École de gestion TELFER School of Management

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# Mid Term Exam
# Intermediate Financial Accounting II
# Winter 2013
# ADM3340

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## (SUGGESTED SOLUTIONS)

**Name:** _____ **ID#:** _____

Required:

- Write your name and student ID number above.
- Turn off all cell phones.
- This examination "SUGGESTED SOLUTION" comprises **4** questions over **16** numbered pages. Answer all questions in this booklet. Booklet is **not** to be removed from the examination room. You may not separate the pages.
- Do not answer questions using a pencil or erasable pen: if you do you will forfeit the right to ask that your exam be remarked.
- Limit your answer to the space provided. Blank sheets for rough work and supporting calculations are given at the end of each question.
- This exam will be marked out of **100** marks (for convenience) and is 2½ hours long. You should budget approximately **1.5** minutes per mark. The exam is worth 40% of the overall course mark.
- 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.
- This exam paper must remain stapled: do not take this exam paper apart.
- Present value tables are provided on pages 15 and 16.
- Language (non-electronic) dictionaries are allowed with the proctor's permission.
- You ***must*** sign the Statement of Academic integrity on page 2 of this exam.

| | Question | | Marks |
|---|---|---|---|
| Ch 12 | 1: part 1 | Goodwill | /3 |
| | 1: part 2 | Intangibles: acquisition & amortization | /6 |
| | 1: part 3 | Intangibles: impairment & reversal under ASPE | /6 |
| | 1: part 4 | Intangibles: impairment & reversal under IFRS | /6 |
| Ch 13 | 2: part 1 | Promotion liabilities | /10 |
| | 2: part 2 | Balance sheet presentation | /10 |
| Ch 14 | 3: part 1 | Bond liabilities: issuance | /9 |
| | 3: part 2 | Bond liabilities: retirement | /12 |
| | 3: part 3 | Troubled debt restructuring | /12 |
| | 3: part 4 | Note payable | /7 |
| Ch 15 | 4: part 1 | Retained earnings | /5 |
| | 4: part 2 | Dividends | /9 |
| | 4: part 3 | Treasury stock | /5 |
| | TOTAL | | /100 |

**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 an exam grade of zero.

**QUESTION 1 (21 marks)**
**Answer ALL parts to this question. Each part is independent.**

**PART 1: (3 marks)**

**Question 1**

Once goodwill has been recognized in the accounts there has been much disagreement over how it should be treated in subsequent periods. Discuss briefly three alternative treatment approaches.

a. Charge goodwill off immediately to shareholders' equity. Under this alternative goodwill is not deemed to be an asset that is separable from the business itself and therefore should not be recognized as a separate asset. In addition, immediate expensing would be consistent with the expensing of costs of internally generated goodwill. As well, there is no rational method to amortize goodwill, due to the many uncertainties involved; therefore, financial statements will be more reliable if it is expensed.

b. Amortize goodwill over its useful life. Goodwill at the time of purchase erodes in value over time and therefore it should be charged to income over the estimated period in which it is expected to benefit the business.

c. Retain goodwill indefinitely unless impairment occurs. Current and future expenses help to maintain existing goodwill; therefore, it can have an indefinite life. Amortization of goodwill is entirely arbitrary and leads to distortions of net income.

**Question 1 (21 marks) (continued)**
**Answer ALL parts to this question. Each part is independent.**

**PART 2: (6 marks)**

The following transactions involving intangible assets of Vortage Corporation occurred on or near December 31, 2011. Complete the chart on the following page by writing the journal entry(ies) needed (i) at that date to record the transaction and (ii) at December 31, 2012 to record any resultant amortization. If no entry is required at a particular date, write "none needed."

1. Vortage paid Jorex Company $200,000 for the exclusive right to market a particular product, using the Jorex name and logo in promotional material. The franchise runs for as long as Vortage is in business. Vortage decided to amortize the franchise over 25 years.

2. Vortage spent $300,000 developing a new manufacturing process and has applied for a patent. It believes that its application will be successful and that the process will be successfully implemented and used for 10 years.

3. In January, 2012, Vortage 's application for a patent (#2 above) was granted. Legal and registration costs incurred were $35,000. The patent runs for 17 years from the grant date. The manufacturing process will be useful to Vortage for 10 years.

