SULIT

POLITEKNIK MALAYSIA

BAHAGIAN PEPERIKSAAN DAN PENILAIAN
JABATAN PENDIDIKAN POLITEKNIK
KEMENTERIAN PENDIDIKAN TINGGI

JABATAN PERDAGANGAN

PEPERIKSAAN AKHIR

SESI DISEMBER 2016

DPB5043 : BUSINESS FINANCE

TARIKH : 10 APRIL 2017
MASA : 11.15 AM - 1.15 PM (2 JAM)

Kertas ini mengandungi **SEBELAS (11)** halaman bercetak.
Struktur (4 soalan)
Dokumen sokongan yang disertakan : Formula

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

SULIT

INSTRUCTION:
This section consists of **FOUR (4)** structured questions. Answer **ALL** questions.

ARAHAN:
*Bahagian ini mengandungi **EMPAT (4)** soalan struktur. Jawab **SEMUA** soalan.*

QUESTION 1
SOALAN 1

CLO1
C1

(a) List **FIVE (5)** roles of Financial Manager in an organization.
*Senaraikan **LIMA (5)** peranan pengurus kewangan dalam sesebuah organisasi.*

[5 marks]
[*5 markah*]

CLO1
C2

(b) Raspberry Sdn Bhd requires immediate additional working capital of RM 2 million. There are TWO (2) possible sources:-

Raspberry Sdn Bhd memerlukan tambahan modal kerja sebanyak RM 2 juta dengan segera. Terdapat DUA (2) sumber yang mungkin:-

Source #1: A loan from Blueberry Bank at a simple interest rate of 10% and a compensating balance of 20%. A deposit of RM 5,000 with the bank exists.

Sumber #1: *Pinjaman daripada Blueberry Bank pada kadar faedah mudah sebanyak 10% dan baki pampasan sebanyak 20%. Terdapat deposit sebanyak RM 5,000 dengan bank.*

Source #2: Issue RM 2 million worth commercial paper. Interest charged is 8% and a fee of 3.5% is payable to the dealer.

Sumber #2: *Mengeluarkan kertas perdagangan bernilai RM 2 juta. Kadar faedah yang dikenakan adalah 8% dan yuran sebanyak 3.5% dibayar kepada orang tengah.*

You are required to:-

Anda dikehendaki untuk:-

i. Calculate the effective annual cost of each sources of financing.

Kira kos tahunan efektif bagi setiap sumber pembiayaan.

[8 marks]
[8 markah]

ii. Choose the most suitable source of financing for Raspberry Sdn Bhd and state your reason.

Pilih sumber pembiayaan yang paling sesuai untuk Raspberry Sdn Bhd dan nyatakan alasan anda.

[2 marks]
[2 markah]

CLO1
C3

(c) Integrated ZAP Sdn. Bhd., a special car tyre retailer in Malaysia. Given below are some of the financial data from their recent operations in year 2016.

Integrated ZAP Sdn. Bhd. adalah sebuah syarikat mengkhusus di dalam penjualan tayar kereta di Malaysia. Maklumat dibawah adalah data kewangan daripada operasi sepanjang tahun 2016.

Average selling price per unit / *Purata harga jualan seunit*	RM 35.00
Average variable cost per unit / *Purata kos berubah seunit*	RM 20.00
Unit sold / *Unit jualan*	25,000 units
Fixed costs / *Kos tetap*	RM 30,000
Interest expense / *Belanja faedah*	RM 12,000
Government tax rate / *Kadar cukai kerajaan*	29 %

i. Calculate the degree of operating leverage (DOL).

Kirakan darjah keumpilan operasi (DOL).

[4 marks]
[4 markah]

ii. Calculate the degree of financial leverage (DFL).

Kirakan darjah keumpilan kewangan (DFL).

[4 marks]
[4 markah]

iii. Calculate the degree of combined leverage (DCL).

Kirakan darjah keumpilan gabungan (DCL).

