

SULIT



**BAHAGIAN PEPERIKSAAN DAN PENILAIAN
JABATAN PENDIDIKAN POLITEKNIK
KEMENTERIAN PENDIDIKAN TINGGI**

JABATAN PERDAGANGAN

**PEPERIKSAAN AKHIR
SESI DISEMBER 2015**

PB604: BUSINESS FINANCE

**TARIKH : 13 APRIL 2016
MASA : 11.15 AM – 1.15 PM (2 JAM)**

Kertas ini mengandungi **TIGA BELAS (13)** halaman bercetak.
Bahagian A: Struktur (1 soalan)
Bahagian B: Struktur (4 soalan)
Dokumen sokongan yang disertakan : Jadual PVIF & PVIFA

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

SULIT

SECTION A: 25 MARKS
BAHAGIAN A: 25 MARKAH

INSTRUCTION:
 Answer ALL questions

ARAHAN:
 Jawab **SEMUA** soalan

QUESTION 1
SOALAN 1

A financial analyst has collected financial information of two companies for the year of 2015. The information is as follow.

Seorang penganalisis kewangan telah mengumpul maklumat kewangan untuk dua buah syarikat bagi tahun 2015. Berikut merupakan maklumat tersebut:

<u>ITEM</u>	<u>LUQMAN AL-HAKIM BHD</u>	<u>ALI IMRAN BHD</u>
Average selling price/ <i>Purata harga jualan</i>	RM35	RM27
Sales/ <i>Jualan (unit)</i>	1,500	1,850
Interest expenses/ <i>Belanja faedah</i>	RM750	RM1,000
Variable cost (% from sales) / <i>Kos berubah (% daripada jualan)</i>	60%	45%
Fixed cost/ <i>Kos tetap</i>	RM10,000	RM7,000
Dividend of preferred share/ <i>Dividen saham terutama</i>	RM1,000	RM0
Ordinary share/ <i>Saham biasa</i>	5,000	8,000

CLO1
C5

- a) Prepare an income statement for each company. Assumed that every company in the industry is taxed at 27%.

Sediakan penyata pendapatan bagi setiap syarikat. Andaikan setiap syarikat di dalam industri tersebut dikenakan cukai sebanyak 27%.

[8 marks]

[8 markah]

CLO1
C3

- b) Based on the prepared income statement in (a), for each company, calculate:

Berpandukan penyata pendapatan yang disediakan di (a), kirakan bagi setiap syarikat:

- i. Degree operating leverage (DOL).

Darjah leveraj operasi .

[3 marks]

[3 markah]

- ii. Degree financial leverage (DFL).

Darjah leveraj kewangan.

[3 marks]

[3 markah]

- iii. Degree combined leverage (DCL).

Darjah gabungan leveraj.

[3 marks]

[3 markah]

CLO1
C4

- c) If sales increase by 20%, how much is the increment in percentage (%) of the earning per share (EPS) for both companies?

Jika jualan meningkat sebanyak 20%, berapa banyakkah peningkatan dalam peratus(%) bagi pendapatan sesaham (EPS) untuk kedua-dua syarikat?

[4 marks]

[4 markah]

CLO1
C4

- d) Determine which company would have greater change in earnings per share (EPS).

Tentukan syarikat manakah yang akan mengalami perubahan perolehan sesaham yang paling banyak.

[4 marks]

[4 markah]

SECTION B : 75 MARKS

BAHAGIAN B : 75 MARKAH

INSTRUCTION:

This section consists of **FOUR (4)** structured questions. Answer **THREE (3)** questions **ONLY**.

ARAHAN:

Bahagian ini mengandungi **EMPAT (4)** soalan struktur. Jawab **TIGA** soalan **SAHAJA**.

QUESTION 1

SOALAN 1

CLO1
C2

- (a) i. Briefly explain :
Terangkan secara ringkas :

TWO (2) types of risk

DUA (2) jenis risiko

[4 marks]

[4 markah]

- ii. State **THREE (3)** types of investor's preference towards risk.