4. Vortage incurred $90,000 in successfully defending one of its patents in an infringement lawsuit. The patent expires during December, 2015.

5. Vortage incurred $200,000 in an unsuccessful patent defence. As a result of the adverse verdict, the patent, with a remaining unamortized cost of $99,000, is deemed worthless.

| | On Date of Transaction | | | On December 31, 2011 | | |
|---|---|---|---|---|---|---|
| 1. | Franchise (asset).. | 200,000 | | Franchise Amort. Exp. | 8,000 | |
| | Cash ..... | | 200,000 | Acc Amortization Franchise | | 8,000 |
| 2. | Deferred Devel. Costs (asset) | 300,000 | | Devel. Cost Amortization Expense | 30,000 | |
| | Cash..... | | 300,000 | Deferred Devel. Costs ..... | | 30,000 |
| 3. | Patents (asset)..... | 35,000 | | Patent Amortization Expense ..... | 3,500 | |
| | Cash..... | | 35,000 | Acc Amortization Patents | | 3,500 |
| 4. | Patents (asset)..... | 90,000 | | Patent Amortization Expense ..... | 22,500 | |
| | Cash..... | | 90,000 | Acc Amortization Patents | | 22,500 |
| 5. | Legal Fees Expense | 200,000 | | "None needed." | | |
| | Cash..... | | 200,000 | | | |
| | Loss on Impairment of Patent..... | 99,000 | | | | |
| | Acc impairment losses (or Patent) | | 99,000 | | | |

**Question 1 (21 marks) (continued)**
**Answer ALL parts to this question. Each part is independent.**

**PART 2: (6 marks) (continued)**

| | On Date of Transaction | On December 31, 2012 |
|---|---|---|
| **1** | | |
| **2** | | |
| **3** | | |
| **4** | | |
| **5** | | |

**Question 1 (21 marks) (continued)**
**Answer ALL parts to this question. Each part is independent.**

**PART 3: (6 marks)**

| | Limited-life intangibles | Indefinite-life intangibles (excluding goodwill) | Goodwill [the values below pertain to the Reporting Unit/Cash-Generating-Unit, including its Goodwill]. |
|---|---|---|---|
| Has management observed events & circumstances indicating that there might be an impairment? | Yes | No | Yes |
| Carrying amount | $8,000,000 | $8,000,000 | $32,000,000 |
| Fair value | $7,000,000 | $7,000,000 | $30,000,000 |
| Costs to sell | $40,000 | $40,000 | $500,000 |
| Undiscounted future cash flows from use and eventual sale | $9,000,000 | $7,600,000 | $40,000,000 |
| Present value of the future cash flows from use and eventual sale | $6,000,000 | $7,200,000 | $33,000,000 |

**Required**

Using the above data complete the following grid, applying ASPE. Input the above data into **www.impairmentlonglivednonfinancialassets.com** for the suggested solution.

| | | Under ASPE | | |
|---|---|---|---|---|
| | | Limited-Life Intangible Assets. | Indefinite-Life Intangible Assets. | Goodwill. |
| 1 | Should the asset be tested for impairment? You must explain your answer. | | | |
| 2 | Ignore your answer to 1 above. Is the asset impaired? You must show supporting calculations. | | | |
| 3 | If the asset is deemed to be impaired, what is the amount of the impairment loss to be recognized in the income statement? You must show supporting calculations. | | | |
| 4 | Can an impairment loss reversal be recognized in a subsequent period, and if so, is there a limit to the reversal? Assume the company uses the cost model (i.e., not the revaluation model) subsequent to acquisition. You must explain your answer. | | | |

**Question 1 (21 marks) (continued)**
**Answer ALL parts to this question. Each part is independent.**

**Part 4: (6 marks)**

| | Limited-life intangibles | Indefinite-life intangibles (excluding goodwill) | Goodwill [the values below pertain to the Reporting Unit/Cash-Generating-Unit, including its Goodwill]. |
|---|---|---|---|
| Has management observed events & circumstances indicating that there might be an impairment? | Yes | No | Yes |
| Carrying amount | $8,000,000 | $8,000,000 | $32,000,000 |
| Fair value | $7,000,000 | $7,000,000 | $30,000,000 |
| Costs to sell | $40,000 | $40,000 | $500,000 |
| Undiscounted future cash flows from use and eventual sale | $9,000,000 | $7,600,000 | $40,000,000 |
| Present value of the future cash flows from use and eventual sale | $6,000,000 | $7,200,000 | $33,000,000 |

