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ADM 2342
Mid Term Exam No. 2
Intermediate Financial Accounting 1
2018 Spring/Summer Semester
Solutions

NAME: _____ **STUDENT #:** _____

1. This examination comprises 3 questions over 17 pages. Page 15 is an extra page for rough work and any additional supporting calculations. The last two pages (pages 16 and 17) contain present value tables. Answer all questions directly in this booklet. The booklet is not to be removed from the examination room. You may separate the pages but ensure that you put them back together and staple them before handing in.

2. Limit your answer to the space provided. Blank sheets for rough work and supporting calculations are given at the end of each question. You must show, where appropriate, supporting calculations in order to get part marks.

3. This exam is out of 75 marks and is 2½ hours long. You should budget approximately 2 minutes per mark.

4. Please do **not** ask the invigilator or the professor any questions, as they will **not** be answered. State reasonable assumptions, if you feel they are necessary.

5. Students may use either pen or pencil in writing this exam. However, if a student elects to use pencil, after the exam has been marked and returned to the student, the exam cannot be re-submitted for review.

6. Language dictionaries (non-electronic) are allowed if the invigilator permits them. They must be shown to the invigilator before the start of the exam.

7. The use of electronic communication devices such as cell phones is strictly prohibited during the exam.

8. You ***must*** sign the Statement of Academic integrity on page 2 of this exam.

Question		Marks
1	Inventory	/27
2	Receivables	/23
3	Revenue Recognition	/25
TOTAL		/75

Statement of Academic Integrity
The Telfer School of Management does not condone academic fraud, an act by a student that may result in a false academic evaluation of that student or of another student. Without limiting the generality of this definition, academic fraud occurs when a student commits any of the following offences: plagiarism or cheating of any kind, use of books, notes, mathematical tables, dictionaries or other study aid unless an explicit written note to the contrary appears on the exam, to have in his/her possession cameras, radios (radios with head sets), tape recorders, pagers, cell phones, or any other communication device which has not been previously authorized in writing.

Statement to be signed by the student:
I have read the text on academic integrity and I pledge not to have committed or attempted to commit academic fraud in this examination.

Signed:_____

Note: an examination copy or booklet without that signed statement will not be graded and will receive a final exam grade of zero.

Question No. 1 (27 marks)

This question consists of four (4) parts. Answer ALL parts. Each part is independent.

Part One: (6 marks)

Connect has been selling cellular phones for the last five years. Its best-selling model is the E-PHONE. The following information pertains to transactions affecting the E-PHONE inventory for the month of August 2017:

	Units	Unit cost
Opening inventory – Aug 1	4,000	$50
Purchase 1 – Aug 8	2,400	40
Sale 1 – Aug 10	(1,800)	
Purchase 2 – Aug 22	4,400	53
Sale 2 – Aug 29	(4,200)	

Required:

(a) If Connect uses the weighted-average method under a periodic inventory system, what would be the cost of goods sold for August 2017? (3 marks)

(b) If Connect uses the weighted-average method under a perpetual inventory system, what would be the cost of the ending inventory on August 31, 2017? (3 marks)

Answer:

(a)

WAC per unit = CGA / units available for sale = $529,200 / 10,800 = $49.00
Ending inventory = 4,800 units X $49.00/unit = $235,200
CGS = CGA – EI = $529,200 − 235,200 = $294,000

(b)

	Units	***x Unit Cost***	***= Total Cost***
Opening inventory	*4,000*	*$50*	*$200,000*
Purchase #1	*2,400*	*$40*	*96,000*
Balance	*6,400*	*$46.25*	*$296,000*
Cost of sale #1	*(1,800)*	*$46.25*	*(83,250)*
Purchase #2	*4,400*	*$53*	*232,200*
Balance	*9,000*	*$49.55*	*$444,950*
Cost of sale #2	*4,200*	*$49.55*	*(208,110)*
Ending inventory	*4,800*	*$49.55*	*$237,840*

Question No. 1 (27 marks) (continued)

Part Two: (10 marks)

Jefferson Farms is an IFRS-compliant company with a June 30 year-end. The company is in the business of raising and selling chickens. On May 1, 2017, the company purchased 500 new hatchlings for cash at a total cost of $5,000. During the months of May and June, the company paid $700 each month to feed, nurture and grow the baby chicks. The company follows the policy of capitalizing costs to raise its chickens.