[2 marks]
[2 markah]

QUESTION 2
SOALAN 2

CLO1
C2

(a) Mata Haree-Haree Company Limited is looking at two gas projects at SEA Straits. The gas exploration machines being used are currently imported from oversea. They are WISH and GMAT machine. The manager of the company predicts that both exploration machines will have a life span of 3 years. Purchase cost for each machine is RM 30,000. Cash flow information related to the two machines is as follows.

Syarikat Mata Haree-Haree Limited sedang meninjau dua projek gas di Selat SEA. Mesin penggalian gas yang bakal digunakan adalah mesin yang di import dari luar negara iaitu mesin WISH dan mesin GMAT. Pengurus syarikat menjangka kedua-dua mesin penggalian ini mempunyai jangka hayat 3 tahun. Kos belian setiap mesin adalah RM 30,000. Maklumat aliran tunai untuk kedua-dua mesin adalah seperti dibawah.

Year ***Tahun***	**WISH Machine** ***Mesin WISH***	**GMAT Machine** ***Mesin GMAT***
0	(RM 30,000)	(RM 30,000)
1	RM 11,500	RM 10,500
2	RM 11,500	RM 10,500
3	RM 10,000	RM 9,500

The capital cost of the two machines is 10% each.
Kos modal untuk kedua-dua mesin adalah 10% setiap satu.

As financial manager, calculate Net Present Value (NPV) for both machine and determine which machine to choose.
Sebagai pengurus kewangan, kirakan Nilai Kini Bersih (NKB) untuk kedua-dua mesin dan tentukan mesin yang akan dipilih.

[10 marks]
[*10 markah*]

CLO1
C3

(b) TechNo Trading is considering these two mutually exclusive projects which required an initial outlay of RM 125,000. Below is the expected cash flow for each project. The cost of capital is 14%.

Peniaga TechNo sedang menimbangkan dua projek yang memerlukan kos sebanyak RM 125,000 sebagai modal awal. Di bawah adalah aliran tunai untuk kedua-dua projek. Kos modal adalah 14%.

Year ***Tahun***	**TT Project** ***Projek TT***	**KK Project** ***Projek KK***
1	RM 35,000	RM 30,000
2	RM 35,000	RM 34,000
3	RM 35,000	RM 39,000
4	RM 35,000	RM 44,000
5	RM 35,000	RM 50,000

Calculate the payback period for both projects.
Kirakan tempoh bayaran balik untuk kedua-dua projek.

[5 marks]
[*5 markah*]

CLO1
C2

(c) ZARRA 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 Security A and Security B have the following information:

Perniagaan ZARRA yang masih baru di pasaran merancang untuk melabur dana mereka untuk mendapatkan pulangan. Pendekatan pelaburan ini adalah berasaskan motif risiko rendah. Terdapat dua pilihan sekuriti pelaburan iaitu sekuriti A dan sekuriti B yang mempunyai maklumat seperti dibawah:

Security A ***Sekuriti A***		**Security B** ***Sekuriti B***	
Probability ***Kebarangkalian***	**Return (%)** ***Pulangan (%)***	**Probability** ***Kebarangkalian***	**Return (%)** ***Pulangan (%)***
0.50	9	0.40	-5
0.50	10	0.60	45

Based on the given information:
Berdasarkan maklumat yang diberikan:

i. Calculate the expected returns for each security.
Kirakan pulangan jangkaan untuk setiap sekuriti pelaburan.

[2 marks]
[*2 markah*]

ii. Calculate the standard deviation for each security.
Kirakan sisihan piawai untuk setiap sekuriti pelaburan.

[6 marks]
[*6 markah*]

iii. Which security should be chosen based on the calculation? State your reason.
Berdasarkan pengiraan, sekuriti mana yang perlu dipilih? Nyatakan alasan anda.

