.890	.873	.857	.842	.826	.812	.797	.783	.769	.756	.743	.731	.718	.706	.694	.640	.592	.549
3	.971	.942	.915	.889	.864	.840	.816	.794	.772	.751	.731	.712	.693	.675	.658	.641	.624	.609	.593	.579	.512	.455	.406
4	.961	.924	.888	.855	.823	.792	.763	.735	.708	.683	.659	.636	.613	.592	.572	.552	.534	.516	.499	.482	.410	.350	.301
5	.951	.906	.863	.822	.784	.747	.713	.681	.650	.621	.593	.567	.543	.519	.497	.476	.456	.437	.419	.402	.328	.269	.223
6	.942	.888	.837	.790	.746	.705	.666	.630	.596	.564	.535	.507	.480	.456	.432	.410	.390	.370	.352	.335	.262	.207	.165
7	.933	.871	.813	.760	.711	.665	.623	.583	.547	.513	.482	.452	.425	.400	.376	.354	.333	.314	.296	.279	.210	.159	.122
8	.923	.853	.789	.731	.677	.627	.582	.540	.502	.467	.434	.404	.376	.351	.327	.305	.285	.266	.249	.233	.168	.123	.091
9	.914	.837	.766	.703	.645	.592	.544	.500	.460	.424	.391	.361	.333	.308	.284	.263	.243	.225	.209	.194	.134	.094	.067
10	.905	.820	.744	.676	.614	.558	.508	.463	.422	.386	.352	.322	.295	.270	.247	.227	.208	.191	.176	.162	.107	.073	.050
11	.896	.804	.722	.650	.585	.527	.475	.429	.388	.350	.317	.287	.261	.237	.215	.195	.178	.162	.148	.135	.086	.056	.037
12	.887	.789	.701	.625	.557	.497	.444	.397	.356	.319	.286	.257	.231	.208	.187	.168	.152	.137	.124	.112	.069	.043	.027
13	.879	.773	.681	.601	.530	.469	.415	.368	.326	.290	.258	.229	.204	.182	.163	.145	.130	.116	.104	.093	.055	.033	.020
14	.870	.758	.661	.577	.505	.442	.388	.340	.299	.263	.232	.205	.181	.160	.141	.125	.111	.099	.088	.078	.044	.025	.015
15	.861	.743	.642	.555	.481	.417	.362	.315	.275	.239	.209	.183	.160	.140	.123	.108	.095	.084	.074	.065	.035	.020	.011
16	.853	.728	.623	.534	.458	.394	.339	.292	.252	.218	.188	.163	.141	.123	.107	.093	.081	.071	.062	.054	.028	.015	.008
17	.844	.714	.605	.513	.436	.371	.317	.270	.231	.198	.170	.146	.125	.108	.093	.080	.069	.060	.052	.045	.023	.012	.006
18	.836	.700	.587	.494	.416	.350	.296	.250	.212	.180	.153	.130	.111	.095	.081	.069	.059	.051	.044	.038	.018	.009	.005
19	.828	.686	.570	.475	.396	.331	.277	.232	.194	.164	.138	.116	.098	.083	.070	.060	.051	.043	.037	.031	.014	.007	.003
20	.820	.673	.554	.456	.377	.312	.258	.215	.178	.149	.124	.104	.087	.073	.061	.051	.043	.037	.031	.026	.012	.005	.002
21	.811	.660	.538	.439	.359	.294	.242	.199	.164	.135	.112	.093	.077	.064	.053	.044	.037	.031	.026	.022	.009	.004	.002
22	.803	.647	.522	.422	.342	.278	.226	.184	.150	.123	.101	.083	.068	.056	.046	.038	.032	.026	.022	.018	.007	.003	.001
23	.795	.634	.507	.406	.326	.262	.211	.170	.138	.112	.091	.074	.060	.049	.040	.033	.027	.022	.018	.015	.006	.002	.001
24	.788	.622	.492	.390	.310	.247	.197	.158	.126	.102	.082	.066	.053	.043	.035	.028	.023	.019	.015	.013	.005	.002	.001
25	.780	.610	.478	.375	.295	.233	.184	.146	.116	.092	.074	.059	.047	.038	.030	.024	.020	.016	.013	.010	.004	.001	.001
30	.742	.552	.412	.308	.231	.174	.131	.099	.075	.057	.044	.033	.026	.020	.015	.012	.009	.007	.005	.004	.001	*	*
35	.706	.500	.355	.253	.181	.130	.094	.068	.049	.036	.026	.019	.014	.010	.008	.006	.004	.003	.002	.002	*	*	*
40	.672	.453	.307	.208	.142	.097	.067	.046	.032	.022	.015	.011	.008	.005	.004	.003	.002	.001	.001	.001	*	*	*
45	.639	.410	.264	.171	.111	.073	.048	.031	.021	.014	.009	.006	.004	.003	.002	.001	.001	.001	*	*	*	*	*
50	.608	.372	.228	.141	.087	.054	.034	.021	.013	.009	.005	.003	.002	.001	.001	.001	*	*	*	*	*	*	*

\*PVIF = .000 when rounded to three decimal places.