On June 30, the company estimated the fair value of the chickens to be $9,000 and that transportation costs to deliver the chickens to the company's customers would average $2.90 per chicken.

On October 31, all of the chickens had matured and 250 of them had been shipped to one of its key customers at a selling price of $25 per chicken. Transportation costs were $2.90 per chicken, as expected.

Required:

(a) Prepare the journal entries required to record inventory activity relating to the chickens for May and for June. (3 marks)

(b) Prepare any required year-end adjusting entry required on June 30. (3 marks)

(c) Prepare any journal entries, if required, on October 31. (4 marks)

Answer:

(a) May 1

Biological Assets	*5,000*	
Cash		*5,000*

During May

Biological Assets	*700*	
Cash		*700*

During June

Biological Assets	*700*	
Cash		*700*

(b) June 30

Biological Assets	*1,150*	
Unrealized Gain or Loss		*1,150*

Cost of hatchlings	*$5,000*
Costs of feed to nurture and grow ($700 x 2)	*1,400*
Total costs incurred to date	*6,400*
Current fair value	*9,000*
Less transportation costs (500 x $2.90)	*1,450*
Fair value less costs to sell	*$7,550*

Year End Adjustment: $7,550 – $6,400 = $1,150

(c) October 31

Cash (250 x $25)	*6,250*	
Sales Revenue		*6,250*
Cost of Goods Sold (250 / 500 x $7,550)	*3,775*	
Inventory		*3,775*

Question No. 1 (27 marks) (continued)

Part Three: (6 marks)

Humphrey Retailers has a selection of five products. The following information relates to these products:

	No. of Units	Unit Cost	Selling Price
Product A	200	$ 40	$ 80
Product B	100	150	$120
Product C	300	60	$100
Product D	200	100	$100
Product E	300	65	$70

The company estimates that selling costs will be 10% of the selling price, primarily for sales commissions. The company uses a perpetual inventory system and applies the lower of cost and net realizable value rule on an item-by-item approach under the indirect/allowance method.

Required:

Compute the amount of the total inventory write-down, if any, and prepare any necessary journal entry.

Answer:

Product	*# Units*	*Cost per unit*	*Selling price*	*Selling costs (10% of price)*	*Net realizable value (price – selling cost)*	*Write-down per unit required (cost – NRV) or 0*	*Total write-down for product*
A	*200*	*$ 40*	*$ 80*	*$8*	*$ 72*	*$ 0*	*$ 0*
B	*100*	*150*	*120*	*$12*	*108*	*42*	*4,200*
C	*300*	*60*	*100*	*$10*	*90*	*0*	*0*
D	*200*	*100*	*100*	*$10*	*90*	*10*	*2,000*
E	*300*	*65*	*70*	*$7*	*63*	*2*	*600*
Total							*$6,800*

Loss in Inventory due to Decline in NRV (or CGS)	*6,800*	
Allowance to Reduce Inventory to NRV		*6,800*

Part Four: (5 marks)

East Bay Pharmaceuticals Limited uses the gross profit method to estimate inventory for its monthly reports. For the month of May, the following data were available:

Sales Returns	$35,000
Purchase discounts	45,500
Freight-In	12,500
Accounts Payable (all relating to inventory)	400,000
Purchases	710,000
Sales	997,000
Inventory (beginning of month)	210,000

Easy Bay has a standard mark-up on cost of 25%.

Required:

Use the gross profit method to calculate the company's ending inventory on May 31.

Question No. 1 (27 marks) (continued)

Answer:

The gross profit as a percent of sales must first be calculated:

$$\frac{25\%}{100\% + 25\%} = 20\% \text{ of sales.}$$

Inventory, May 1 (at cost)		*$210,000*
Purchases (gross) (at cost)		*710,000*
Purchase discounts		*(45,500)*
Freight-in		*12,500*
Goods available (at cost)		*887,000*
Sales (at selling price)	*$997,000*	
Sales returns (at selling price)	*(35,000)*	
Net sales (at selling price)	*962,000*	
Less gross profit (20% of $962,000)	*192,400*	
Estimated cost of goods sold		*769,600*
Estimated inventory, May 31 (at cost)		*$ 117,400*

Question No. 2 (23 marks)

This question consists of two (2) parts. Answer BOTH parts. Each part is independent.