[2 marks]
[*2 markah*]

QUESTION 3
SOALAN 3

CLO2
C1

(a) Briefly discuss **TWO (2)** importance of financial ratios to outsiders.
*Jelaskan secara ringkas **DUA (2)** kepentingan nisbah kewangan kepada pihak luar.*

[5 marks]
[*5 markah*]

CLO2
C3

(b) You are the financial controller of KEJAYAAN Co. The company is in the process of applying a term loan from a major bank in Kuala Lumpur. The followings are the financial statements for KEJAYAAN Co. for the year 2016.

Anda adalah pengurus kewangan KEJAYAAN Co. Syarikat ini dalam proses memohon pinjaman bertempoh daripada bank utama di Kuala Lumpur. Berikut merupakan penyata kewangan untuk KEJAYAAN Co. bagi tahun 2016.

KEJAYAAN Co.	
Statement of Profit or Loss and Other Comprehensive Income For the Year Ended 31 December 2016	
Penyata Untung & Rugi serta Pendapatan Lain bagi Tahun Berakhir 31 Disember 2016	
Net Sales / *Jualan Bersih*	RM 2,750,000
Less / *Tolak* : Cost of Goods Sold / *Kos Barang Dijual*	RM ,029,500
Gross Profit / *Untung Kasar*	RM 720,500
Less / Tolak : Operating Expenses / *Perbelanjaan Operasi*	
-Selling / *Jualan*	RM 275,000
-General Expenses / *Perbelanjaan Am*	RM 316,800
Earnings Before Interest & Taxes / *Perolehan Sebelum Faedah & Cukai*	RM 591,800
Interest Expenses / *Perbelanjaan Faedah*	RM 128,700
Earnings Before Taxes / *Perolehan Sebelum Cukai*	RM 13,200
Taxes (50%) / *Cukai (50%)*	RM 57,750
Earning AfterTaxes / *Perolehan Selepas Cukai*	RM 57,750

KEJAYAAN Co.	
Statement of Financial Position as at 31 December 2016 *Penyata Kedudukan Kewangan pada 31 Disember 2016*	
Assets / *Aset*	
Cash / *Tunai*	RM 220,000
Account Receivables / *Akaun Belum Terima*	RM 275,000
Inventories / *Inventori*	RM 825,000
Total Current Assets / *Jumlah Aset Semasa*	RM 1,320,000
Net non-current assets /*Aset Bukan Semasa Bersih*	RM 605,000
Total Assets / *Jumlah Aset*	**RM 1,925,000**
Liablities and Stockholders' equity / *Liabiliti dan Ekuiti pemilik*	
Account Payables / *Akaun Belumbayar*	RM 165,000
Notes Payables / *Nota Belumbayar*	RM 220,000
Other Current Liabilities / *Lain-lain Liabiliti Semasa*	RM 110,000
Total Current Liabilities / *Jumlah Liabiliti Semasa*	**RM 495,000**
Non-current liability / *Liabiliti Bukan Semasa*	RM 220,000
Shareholders' Equities / *Ekuiti Pemilik*	RM 1,210,000
Total Liabilities & Shareholder's' Funds / *Jumlah Liabiliti & Ekuiti*	**RM 1,925,000**

The followings are the industry average ratio for the year 2016.
Berikut merupakan nisbah purata industri untuk tahun 2016.

Industry Ratios / *Nisbah Industri*	**Industry Average / *Purata Industri***
Current Ratio / Nisbah Semasa	1.7 x
Quick Ratio / Nisbah Cepat	0.9 x
Debt Ratio / Nisbah Hutang	50%
Time Interest Earned / *Nisbah Liputan Faedah*	6 x
Inventory Turnover / *Pusingganti Inventori*	4 x
Average Collection Period / *Tempoh Kutipan*	20 days / *hari*
Total Assets Turnover / *Pusingganti Jumlah Aset*	2 x
Net Profit Margin / *Margin Untung Bersih*	1.5 x
Return On Asset / *Pulangan Atas Aset*	2.5 %
Return On Equity / *Pulangan Atas Ekuiti*	3.5 %

As a financial controller, you are given the task of determining the company's last year performance.
Sebagai pengurus kewangan, anda diberi tugas menentukan prestasi tahun lepas syarikat tersebut.

i. Prepare an analysis of the company's performance by comparing with the industry average and indicate whether it is favourable (F) or unfavourable (UF).
Sediakan analisis prestasi syarikat dengan membandingkan prestasi syarikat dengan purata industri dan tentukan sama ada ianya memuaskan (M) atau tidak memuaskan (TM).