Nyatakan **TIGA (3)** jenis pelabur terhadap risiko.

[3 marks]

[3 markah]

CLO1
C3

- (b) Multitask Enterprise that is still new in the market is planning to invest some funds to make money. The approach used is based on low-risk motive. Two security investment options, which are LARA stock and NANA stock have the following information:

Multitask Enterprise yang masih baru di pasaran bercadang untuk melabur sedikit wang untuk mendapatkan pulangan. Pendekatan yang digunakan adalah berdasarkan motif yang berisiko rendah. Dua pilihan pelaburan iaitu Saham LARA dan saham NANA mempunyai maklumat seperti berikut:

LARA STOCK		NANA STOCK	
Probability <i>Kebarangkalian</i>	RM	Probability <i>Kebarangkalian</i>	RM
0.20	7,200	0.30	5,200
0.30	8,400	0.30	5,200
0.50	9,200	0.40	7,200

Based on the given information:

Berdasarkan maklumat yang diberi:

- (i) Calculate the expected returns for each stock.

Kira pulangan dijangka bagi setiap saham.

[4 marks]

[4 markah]

- (ii) Calculate standard deviation of expected returns for each stock

Kira sisihan piawai pulangan dijangka bagi setiap saham.

[6 marks]

[6 markah]

- (iii) Calculate the coefficient of variation (CV) for each stock.

Kira pekali variasi bagi setiap saham.

[6 marks]

[6 markah]

- (iv) Which stock should be chosen based on the calculation? State your reason.

Saham yang manakah yang sepatutnya dipilih berdasarkan pengiraan?

Nyatakan sebabnya.

[2 marks]

[2 markah]

QUESTION 2

SOALAN 2

CLO1
C1

- (a) List down **TWO (2)** purposes of financial ratios.

Senaraikan DUA (2) tujuan nisbah kewangan.

[2 marks]

[2 markah]

CLO1
C1

- (b) Explain **THREE (3)** limitations of using financial analysis.

Terangkan TIGA (3) batasan terhadap penggunaan analisis kewangan.

[3 marks]

[3 markah]

CLO1
C3

- (c) The following financial information is provided to you by the finance manager of Uterus Berhad to prepare the company's financial analysis.

Pengurus kewangan di Uterus Berhad menyediakan maklumat kewangan berikut kepada anda untuk membuat analisis kewangan syarikat.

Uterus Berhad Statement of Comprehensive Income for the year ended 31st Dec 2014 Penyata Pendapatan bagi tahun berakhir 31 Disember 2014		
		<u>RM</u>
Sales/Jualan : Credit/Kredit	90,000	
: Cash/Tunai	20,000	110,000
Cost of goods sold / Kos barang dijual		(78,000)
Gross Profit / Untung Kasar		32,000
Operating Expenditure / Perbelanjaan Operasi		20,000
Operating Profit / Pendapatan Operasi		12,000
Bank Interest / Faedah Bank		(2,500)
Earnings Before Tax (EBT) / Pendapatan sebelum cukai		9,500
Tax/Cukai (40%)		(3,800)
Earnings After Tax (EAT) / Pendapatan selepas cukai		5,700
Preferred shares dividend / Dividen saham keutamaan		(1,020)
Net Income for Ordinary Shareholder / Pendapatan bersih untuk pemegang saham biasa		4,680