Part One: (10 marks)

Bobbo Ltd. provides for doubtful accounts based on 6% of credit sales. The following data are available for 2018.

Credit sales made during 2018	$3,550,000
Credit balance in the Allowance for Doubtful Accounts – Jan 1, 2018	59,000
Collection of accounts during 2018 that had been written off in prior years	3,500
Customer accounts written off as uncollectable during 2018	37,000

Required:

(a) Calculate how much the balance should be in the Allowance for Doubtful Accounts on December 31, 2018. (4 marks)

(b) Provide the journal entry to record the customer accounts that were written off as uncollectible during 2018. (2 mark)

(c) Explain the purpose of a "*trade discount*" and how a trade discount is normally reflected in the accounts when a sale is made. (4 marks)

Answer:

(a)

	ADA	
Opening balance in ADA		*59,000*
Write-offs	*37,000*	
Recoveries of amounts previously written off		*3,500*
Bade debts expense (6% x $3,550,000)		*213,000*
Closing balance in ADA		*238,500*

(b)	*Allowance for Doubtful Accounts*	*37,000*	
	Accounts Receivable		*37,000*

(c) A trade discount is used to avoid frequent price changes in catalogues, or to quote different prices for different quantities purchased, or to hide the true invoice price from competitors. The normal practice is to deduct the trade discount from the product's list price and recognize the net amount as a debit to A/R and a credit to sales revenue.

Question No. 2 (23 marks) (continued)

Part Two: (13 marks)

Sun Corporation is a land broker whose main business is to buy and re-sell tracts of land. Sun Corporation has a December 31 year-end.

On December 31, 2017, Sun sold a tract of land to Chung Corporation at an agreed upon price of $59,803.95. In return, Sun accepted $27,000 cash as a down payment and agreed to receive the balance in three equal annual installments of $12,500 due each December 31. The land was purchased six months ago by Sun at a cost of $50,000. An interest rate of 7% is considered appropriate for this type of transaction.

Required: (Show supporting calculations)

(a) Prepare the journal entry (or journal entries) required on Sun Corporation's books to reflect the December 31, 2017 transaction. (5 marks)

(b) How much is the total interest revenue that Sun Corporation would record over the term of the note? (2 marks)

(c) What is the carrying value of the note on December 31, 2019 and on December 31, 2020? (4 marks)

(d) How much is the gross profit that Sun Corporation would record on December 31, 2017? (2 marks)

Answer:

PV of note receivable = PV of $12,500 annuity
@ 7% for 3 years ($12,500 x 2.624316) *$32,803.95*

Amortization Schedule - Note Receivable

Date	*Debit, Notes Receivable / Credit, Interest Income*	*Cash Instalment Received*	*Carrying Value of Note Receivable*
12/31/17	—	—	*$32,803.95*
12/31/18	*$2,296.28* [2]	*$12,500*	*22,600.23*[1]
12/31/19	*1,582.02*	*12,500*	*11,682.25*
12/31/20	*817.76*	*12,500*	—

[1] *$6,142.85 = $32,803.95 x 7%*
[2] *$22,600.23 = $32,803.95 + $2,296.28 – $12,500.00*

(a) *December 31, 2017*

Cash	*27,000.00*	
Notes Receivable	*32,803.95*	
Sales Revenue [3]		*59,803.95*
Cost of Goods Sold	*50,000*	
Inventory [3]		*50,000*

[3] *To record sales revenue based upon the present value of the note plus the immediate cash payment received:*

PV of $12,500 annuity	
@ 7% for 3 years ($12,500 x 2.624316)	*$32,803.95*
Cash down payment received	*27,000.00*
Capitalized value of services	*$59,803.95*

Question No. 2 (23 marks) (continued)

(b) *Total interest revenue over the term of the note = $2,296.28 + $1,582.02 + $817.76 = $4,696.06.*

(c) *Carrying value of note on December 31, 2019 = $11,682.25.*
Carrying value of note on December 31, 2020 = $0.

(d) *Gross profit recorded on December 31, 2017 = $59,803.95 – $50,000 = $9,803.95.*

Question No. 3 (25 marks)

This question consists of two (2) parts. Answer BOTH parts. Each part is independent.

Part One: (10 marks)

Mitchum Company signs a contract to sell light rail transit vehicles to the city of Kitchener, Ontario for $25 million. Mitchum follows the new IFRS standard for revenue recognition.