[15 marks]
[15 markah]

CLO2
C3

(c) Discuss **TWO (2)** limitations of using financial ratio to evaluate financial performance in company.
*Bincangkan **DUA (2)** kekangan menggunakan nisbah kewangan di dalam penilaian prestasi kewangan syarikat.*

[5 marks]
[5 markah]

QUESTION 4
SOALAN 4

CLO2
C1

(a) List **FIVE (5)** importance of inventory management for company.
*Senaraikan **LIMA (5)** kepentingan pengurusan inventori kepada syarikat*

[5 marks]
[5 markah]

CLO2
C2

(b) Double Sendirian Berhad is a local toys manufacturer which produces toy trains. Double Sendirian Berhad is trying to determine the optimal order quantity of parts of the toys. The manufacturer anticipates that it will sell 300,000 units of toy trains every year. Parts of toy trains are purchased at RM 1.20 per unit and cost for carrying a unit of the parts are 10% from purchase price. It will cost the manufacturer RM 30 for each order and the company requires one week to receive the order. Assume there are 50 weeks in a year. The desired safety stock which does not include delivery time stock is 800 units.

Double Sendirian Berhad merupakan pengeluar barangan mainan tempatan yang mengeluarkan permainan keretapi. Double Sendirian Berhad berusaha untuk menentukan tahap pesanan yang optimal untuk kuantiti permainan tersebut. Syarikat ini terlibat dengan penjualan barangan mainan keretapi 300,000 unit setiap tahun. Sebahagian daripada barangan permainan keretapi ini adalah kos pembelian RM 1.20 seunit dan kos untuk menjaga adalah 10% daripada harga beliannya. Kos pemesanan adalah RM 30 untuk setiap kali pemesanan dilakukan dan mengambil masa satu minggu untuk barangan ini sampai ke syarikat ini. Di andaikan masa operasi syarikat adalah 50 minggu.

Stok keselamatan yang diperlukan adalah 800 unit tidak termasuk masa perjalanan stok ke premis syarikat.

i. Determine the optimal EOQ. [4 marks]
Tentukan EOQ yang optimal. *[4 markah]*

ii. How many orders of parts will be placed annually? [2 marks]
Berapakah bilangan pesanan yang perlu dilakukan setiap tahun? *[2 markah]*

iii. What is the average inventory level? [2.5 marks]
Apakah tahap inventori purata? *[2.5 markah]*

iv. At what inventory level should the company place an order? [2.5 marks]
Pada tahap inventori manakah sepatutnya syarikat membuat pesanan? *[2.5 markah]*

v. Compute the total inventory cost at the EOQ level. [4 marks]
Kirakan jumlah kos inventori yang terlibat pada tahap EOQ. *[4 markah]*

CLO2 C3 (c) Calculate the effective cost of credit for the following:- [5 marks]
Kira kos kredit efektif untuk yang berikut:- *[5 markah]*