Uterus Berhad Statement of Financial Position as at 31 st Dec 2014 Pernyata Kedudukan Kewangan pada 31 Disember 2014		
	<u>RM</u>	<u>RM</u>
Current Asset / Aset semasa		
Cash / Tunai	1,000	
Account Receivable / Akaun belum terima	8,900	
Inventory / Inventori	4,350	
Total Current Asset / Jumlah Aset Semasa		14,250
Non-Current Asset / Aset Bukan Semasa		
Equipment / Peralatan	35,000	
(-) Accumulated Depreciation / Susutnilai terkumpul	(13,250)	
Net Non-Current Asset / Aset bukan semasa bersih		21,750
TOTAL ASSET / JUMLAH ASET		36,000
Current Liability / Liabiliti semasa		
Payable Account / Akaun belum bayar	8,000	
Accrual Account / Akaun Tertunggak	6,675	
Total Current Liability / Jumlah liabiliti semasa		14,675
Long Term Loan / Pinjaman Jangka panjang		5,125
Total Liability / Jumlah Liabiliti		19,800
Owner Equity / Ekuiti Pemilik		
Preferred Share / Saham Keutamaan	2,000	
Ordinary Share / Saham Biasa	1,000	
Retained Earning / Pendapatan Tertahan	13,200	
Total Equity / Jumlah Ekuiti		16,200
TOTAL LIABILITY AND OWNER EQUITY / JUMLAH LIABILITI DAN EKUITI PEMILIK		36,000

Based on the above financial information, calculate the following financial ratios for Uterus Bhd.

Berdasarkan penyata kewangan di atas, kirakan nisbah kewangan berikut bagi Uterus Bhd.

- Current Ratio / Nisbah semasa.
- Quick Ratio / Nisbah cepat.
- Inventory Turnover / Pusingganti Inventori.
- Average Collection Period / Tempoh Purata Kutipan.
- Total Asset Turnover / Pusingganti Jumlah Aset.

- vi. Debt Ratio / *Nisbah Hutang*.
- vii. Gross Profit Margin / *Margin Untung kasar*.
- viii. Net Profit Margin / *Margin Untung bersih*.
- ix. Return on Asset (ROA) / *Pulangan Atas Aset*.
- x. Return on Equity (ROE) / *Pulangan Atas ekuiti*.

[20 marks]
[20 markah]

QUESTION 3 SOALAN 3

- a) Hanadia Corporation is currently producing cameras that require 200,000 units of raw material every year. The carrying cost is 20% from the purchase price of the goods. Ordering cost is estimated at RM90.00. Goods are purchased at RM2 per unit. The management team has decided to keep 10,000 units as safety stocks. Company supplier usually take 7 days to deliver the stock to the company.

Hanadia Corporation mengeluarkan kamera yang memerlukan 200,000 unit bahan mentah setiap tahun. Kos pembawaan dikenakan sebanyak 20% daripada harga belian barang tersebut. Kos tempahan di anggarkan sebanyak RM90.00. Harga belian se unit adalah pada RM2. Pihak pengurusan telah mengambil keputusan untuk menyimpan stok sebanyak 10,000 unit sebagai stok keselamatan. Pembekal syarikat biasanya mengambil masa 7 hari untuk menghantar stok kepada syarikat.

CLO1
C3

Assume that the company works 50 weeks in a year. Calculate:
Dengan menganggap syarikat bekerja selama 50 minggu setahun, kira:

- i. Economic Order Quantity (EOQ).

Kuantiti tempahan ekonomik.

[4 marks]
[4 markah]

- ii. Number of order in a year.

Bilangan pesanan dalam setahun.

[4 marks]
[4 markah]

- iii. Reorder point.

Tingkat pesanan semula.

[5 marks]
[5 markah]

- iv. Average inventory.

Purata inventori.

[4marks]
[4 markah]

CLO1
C3

- b) Calculate cost of effective credit for each of the terms below:

Kira kos efektif kredit untuk setiap terma di bawah:

- i. 1/10 net 20.
- ii. 2/10 net 40.
- iii. 3/15 net 30.
- iv. 3/10 net 60.

[8 marks]
[8 markah]

QUESTION 4

SOALAN 4

The operation manager of Black Morest Bhd is planning to increase production of the company. He therefore considers to replace a manually operated machine, which was purchased 8 years ago, with an automatic machine. The details of both machines are as follows:

Pengurus operasi Black Morest Bhd merancang untuk meningkatkan produksi syarikat.. Pengurus operasi mempertimbangkan untuk menggantikan mesin operasi manual, yang mana di beli 8 tahun lalu, dengan mesin automatik. Maklumat terperinci mengenai kedua mesin tersebut adalah seperti berikut.