Required:

Using the information given in the example above, illustrate the five steps that Mitchum Company must follow under the new IFRS revenue recognition standard.

Answer:

1. *A contract is an agreement between two parties that creates enforceable rights or obligations. In this case, Mitchum Company has signed a contract to deliver LRT vehicles to the city of Kitchener.*

2. *Mitchum Company has only one performance obligation: to deliver LRT vehicles to the city of Kitchener.*

3. *The transaction price is the amount of consideration that a company expects to receive from a customer in exchange for transferring a good or service. In this case, the transaction price is $25 million which Mitchum expects to receive from the city of Kitchener.*

4. *In this case, Mitchum has only one performance obligation, to deliver LRT vehicles to the city of Kitchener.*

5. *Mitchum can recognize revenue of $25 million for the sale of LRT vehicle when it satisfies its performance obligation – the delivery of the LRT vehicles to the city of Kitchener.*

Part Two: (15 marks)

Hunter Corporation is a public company with a December 31 year-end. On April 1, 2018, Hunter signs a contract with a local customer to sell four units of its product for a total contract price of $27,500. The stand-alone selling price of each unit and the cost of each unit are $5,250 and $4,000, respectively. Under the contract, Hunter is to also provide installation that has a stand-alone value of $1,500 per unit installed. In addition, the contract also includes a $1,600 maintenance plan for all four units for five years after installation. Hunter follows the residual approach to allocate the transaction price.

On the date the contract is signed, Hunter receives a 25% down payment. On July 1, 2018, the units are delivered and installed at which time the balance of the contract is paid by the customer.

Required:

Prepare all the necessary journal entries on the books of Hunter Corporation for 2018 including any required adjusting entries on December 31, 2018. Indicate a date for each journal entry.

Question No. 3 (continued) (25 marks)

Answer:

This revenue arrangement has 3 different performance obligations: (i) the sale of four units, (ii) installation for each unit, and (iii) the maintenance plan covering all four units.

The total revenue of $27,500 is allocated to the three performance obligations based as follows:

Units (4 x $5,250)	*$21,000*
Installation (4 x $1,500)	*6,000*
Maintenance plan	*1,600*
Total estimated fair value	*$28,600*

The allocation of the transaction price is as follows.

Units	*$20,192*	*($21,000 / $28,600) x $27,500*
Installation	*5,769*	*($6,000 / $28,600) x $27,500*
Maintenance plan	*1,539*	*($1,600 / $28,600) x $27,500*
Total Revenue	*$27,500*	

Hunter makes the following journal entries for 2018:

April 1, 2018:

Cash (25% x $27,500)	*6,875*	
Accounts Receivable ($27,500 – $6,875)	*20,625*	
Unearned Revenue - Installation		*5,769*
Unearned Revenue - Maintenance Plans		*1,539*
Unearned Revenue - Units		*20,192*

(To record agreement to sell and install four units and a maintenance plan covering all four units)

Note: A Contract Liability Account could be used instead of unearned revenue.

July 1, 2018:

Cash (75% x $27,500)	*20,625*	
Accounts Receivable		*20,625*
Unearned Revenue - Installation	*5,769*	
Unearned Revenue - Units	*20,192*	
Service Revenue - Installation		*5,769*
Sales Revenue - Units		*20,192*
Cost of Goods Sold	*16,000*	
Inventory (4 x $4,000)		*16,000*

December 31, 2018:

Unearned Revenue - Maintenance Plans	*154*	
Service Revenue - Maintenance Plans ($1,539 x 6/60)		*154*

Present Value Financial Tables

Table 2: PRESENT VALUE of $1.00 that is received in the future.