i. 1/10 net 20
1/10 bersih 20

ii. 3/15 net 30
3/15 bersih 30

SOALAN TAMAT

Present Value and Future Value Tables

Table A-3 Present value interest factors One-Dollar Discounted at k percent for n periods: $PVIF_{kn} = 1/(1+k)^n$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	24%	25%	30%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8547	0.8475	0.8403	0.8333	0.8065	0.8000	0.7692
2	0.9803	0.9612	0.9426	0.9246	0.9070	0.8900	0.8734	0.8573	0.8417	0.8264	0.8116	0.7972	0.7831	0.7695	0.7561	0.7432	0.7305	0.7182	0.7062	0.6944	0.6504	0.6400	0.5917
3	0.9706	0.9423	0.9151	0.8890	0.8638	0.8396	0.8163	0.7938	0.7722	0.7513	0.7312	0.7118	0.6931	0.6750	0.6575	0.6407	0.6244	0.6086	0.5934	0.5787	0.5245	0.5120	0.4552
4	0.9610	0.9238	0.8885	0.8548	0.8227	0.7921	0.7629	0.7350	0.7084	0.6830	0.6587	0.6355	0.6133	0.5921	0.5718	0.5523	0.5337	0.5158	0.4987	0.4823	0.4230	0.4096	0.3501
5	0.9515	0.9057	0.8626	0.8219	0.7835	0.7473	0.7130	0.6806	0.6499	0.6209	0.5935	0.5674	0.5428	0.5194	0.4972	0.4761	0.4561	0.4371	0.4190	0.4019	0.3411	0.3277	0.2693
6	0.9420	0.8880	0.8375	0.7903	0.7462	0.7050	0.6663	0.6302	0.5963	0.5645	0.5346	0.5066	0.4803	0.4556	0.4323	0.4104	0.3898	0.3704	0.3521	0.3349	0.2751	0.2621	0.2072
7	0.9327	0.8706	0.8131	0.7599	0.7107	0.6651	0.6227	0.5835	0.5470	0.5132	0.4817	0.4523	0.4251	0.3996	0.3759	0.3538	0.3332	0.3139	0.2959	0.2791	0.2218	0.2097	0.1594
8	0.9235	0.8535	0.7894	0.7307	0.6768	0.6274	0.5820	0.5403	0.5019	0.4665	0.4339	0.4039	0.3762	0.3506	0.3269	0.3050	0.2848	0.2660	0.2487	0.2326	0.1789	0.1678	0.1226
9	0.9143	0.8368	0.7664	0.7026	0.6446	0.5919	0.5439	0.5002	0.4604	0.4241	0.3909	0.3606	0.3329	0.3075	0.2843	0.2630	0.2434	0.2255	0.2090	0.1938	0.1443	0.1342	0.0943
10	0.9053	0.8203	0.7441	0.6756	0.6139	0.5584	0.5083	0.4632	0.4224	0.3855	0.3522	0.3220	0.2946	0.2697	0.2472	0.2267	0.2080	0.1911	0.1756	0.1615	0.1164	0.1074	0.0725
11	0.8963	0.8043	0.7224	0.6496	0.5847	0.5268	0.4751	0.4289	0.3875	0.3505	0.3173	0.2875	0.2607	0.2366	0.2149	0.1954	0.1778	0.1619	0.1476	0.1346	0.0938	0.0859	0.0558
12	0.8874	0.7885	0.7014	0.6246	0.5568	0.4970	0.4440	0.3971	0.3555	0.3186	0.2858	0.2567	0.2307	0.2076	0.1869	0.1685	0.1520	0.1372	0.1240	0.1122	0.0757	0.0687	0.0429
13	0.8787	0.7730	0.6810	0.6006	0.5303	0.4688	0.4150	0.3677	0.3262	0.2897	0.2575	0.2292	0.2042	0.1821	0.1625	0.1452	0.1299	0.1163	0.1042	0.0935	0.0610	0.0550	0.0330
14	0.8700	0.7579	0.6611	0.5775	0.5051	0.4423	0.3878	0.3405	0.2992	0.2633	0.2320	0.2046	0.1807	0.1597	0.1413	0.1252	0.1110	0.0985	0.0876	0.0779	0.0492	0.0440	0.0254