MANUAL MACHINE (MESIN MANUAL)		AUTOMATIC MACHINE (MESIN AUTOMATIK)
5 years left (baki 5 tahun)	Expected life (Jangkaan hayat)	5 years/tahun
RM40,000	Purchase price (Harga belian)	RM50,000
-	Installation expenses (Perbelanjaan pemasangan)	RM2,000
-	Transportation expenses (Perbelanjaan pengangkutan)	RM2,000
-	Insurance (Insuran)	RM4,000
-	Salvage value (Baki sisa)	RM15,000
RM4,000	Maintenance expenses (Perbelanjaan penyelenggaraan)	RM5,500
RM4,000	Defect (Kerosakan)	RM2,000
RM20,000	Salary (Gaji)	-
	Increase in working capital	RM10,000

Assumptions:

Andaian:

- Tax rate is 28%.
Kadar cukai 28%.
- Fully qualified for 10% investment tax credit.
Berkelayakan untuk mendapatkan kredit cukai pelaburan sebanyak 10%.
- Depreciation method – simplified straight - line method.
Kaedah susutnilai – mudah - kaedah garis lurus .
- Depreciation rate – according to accounting method.
Kadar susutnilai – berdasarkan kaedah perakaunan.
- Tax are paid in the same year the income is received .
Cukai dibayar pada tahun yang sama pendapatan diterima.
- Cost of capital is 15%.
Kos modal adalah 15%.
- Current selling price for the manually operated machine is RM15,000.
Harga jualan semasa untuk mesin manual adalah RM15,000.

CLO1
C3

Required to calculate:

Dikehendaki untuk mengira:

i) Initial Outlay.

Perbelanjaan permulaan.

[10 marks]
[10 markah]

ii) Net cash flow over a project's life.

Aliran tunai bersih sepanjang tempoh projek.

[9 marks]
[9 markah]

iii) Terminal cash flow.

Aliran tunai penamat.

[4 marks]
[4 markah]

- iv) Should the manual operated machine be replaced by the automatic machine?
State your reason.

Patutkah mesin operasi manual tersebut diganti dengan mesin automatic?
Nyatakan alasan anda.

[2 marks]
[2 markah]

SOALAN TAMAT

Present value interest factor (PVIF)