Table A-4  
Present-Value Interest Factors for a One-Dollar Annuity Discounted at  $k$  Percent for  $n$  Periods:  $PVIFA_{k,n} = \sum_{t=1}^n 1/(1+k)^t$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	25%	30%	35%
1	.990	.980	.971	.962	.952	.943	.935	.926	.917	.909	.901	.893	.885	.877	.870	.862	.855	.847	.840	.833	.800	.769	.741
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736	1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528	1.440	1.361	1.289
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106	1.952	1.816	1.696
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589	2.362	2.166	1.997
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991	2.689	2.436	2.220
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326	2.951	2.643	2.385
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605	3.161	2.802	2.508
8	7.652	7.326	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837	3.329	2.925	2.598
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031	3.463	3.019	2.665
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192	3.570	3.092	2.715
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327	3.656	3.147	2.752
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814	6.492	6.194	5.918	5.660	5.421	5.197	4.988	4.793	4.611	4.439	3.725	3.190	2.779
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.013	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533	3.780	3.223	2.799
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611	3.824	3.249	2.814
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.560	8.061	7.606	7.181	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675	3.859	3.268	2.825
16	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824	7.379	6.974	6.604	6.265	5.954	5.668	5.405	5.162	4.938	4.730	3.887	3.283	2.834
17	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022	7.549	7.120	6.729	6.373	6.047	5.749	5.475	5.222	4.990	4.775	3.910	3.295	2.840
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201	7.702	7.250	6.840	6.467	6.128	5.818	5.534	5.273	5.033	4.812	3.928	3.304	2.844
19	17.226	15.679	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365	7.839	7.366	6.938	6.550	6.198	5.877	5.584	5.316	5.070	4.843	3.942	3.311	2.848
20	18.046	16.352	14.878	13.590	12.462	11.470	10.594	9.818	9.129	8.514	7.963	7.469	7.025	6.623	6.259	5.929	5.628	5.353	5.101	4.870	3.954	3.326	2.850
21	18.857	17.011	15.415	14.029	12.821	11.764	10.836	10.017	9.292	8.649	8.075	7.562	7.102	6.687	6.312	5.973	5.665	5.384	5.127	4.891	3.963	3.320	2.852
22	19.661	17.658	15.937	14.451	13.163	12.042	11.061	10.201	9.442	8.772	8.176	7.645	7.170	6.743	6.359	6.011	5.696	5.410	5.149	4.909	3.970	3.323	2.853
23	20.456	18.292	16.444	14.857	13.489	12.303	11.272	10.371	9.580	8.883	8.266	7.718	7.230	6.792	6.399	6.044	5.723	5.432	5.167	4.925	3.976	3.325	2.854
24	21.244	18.914	16.936	15.247	13.799	12.550	11.469	10.529	9.707	8.985	8.348	7.784	7.283	6.835									