15	0.8613	0.7430	0.6419	0.5553	0.4810	0.4173	0.3624	0.3152	0.2745	0.2394	0.2090	0.1827	0.1599	0.1401	0.1229	0.1079	0.0949	0.0835	0.0736	0.0649	0.0397	0.0352	0.0195
16	0.8528	0.7284	0.6232	0.5339	0.4581	0.3936	0.3387	0.2919	0.2519	0.2176	0.1883	0.1631	0.1415	0.1229	0.1069	0.0930	0.0811	0.0708	0.0618	0.0541	0.0320	0.0281	0.0150
17	0.8444	0.7142	0.6050	0.5134	0.4363	0.3714	0.3166	0.2703	0.2311	0.1978	0.1696	0.1456	0.1252	0.1078	0.0929	0.0802	0.0693	0.0600	0.0520	0.0451	0.0258	0.0225	0.0116
18	0.8360	0.7002	0.5874	0.4936	0.4155	0.3503	0.2959	0.2502	0.2120	0.1799	0.1528	0.1300	0.1108	0.0946	0.0808	0.0691	0.0592	0.0508	0.0437	0.0376	0.0208	0.0180	0.0089
19	0.8277	0.6864	0.5703	0.4746	0.3957	0.3305	0.2765	0.2317	0.1945	0.1635	0.1377	0.1161	0.0981	0.0829	0.0703	0.0596	0.0506	0.0431	0.0367	0.0313	0.0168	0.0144	0.0068
20	0.8195	0.6730	0.5537	0.4564	0.3769	0.3118	0.2584	0.2145	0.1784	0.1486	0.1240	0.1037	0.0868	0.0728	0.0611	0.0514	0.0433	0.0365	0.0308	0.0261	0.0135	0.0115	0.0053
21	0.8114	0.6598	0.5375	0.4388	0.3589	0.2942	0.2415	0.1987	0.1637	0.1351	0.1117	0.0926	0.0768	0.0638	0.0531	0.0443	0.0370	0.0309	0.0259	0.0217	0.0109	0.0092	0.0040
22	0.8034	0.6468	0.5219	0.4220	0.3418	0.2775	0.2257	0.1839	0.1502	0.1228	0.1007	0.0826	0.0680	0.0560	0.0462	0.0382	0.0316	0.0262	0.0218	0.0181	0.0088	0.0074	0.0031
23	0.7954	0.6342	0.5067	0.4057	0.3256	0.2618	0.2109	0.1703	0.1378	0.1117	0.0907	0.0738	0.0601	0.0491	0.0402	0.0329	0.0270	0.0222	0.0183	0.0151	0.0071	0.0059	0.0024
24	0.7876	0.6217	0.4919	0.3901	0.3101	0.2470	0.1971	0.1577	0.1264	0.1015	0.0817	0.0659	0.0532	0.0431	0.0349	0.0284	0.0231	0.0188	0.0154	0.0126	0.0057	0.0047	0.0018
25	0.7798	0.6095	0.4776	0.3751	0.2953	0.2330	0.1842	0.1460	0.1160	0.0923	0.0736	0.0588	0.0471	0.0378	0.0304	0.0245	0.0197	0.0160	0.0129	0.0105	0.0046	0.0038	0.0014
30	0.7419	0.5521	0.4120	0.3083	0.2314	0.1741	0.1314	0.0994	0.0754	0.0573	0.0437	0.0334	0.0256	0.0196	0.0151	0.0116	0.0090	0.0070	0.0054	0.0042	0.0016	0.0012	*
35	0.7059	0.5000	0.3554	0.2534	0.1813	0.1301	0.0937	0.0676	0.0490	0.0356	0.0259	0.0189	0.0139	0.0102	0.0075	0.0055	0.0041	0.0030	0.0023	0.0017	0.0005	*	*
36	0.6989	0.4902	0.3450	0.2437	0.1727	0.1227	0.0875	0.0626	0.0449	0.0323	0.0234	0.0169	0.0123	0.0089	0.0065	0.0048	0.0035	0.0026	0.0019	0.0014	*	*	*
40	0.6717	0.4529	0.3066	0.2083	0.1420	0.0972	0.0668	0.0460	0.0318	0.0221	0.0154	0.0107	0.0075	0.0053	0.0037	0.0026	0.0019	0.0013	0.0010	0.0007	*	*	*
50	0.6080	0.3715	0.2281	0.1407	0.0872	0.0543	0.0339	0.0213	0.0134	0.0085	0.0054	0.0035	0.0022	0.0014	0.0009	0.0006	0.0004	0.0003	0.0002	*	*	*	*