Period/Per	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%
1	0.9900990	0.9803922	0.9708738	0.9615385	0.9523810	0.9433962	0.9345794	0.9259259	0.9174312	0.9090909	0.9009009	0.8928571
2	0.9802960	0.9611688	0.9425959	0.9245562	0.9070295	0.8899964	0.8734387	0.8573388	0.8416800	0.8264463	0.8116224	0.7971939
3	0.9705901	0.9423223	0.9151417	0.8889964	0.8638376	0.8396193	0.8162979	0.7938322	0.7721835	0.7513148	0.7311914	0.7117802
4	0.9609803	0.9238454	0.8884870	0.8548042	0.8227025	0.7920937	0.7628952	0.7350299	0.7084252	0.6830135	0.6587310	0.6355181
5	0.9514657	0.9057308	0.8626088	0.8219271	0.7835262	0.7472582	0.7129862	0.6805832	0.6499314	0.6209213	0.5934513	0.5674269
6	0.9420452	0.8879714	0.8374843	0.7903145	0.7462154	0.7049605	0.6663422	0.6301696	0.5962673	0.5644739	0.5346408	0.5066311
7	0.9327181	0.8705602	0.8130915	0.7599178	0.7106813	0.6650571	0.6227497	0.5834904	0.5470342	0.5131581	0.4816584	0.4523492
8	0.9234832	0.8534904	0.7894092	0.7306902	0.6768394	0.6274124	0.5820091	0.5402689	0.5018663	0.4665074	0.4339265	0.4038832
9	0.9143398	0.8367553	0.7664167	0.7025867	0.6446089	0.5918985	0.5439337	0.5002490	0.4604278	0.4240976	0.3909248	0.3606100
10	0.9052870	0.8203483	0.7440939	0.6755642	0.6139133	0.5583948	0.5083493	0.4631935	0.4224108	0.3855433	0.3521845	0.3219732
11	0.8963237	0.8042630	0.7224213	0.6495809	0.5846793	0.5267875	0.4750928	0.4288829	0.3875329	0.3504939	0.3172833	0.2874761
12	0.8874492	0.7884932	0.7013799	0.6245970	0.5568374	0.4969694	0.4440120	0.3971138	0.3555347	0.3186308	0.2858408	0.2566751
13	0.8786626	0.7730325	0.6809513	0.6005741	0.5303214	0.4688390	0.4149644	0.3676979	0.3261786	0.2896644	0.2575143	0.2291742
14	0.8699630	0.7578750	0.6611178	0.5774751	0.5050680	0.4423010	0.3878172	0.3404610	0.2992465	0.2633313	0.2319948	0.2046198
15	0.8613495	0.7430147	0.6418619	0.5552645	0.4810171	0.4172651	0.3624460	0.3152417	0.2745380	0.2393920	0.2090043	0.1826963
16	0.8528213	0.7284458	0.6231669	0.5339082	0.4581115	0.3936463	0.3387346	0.2918905	0.2518698	0.2176291	0.1882922	0.1631217
17	0.8443775	0.7141626	0.6050164	0.5133732	0.4362967	0.3713644	0.3165744	0.2702690	0.2310732	0.1978447	0.1696326	0.1456443
18	0.8360173	0.7001594	0.5873946	0.4936281	0.4155207	0.3503438	0.2958639	0.2502490	0.2119937	0.1798588	0.1528222	0.1300396
19	0.8277399	0.6864308	0.5702860	0.4746424	0.3957340	0.3305130	0.2765083	0.2317121	0.1944897	0.1635080	0.1376776	0.1161068
20	0.8195445	0.6729713	0.5536758	0.4563869	0.3768895	0.3118047	0.2584190	0.2145482	0.1784309	0.1486436	0.1240339	0.1036668