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402
6	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386	0.352	0.322	0.295	0.270	0.247	0.225	0.208	0.191	0.176	0.162
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239	0.209	0.183	0.160	0.140	0.123	0.107	0.093	0.081	0.071	0.062
16	0.853	0.728	0.623	0.534	0.458	0.394	0.339	0.292	0.252	0.218	0.188	0.163	0.141	0.123	0.107	0.093	0.081	0.071	0.062	0.054
17	0.844	0.714	0.605	0.513	0.436	0.371	0.317	0.270	0.231	0.198	0.170	0.146	0.125	0.108	0.093	0.081	0.069	0.060	0.052	0.045
18	0.836	0.700	0.587	0.494	0.416	0.350	0.296	0.250	0.212	0.180	0.153	0.130	0.111	0.095	0.081	0.069	0.060	0.051	0.043	0.037
19	0.828	0.686	0.570	0.475	0.396	0.331	0.277	0.232	0.194	0.164	0.138	0.116	0.098	0.083	0.070	0.060	0.051	0.043	0.037	0.031
20	0.820	0.673	0.554	0.456	0.377	0.312	0.258	0.215	0.178	0.149	0.124	0.104	0.087	0.073	0.061	0.051	0.043	0.037	0.031	0.026
21	0.811	0.660	0.538	0.439	0.359	0.294	0.242	0.199	0.164	0.135	0.112	0.093	0.077	0.064	0.053	0.044	0.037	0.031	0.026	0.022
22	0.803	0.647	0.522	0.422	0.342	0.278	0.226	0.184	0.150	0.123	0.101	0.083	0.068	0.056	0.046	0.038	0.032	0.026	0.022	0.018
23	0.795	0.634	0.507	0.406	0.326	0.262	0.211	0.170	0.138	0.112	0.091	0.074	0.060	0.049	0.040	0.033	0.027	0.022	0.018	0.015
24	0.788	0.622	0.492	0.390	0.310	0.247	0.197	0.158	0.126	0.102	0.082	0.066	0.053	0.043	0.035	0.028	0.023	0.019	0.015	0.013
25	0.780	0.610	0.478	0.375	0.295	0.233	0.184	0.146	0.116	0.092	0.074	0.059	0.047	0.038	0.030	0.024	0.020	0.016	0.013	0.010
26	0.772	0.598	0.464	0.361	0.281	0.220	0.172	0.135	0.106	0.084	0.066	0.053	0.042	0.033	0.026	0.021	0.017	0.014	0.011	0.009
27	0.764	0.586	0.450	0.347	0.268	0.207	0.161	0.125	0.098	0.076	0.060	0.047	0.037	0.029	0.023	0.018	0.014	0.011	0.009	0.007
28	0.757	0.574	0.437	0.333	0.255	0.196	0.150	0.116	0.090	0.069	0.054	0.042	0.033	0.026	0.020	0.016	0.012	0.010	0.008	0.006
29	0.749	0.563	0.424	0.321	0.243	0.185	0.141	0.107	0.082	0.063	0.048	0.037	0.029	0.022	0.017	0.014	0.011	0.008	0.006	0.005
30	0.742	0.552	0.412	0.308	0.231	0.174	0.131	0.099	0.075	0.057	0.044	0.033	0.026	0.020	0.015	0.012	0.009	0.007	0.005	0.004
31	0.735	0.541	0.400	0.296	0.220	0.164	0.123	0.092	0.069	0.052	0.039	0.030	0.023	0.017	0.013	0.010	0.008	0.006	0.005	0.004