Present Value and Future Value Tables

Table A-4 Present value interest factors for a One-Dollar Annuity Discounted at *k* percent for *n* periods : PVIFA = $[1-1/(1+k)^n] / k$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	24%	25%	30%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8547	0.8475	0.8403	0.8333	0.8065	0.8000	0.7692
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1.7125	1.6901	1.6681	1.6467	1.6257	1.6052	1.5852	1.5656	1.5465	1.5278	1.4568	1.4400	1.3609
3	2.9410	2.8839	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4437	2.4018	2.3612	2.3216	2.2832	2.2459	2.2096	2.1743	2.1399	2.1065	1.9813	1.9520	1.8161
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.1024	3.0373	2.9745	2.9137	2.8550	2.7982	2.7432	2.6901	2.6386	2.5887	2.4043	2.3616	2.1662
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6959	3.6048	3.5172	3.4331	3.3522	3.2743	3.1993	3.1272	3.0576	2.9906	2.7454	2.6893	2.4356
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859	4.3553	4.2305	4.1114	3.9975	3.8887	3.7845	3.6847	3.5892	3.4976	3.4098	3.3255	3.0205	2.9514	2.6427
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.7122	4.5638	4.4226	4.2883	4.1604	4.0386	3.9224	3.8115	3.7057	3.6046	3.2423	3.1611	2.8021
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	5.1461	4.9676	4.7988	4.6389	4.4873	4.3436	4.2072	4.0776	3.9544	3.8372	3.4212	3.3289	2.9247
9	8.5660	8.1622	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.5370	5.3282	5.1317	4.9464	4.7716	4.6065	4.4506	4.3030	4.1633	4.0310	3.5655	3.4631	3.0190
10	9.4713	8.9826	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.8892	5.6502	5.4262	5.2161	5.0188	4.8332	4.6586	4.4941	4.3389	4.1925	3.6819	3.5705	3.0915
11	10.3676	9.7868	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	6.2065	5.9377	5.6869	5.4527	5.2337	5.0286	4.8364	4.6560	4.4865	4.3271	3.7757	3.6564	3.1473
12	11.2551	10.5753	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.4924	6.1944	5.9176	5.6603	5.4206	5.1971	4.9884	4.7932	4.6105	4.4392	3.8514	3.7251	3.1903
13	12.1337	11.3484	10.6350	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.7499	6.4235	6.1218	5.8424	5.5831	5.3423	5.1183	4.9095	4.7147	4.5327	3.9124	3.7801	3.2233
14	13.0037	12.1062	11.2961	10.5631	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.9819	6.6282	6.3025	6.0021	5.7245	5.4675	5.2293	5.0081	4.8023	4.6106	3.9616	3.8241	3.2487
15	13.8651	12.8493	11.9379	11.1184	10.3797	9.7122	9.1079	8.5595	8.0607	7.6061	7.1909	6.8109	6.4624	6.1422	5.8474	5.5755	5.3242	5.0916	4.8759	4.6755	4.0013	3.8593	3.2682