21	0.8114302	0.6597758	0.5375493	0.4388336	0.3589424	0.2941554	0.2415131	0.1986557	0.1636981	0.1351306	0.1117423	0.0925596
22	0.8033962	0.6468390	0.5218925	0.4219554	0.3418499	0.2775051	0.2257132	0.1839405	0.1501817	0.1228460	0.1006687	0.0826425
23	0.7954418	0.6341559	0.5066917	0.4057263	0.3255713	0.2617973	0.2109469	0.1703153	0.1377814	0.1116782	0.0906925	0.0737880
24	0.7875661	0.6217215	0.4919337	0.3901215	0.3100679	0.2469785	0.1971466	0.1576993	0.1264049	0.1015256	0.0817050	0.0658821
25	0.7797684	0.6095309	0.4776056	0.3751168	0.2953028	0.2329986	0.1842492	0.1460179	0.1159678	0.0922960	0.0736081	0.0588233
26	0.7720480	0.5975793	0.4636947	0.3606892	0.2812407	0.2198100	0.1721955	0.1352018	0.1063925	0.0839055	0.0663136	0.0525208
27	0.7644039	0.5858620	0.4501891	0.3468166	0.2678483	0.2073680	0.1609304	0.1251868	0.0976078	0.0762777	0.0597420	0.0468936
28	0.7568356	0.5743746	0.4370768	0.3334775	0.2550936	0.1956301	0.1504022	0.1159137	0.0895484	0.0693433	0.0538216	0.0418693
29	0.7493421	0.5631123	0.4243464	0.3206514	0.2429463	0.1845567	0.1405628	0.1073275	0.0821545	0.0630394	0.0484879	0.0373833
30	0.7419229	0.5520709	0.4119868	0.3083187	0.2313774	0.1741101	0.1313671	0.0993773	0.0753711	0.0573086	0.0436828	0.0333779
31	0.7345771	0.5412460	0.3999871	0.2964603	0.2203595	0.1642548	0.1227730	0.0920160	0.0691478	0.0520987	0.0393539	0.0298017
32	0.7273041	0.5306333	0.3883370	0.2850579	0.2098662	0.1549574	0.1147411	0.0852000	0.0634384	0.0473624	0.0354540	0.0266087
33	0.7201031	0.5202287	0.3770262	0.2740942	0.1998725	0.1461862	0.1072347	0.0788889	0.0582003	0.0430568	0.0319405	0.0237577
34	0.7129733	0.5100282	0.3660449	0.2635521	0.1903548	0.1379115	0.1002193	0.0730453	0.0533948	0.0391425	0.0287752	0.0212123
35	0.7059142	0.5000276	0.3553834	0.2534155	0.1812903	0.1301052	0.0936629	0.0676345	0.0489861	0.0355841	0.0259236	0.0189395
36	0.6989249	0.4902232	0.3450324	0.2436687	0.1726574	0.1227408	0.0875355	0.0626246	0.0449413	0.0323492	0.0233546	0.0169103
37	0.6920049	0.4806109	0.3349829	0.2342968	0.1644356	0.1157932	0.0818088	0.0579857	0.0412306	0.0294083	0.0210402	0.0150985
38	0.6851534	0.4711872	0.3252262	0.2252854	0.1566054	0.1092389	0.0764569	0.0536905	0.0378262	0.0267349	0.0189551	0.0134808
39	0.6783697	0.4619482	0.3157535	0.2166206	0.1491480	0.1030555	0.0714550	0.0497134	0.0347030	0.0243044	0.0170767	0.0120364
40	0.6716531	0.4528904	0.3065568	0.2082890	0.1420457	0.0972222	0.0667804	0.0460309	0.0318376	0.0220949	0.0153844	0.0107468