32	0.727	0.531	0.388	0.285	0.210	0.155	0.115	0.085	0.063	0.047	0.035	0.027	0.020	0.015	0.011	0.009	0.007	0.005	0.004	0.003
33	0.720	0.520	0.377	0.274	0.200	0.146	0.107	0.079	0.058	0.043	0.032	0.024	0.018	0.013	0.010	0.007	0.006	0.004	0.003	0.002
34	0.713	0.510	0.366	0.264	0.190	0.138	0.100	0.073	0.053	0.039	0.029	0.021	0.016	0.012	0.009	0.006	0.005	0.004	0.003	0.002
35	0.706	0.500	0.355	0.253	0.181	0.130	0.094	0.068	0.049	0.036	0.026	0.019	0.014	0.010	0.008	0.006	0.004	0.003	0.002	0.002
36	0.699	0.490	0.345	0.244	0.173	0.123	0.088	0.063	0.045	0.032	0.023	0.017	0.012	0.009	0.007	0.005	0.004	0.003	0.002	0.001
37	0.692	0.481	0.335	0.234	0.164	0.116	0.082	0.058	0.041	0.029	0.021	0.015	0.011	0.008	0.006	0.004	0.003	0.002	0.001	0.001
38	0.685	0.471	0.325	0.225	0.157	0.109	0.076	0.054	0.038	0.027	0.019	0.013	0.010	0.007	0.005	0.004	0.003	0.002	0.001	0.001
39	0.678	0.462	0.316	0.217	0.149	0.103	0.071	0.050	0.035	0.024	0.017	0.012	0.009	0.006	0.004	0.003	0.002	0.001	0.001	0.001
40	0.672	0.453	0.307	0.208	0.142	0.097	0.067	0.046	0.032	0.022	0.015	0.011	0.008	0.005	0.004	0.003	0.002	0.001	0.001	0.001
41	0.665	0.444	0.298	0.200	0.135	0.092	0.062	0.043	0.029	0.020	0.014	0.010	0.007	0.005	0.003	0.002	0.001	0.001	0.001	0.001
42	0.658	0.435	0.289	0.193	0.129	0.087	0.058	0.039	0.027	0.018	0.012	0.009	0.006	0.004	0.003	0.002	0.001	0.001	0.001	0.000
43	0.652	0.427	0.282	0.188	0.123	0.082	0.055	0.037	0.025	0.017	0.011	0.008	0.005	0.004	0.002	0.001	0.001	0.001	0.000	0.000
44	0.645	0.418	0.272	0.178	0.117	0.077	0.051	0.034	0.023	0.015	0.010	0.007	0.005	0.003	0.002	0.001	0.001	0.000	0.000	0.000
45	0.639	0.410	0.264	0.171	0.111	0.073	0.048	0.031	0.021	0.014	0.009	0.006	0.004	0.003	0.002	0.001	0.001	0.000	0.000	0.000
46	0.633	0.402	0.257	0.165	0.106	0.069	0.044	0.029	0.019	0.012	0.008	0.005	0.004	0.002	0.001	0.001	0.001	0.000	0.000	0.000
47	0.626	0.394	0.249	0.158	0.101	0.065	0.042	0.027	0.017	0.011	0.007	0.005	0.003	0.002	0.001	0.001	0.001	0.000	0.000	0.000
48	0.620	0.387	0.242	0.152	0.096	0.061	0.039	0.025	0.016	0.010	0.007	0.004	0.003	0.002	0.001	0.001	0.001	0.000	0.000	0.000
49	0.614	0.379	0.235	0.146	0.092	0.058	0.036	0.023	0.015	0.009	0.006	0.004	0.003	0.002	0.001	0.001	0.001	0.000	0.000	0.000
50	0.608	0.372	0.228	0.141	0.087	0.054	0.034	0.021	0.013	0.009	0.005	0.003	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000