16	14.7179	13.5777	12.5611	11.6523	10.8378	10.1059	9.4466	8.8514	8.3126	7.8237	7.3792	6.9740	6.6039	6.2651	5.9542	5.6685	5.4053	5.1624	4.9377	4.7296	4.0333	3.8874	3.2832
17	15.5623	14.2919	13.1661	12.1657	11.2741	10.4773	9.7632	9.1216	8.5436	8.0216	7.5488	7.1196	6.7291	6.3729	6.0472	5.7487	5.4746	5.2223	4.9897	4.7746	4.0591	3.9099	3.2948
18	16.3983	14.9920	13.7535	12.6593	11.6896	10.8276	10.0591	9.3719	8.7556	8.2014	7.7016	7.2497	6.8399	6.4674	6.1280	5.8178	5.5339	5.2732	5.0333	4.8122	4.0799	3.9279	3.3037
19	17.2260	15.6785	14.3238	13.1339	12.0853	11.1581	10.3356	9.6036	8.9501	8.3649	7.8393	7.3658	6.9380	6.5504	6.1982	5.8775	5.5845	5.3162	5.0700	4.8435	4.0967	3.9424	3.3105
20	18.0456	16.3514	14.8775	13.5903	12.4622	11.4699	10.5940	9.8181	9.1285	8.5136	7.9633	7.4694	7.0248	6.6231	6.2593	5.9288	5.6278	5.3527	5.1009	4.8696	4.1103	3.9539	3.3158
21	18.8570	17.0112	15.4150	14.0292	12.8212	11.7641	10.8355	10.0168	9.2922	8.6487	8.0751	7.5620	7.1016	6.6870	6.3125	5.9731	5.6648	5.3837	5.1268	4.8913	4.1212	3.9631	3.3198
22	19.6604	17.6580	15.9369	14.4511	13.1630	12.0416	11.0612	10.2007	9.4424	8.7715	8.1757	7.6446	7.1695	6.7429	6.3587	6.0113	5.6964	5.4099	5.1486	4.9094	4.1300	3.9705	3.3230
23	20.4558	18.2922	16.4436	14.8568	13.4886	12.3034	11.2722	10.3711	9.5802	8.8832	8.2664	7.7184	7.2297	6.7921	6.3988	6.0442	5.7234	5.4321	5.1668	4.9245	4.1371	3.9764	3.3254
24	21.2434	18.9139	16.9355	15.2470	13.7986	12.5504	11.4693	10.5288	9.7066	8.9847	8.3481	7.7843	7.2829	6.8351	6.4338	6.0726	5.7465	5.4509	5.1822	4.9371	4.1428	3.9811	3.3272
25	22.0232	19.5235	17.4131	15.6221	14.0939	12.7834	11.6536	10.6748	9.8226	9.0770	8.4217	7.8431	7.3300	6.8729	6.4641	6.0971	5.7662	5.4669	5.1951	4.9476	4.1474	3.9849	3.3286
30	25.8077	22.3965	19.6004	17.2920	15.3725	13.7648	12.4090	11.2578	10.2737	9.4269	8.6938	8.0552	7.4957	7.0027	6.5660	6.1772	5.8294	5.5168	5.2347	4.9789	4.1601	3.9950	3.3321
35	29.4086	24.9986	21.4872	18.6646	16.3742	14.4982	12.9477	11.6546	10.5668	9.6442	8.8552	8.1755	7.5856	7.0700	6.6166	6.2153	5.8582	5.5386	5.2512	4.9915	4.1644	3.9984	3.3330
36	30.1075	25.4888	21.8323	18.9083	16.5469	14.6210	13.0352	11.7172	10.6118	9.6765	8.8786	8.1924	7.5979	7.0790	6.6231	6.2201	5.8617	5.5412	5.2531	4.9929	4.1649	3.9987	3.3331
40	32.8347	27.3555	23.1148	19.7928	17.1591	15.0463	13.3317	11.9246	10.7574	9.7791	8.9511	8.2438	7.6344	7.1050	6.6418	6.2335	5.8713	5.5482	5.2582	4.9966	4.1659	3.9995	3.3332
50	39.1961	31.4236	25.7298	21.4822	18.2559	15.7619	13.8007	12.2335	10.9617	9.9148	9.0417	8.3045	7.6752	7.1327	6.6605	6.2463	5.8801	5.5541	5.2623	4.9995	4.1666	3.9999	3.3333