Table 4: PRESENT VALUE of Annuity of $1.00 in arrears.												
Period/Per	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%
1	0.990099	0.980392	0.970874	0.961538	0.952381	0.943396	0.934579	0.925926	0.917431	0.909091	0.900901	0.892857
2	1.970395	1.941561	1.913470	1.886095	1.859410	1.833393	1.808018	1.783265	1.759111	1.735537	1.712523	1.690051
3	2.940985	2.883883	2.828611	2.775091	2.723248	2.673012	2.624316	2.577097	2.531295	2.486852	2.443715	2.401831
4	3.901966	3.807729	3.717098	3.629895	3.545951	3.465106	3.387211	3.312127	3.239720	3.169865	3.102446	3.037349
5	4.853431	4.713460	4.579707	4.451822	4.329477	4.212364	4.100197	3.992710	3.889651	3.790787	3.695897	3.604776
6	5.795476	5.601431	5.417191	5.242137	5.075692	4.917324	4.766540	4.622880	4.485919	4.355261	4.230538	4.111407
7	6.728195	6.471991	6.230283	6.002055	5.786373	5.582381	5.389289	5.206370	5.032953	4.868419	4.712196	4.563757
8	7.651678	7.325481	7.019692	6.732745	6.463213	6.209794	5.971299	5.746639	5.534819	5.334926	5.146123	4.967640
9	8.566018	8.162237	7.786109	7.435332	7.107822	6.801692	6.515232	6.246888	5.995247	5.759024	5.537048	5.328250
10	9.471305	8.982585	8.530203	8.110896	7.721735	7.360087	7.023582	6.710081	6.417658	6.144567	5.889232	5.650223
11	10.367628	9.786848	9.252624	8.760477	8.306414	7.886875	7.498674	7.138964	6.805191	6.495061	6.206515	5.937699
12	11.255077	10.575341	9.954004	9.385074	8.863252	8.383844	7.942686	7.536078	7.160725	6.813692	6.492356	6.194374
13	12.133740	11.348374	10.634955	9.985648	9.393573	8.852683	8.357651	7.903776	7.486904	7.103356	6.749870	6.423548
14	13.003703	12.106249	11.296073	10.563123	9.898641	9.294984	8.745468	8.244237	7.786150	7.366687	6.981865	6.628168
15	13.865053	12.849264	11.937935	11.118387	10.379658	9.712249	9.107914	8.559479	8.060688	7.606080	7.190870	6.810864
16	14.717874	13.577709	12.561102	11.652296	10.837770	10.105895	9.446649	8.851369	8.312558	7.823709	7.379162	6.973986
17	15.562251	14.291872	13.166118	12.165669	11.274066	10.477260	9.763223	9.121638	8.543631	8.021553	7.548794	7.119630
18	16.398269	14.992031	13.753513	12.659297	11.689587	10.827603	10.059087	9.371887	8.755625	8.201412	7.701617	7.249670
19	17.226008	15.678462	14.323799	13.133939	12.085321	11.158116	10.335595	9.603599	8.950115	8.364920	7.839294	7.365777
20	18.045553	16.351433	14.877475	13.590326	12.462210	11.469921	10.594014	9.818147	9.128546	8.513564	7.963328	7.469444
21	18.856983	17.011209	15.415024	14.029160	12.821153	11.764077	10.835527	10.016803	9.292244	8.648694	8.075070	7.562003
22	19.660379	17.658048	15.936917	14.451115	13.163003	12.041582	11.061240	10.200744	9.442425	8.771540	8.175739	7.644646
23	20.455821	18.292204	16.443608	14.856842	13.488574	12.303379	11.272187	10.371059	9.580207	8.883218	8.266432	7.718434
24	21.243387	18.913926	16.935542	15.246963	13.798642	12.550358	11.469334	10.528758	9.706612	8.984744	8.348137	7.784316
25	22.023156	19.523456	17.413148	15.622080	14.093945	12.783356	11.653583	10.674776	9.822580	9.077040	8.421745	7.843139
26	22.795204	20.121036	17.876842	15.982769	14.375185	13.003166	11.825779	10.809978	9.928972	9.160945	8.488058	7.895660
27	23.559608	20.706898	18.327031	16.329586	14.643034	13.210534	11.986709	10.935165	10.026580	9.237223	8.547800	7.942554
28	24.316443	21.281272	18.764108	16.663063	14.898127	13.406164	12.137111	11.051078	10.116128	9.306567	8.601622	7.984423
29	25.065785	21.844385	19.188455	16.983715	15.141074	13.590721	12.277674	11.158406	10.198283	9.369606	8.650110	8.021806
30	25.807708	22.396456	19.600441	17.292033	15.372451	13.764831	12.409041	11.257783	10.273654	9.426914	8.693793	8.055184
31	26.542285	22.937702	20.000428	17.588494	15.592811	13.929086	12.531814	11.349799	10.342802	9.479013	8.733146	8.084986
32	27.269589	23.468335	20.388766	17.873551	15.802677	14.084043	12.646555	11.434999	10.406240	9.526376	8.768600	8.111594
33	27.989693	23.988564	20.765792	18.147646	16.002549	14.230230	12.753790	11.513888	10.464441	9.569432	8.800541	8.135352
34	28.702666	24.498592	21.131837	18.411198	16.192904	14.368141	12.854009	11.586934	10.517835	9.608575	8.829316	8.156564
35	29.408580	24.998619	21.487220	18.664613	16.374194	14.498246	12.947672	11.654568	10.566821	9.644159	8.855240	8.175504
36	30.107505	25.488842	21.832252	18.908282	16.546852	14.620987	13.035208	11.717193	10.611763	9.676508	8.878594	8.192414
37	30.799510	25.969453	22.167235	19.142579	16.711287	14.736780	13.117017	11.775179	10.652993	9.705917	8.899635	8.207513
38	31.484663	26.440641	22.492462	19.367864	16.867893	14.846019	13.193473	11.828869	10.690820	9.732651	8.918590	8.220993
39	32.163033	26.902589	22.808215	19.584485	17.017041	14.949075	13.264928	11.878582	10.725523	9.756956	8.935666	8.233030
40	32.834686	27.355479	23.114772	19.792774	17.159086	15.046297	13.331709	11.924613	10.757360	9.779051	8.951051	8.243777