Present value interest factor of an ordinary annuity (PVIFA)

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.990	0.980	0.970	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
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
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
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
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
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
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
8	7.652	7.325	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
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
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
11	10.366	9.778	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
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
13	12.134	11.348	10.635	9.966	9.344	8.753	8.358	7.904	7.487	7.103	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533
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
15	13.865	12.849	12.038	11.262	10.538	9.830	9.242	8.655	8.061	7.606	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675
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
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
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	5.817	5.534	5.273	5.033	4.812
19	17.226	15.678	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
20	18.046	16.351	14.877	13.590	12.462	11.476	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
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
22	19.660	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
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
24	21.243	18.914	16.936	15.247	13.799	12.550	11.469	10.529	9.707	9.055	8.422	7.843	7.330	6.873	6.464	6.097	5.766	5.467	5.195	4.948
25	22.023	19.523	17.413	15.622	14.094	12.793	11.654	10.675	9.823	9.077	8.422	7.843	7.330	6.873	6.464	6.097	5.766	5.467	5.195	4.948
26	22.795	20.121	17.877	16.330	14.643	13.241	11.987	10.935	10.027	9.237	8.548	7.943	7.409	6.935	6.514	6.136	5.798	5.492	5.215	4.964
27	23.560	20.707	18.327	16.930	15.144	13.591	12.278	11.158	10.198	9.307	8.560	7.922	7.409	6.935	6.514	6.136	5.798	5.492	5.215	4.964
28	24.316	21.281	18.764	17.413	15.663	13.948	12.541	11.326	10.316	9.370	8.602	7.984	7.441	6.961	6.534	6.152	5.810	5.502	5.223	4.970
29	25.066	21.844	19.188	17.988	16.188	14.391	12.927	11.658	10.598	9.607	8.793	8.122	7.538	7.003	6.566	6.177	5.829	5.517	5.235	4.979
30	25.808	22.396	19.600	18.538	16.593	14.692	13.259	11.925	10.818	9.779	8.926	8.205	7.558	7.020	6.579	6.187	5.837	5.523	5.239	4.982
31	26.542	22.938	20.000	19.077	17.000	15.000	13.591	12.227	11.051	10.116	9.307	8.560	7.922	7.387	6.944	6.551	6.166	5.810	5.492	5.229
32	27.270	23.468	20.389	19.549	17.413	15.413	13.948	12.541	11.326	10.316	9.370	8.602	7.984	7.441	6.961	6.534	6.152	5.810	5.502	5.223
33	27.990	23.989	20.766	19.966	17.818	15.818	14.227	12.754	11.514	10.464	9.569	8.801	8.135	7.596	7.048	6.600	6.203	5.849	5.532	5.246
34	28.703	24.499	21.132	20.411	18.181	16.181	14.498	12.948	11.655	10.567	9.644	8.855	8.176	7.586	7.070	6.617	6.215	5.858	5.539	5.251
35	29.408	24.999	21.487	20.865	18.545	16.545	14.737	13.035	11.717	10.512	9.677	8.879	8.192	7.598	7.079	6.623	6.220	5.862	5.541	5.253
36	30.108	25.489	21.832	21.308	18.908	16.847	14.921	13.193	11.875	10.653	9.706	8.900	8.208	7.609	7.087	6.629	6.224	5.865	5.545	5.255
37	30.800	25.969	22.167	21.711	19.143	17.111	14.737	13.193	11.875	10.653	9.706	8.900	8.208	7.609	7.087	6.629	6.224	5.865	5.545	5.255
38	31.485	26.441	22.492	22.098	19.368	17.368	14.846	13.193	11.875	10.653	9.706	8.900	8.208	7.609	7.087	6.629	6.224	5.865	5.545	5.255
39	32.163	26.903	22.808	22.480	19.584	17.517	14.949	13.265	11.879	10.726	9.757	8.936	8.233	7.627	7.100	6.638	6.231	5.869	5.547	5.257
40	32.835	27.355	23.115	22.841	19.793	17.659	15.046	13.332	11.925	10.757	9.779	8.951	8.244	7.634	7.105	6.642	6.233	5.871	5.548	5.258
41	33.500	27.799	23.412	23.181	19.993	17.794	15.138	13.394	11.967	10.787	9.799	8.965	8.253	7.641	7.110	6.645	6.236	5.873	5.549	5.259
42	34.158	28.235	23.701	23.516	20.186	17.923	15.225	13.452	12.007	10.813	9.817	8.977	8.262	7.647	7.114	6.648	6.239	5.874	5.550	5.260
43	34.810	28.662	23.982	23.841	20.371	18.052	15.306	13.507	12.043	10.838	9.834	8.999	8.276	7.657	7.120	6.650	6.239	5.875	5.551	5.260
44	35.455	29.080	24.254	24.166	20.549	18.177	15.385	13.558	12.077	10.861	9.849	8.999	8.276	7.657	7.120	6.652	6.241	5.876	5.552	5.261
45	36.095	29.494	24.519	24.475	20.720	18.292	15.463	13.608	12.108	10.881	9.863	9.008	8.283	7.661	7.123	6.654	6.242	5.877	5.552	5.261
46	36.727	29.892	24.775	24.775	20.885	18.400	15.524	13.650	12.137	10.900	9.875	9.016	8.288	7.664	7.126	6.656	6.243	5.878	5.553	5.261
47	37.354	30.287	25.025	25.025	21.043	18.511	15.589	13.692	12.164	10.918	9.887	9.024	8.293	7.668	7.128	6.657	6.244	5.879	5.554	5.262
48	37.974	30.673	25.267	25.267	21.195	18.600	15.650	13.730	12.189	10.934	9.897	9.030	8.297	7.671	7.130	6.659	6.245	5.879	5.554	5.262
49	38.588	31.052	25.502	25.502	21.341	18.691	15.708	13.767	12.212	10.948	9.906	9.036	8.301	7.673	7.131	6.660	6.246	5.880	5.554	5.262
50	39.196	31.424	25.730	25.730	21.482	18.756	15.767	13.801	12.233	10.962	9.915	9.042	8.304	7.675	7.133	6.661	6.246	5.880	5.554	5.262