**Required:** Using the above data complete the following grid, applying IFRS. Input the above data into **www.impairmentlonglivednonfinancialassets.com** for the suggested solution.

| | | Under IFRS | | |
|---|---|---|---|---|
| | | Limited-Life Intangible Assets. | Indefinite-Life Intangible Assets. | Goodwill. |
| 1 | Should the asset be tested for impairment? You must explain your answer. | | | |
| 2 | Ignore your answer to 1 above. Is the asset impaired? Show supporting calculations. | | | |
| 3 | If the asset is deemed to be impaired, what is the amount of the impairment loss to be recognized in the income statement? Show supporting calculations. | | | |
| 4 | Can an impairment loss reversal be recognized in a subsequent period, and if so, is there a limit to the reversal? Assume the company uses the cost model (i.e., not the revaluation model) subsequent to acquisition. You must explain your answer. | | | |

**QUESTION 2 (20 marks)**
**Answer ALL parts to this question. Each part is independent.**

**PART 1: (10 marks)**

Rover Corp. commenced business in 2011 and includes one coupon in each bag of dog food it sells. In return for three coupons, customers receive a dog toy that the company purchases for $1.20 each. Rover's experience indicates that 60% of the coupons will be redeemed. During 2011, 100,000 bags of dog food were sold, 22,000 toys were purchased, and 45,000 coupons were redeemed. During 2012, 120,000 bags of dog food were sold, 26,000 toys were purchased, and 60,000 coupons were redeemed.

**Required**
Determine the premium (promotion) expense to be reported in the income statement and the estimated liability for premiums on the year-end balance sheets for 2011 and 2012. Show all supporting calculations.

| | 2011 | 2012 |
|---|---|---|
| Premium (promotion) expense | $24,000 (1) | $28,800 (3) |
| Estimated liability for premiums | 6,000 (2) | 10,800 (4) |

(1) 100,000 × .6 = 60,000; 60,000 ÷ 3 = 20,000; 20,000 × $1.20 = $24,000.
(2) 45,000 ÷ 3 = 15,000; 20,000 – 15,000 = 5,000; 5,000 × $1.20 = $6,000.
(3) 120,000 × .6 = 72,000; 72,000 ÷ 3 = 24,000; 24,000 × $1.20 = $28,800.
(4) 60,000 ÷ 3 = 20,000; 5,000 + 24,000 – 20,000 = 9,000; 9,000 × $1.20 = $10,800.

**PART 2: (10 marks)**

At their last year end, December 31, 2012, the liabilities outstanding of Sapphire Corp included the following:
1. Cash dividends on common shares, $100,000, payable on January 15, 2013.
2. Note payable to Vanier Bank, $850,000, due January 20, 2013.
3. Serial bonds, $2,000,000, of which $500,000 matures during 2013.
4. Note payable to Rathmines Bank, $200,000, due January 27, 2013.

The following transactions occurred early in 2013:
January 15: The cash dividends were paid.
January 20: The note payable to Vanier Bank was paid.
January 25: Sapphire entered into a financing agreement with Terenure Bank, enabling it to borrow up to $1,000,000 at any time through the end of 2015. Amounts borrowed under the agreement would bear interest at 1% above the bank's prime rate and would mature 3 years from the date of the loan. The corporation immediately borrowed $800,000 to replace the cash used in paying its January 20 note to Vanier Bank.
January 26: 40,000 common shares were issued for $300,000. $200,000 of the proceeds was used to pay off the note payable to Rathmines Bank.
February 1: The financial statements for 2012 were issued.

**Required**
Prepare a partial balance sheet in good form for Sapphire Corp, showing the manner in which the above liabilities should be presented at December 31, 2012. Any appropriate note disclosure should be included. Sapphire Corp. uses ASPE.

| | | |
|---|---|---|
| Current liabilities: | | |
| Dividends payable on common shares | $ 100,000 | |
| Notes payable—Vanier Bank - Note 1 | 850,000 | [$800k could be classified as long-term debt – see note 1] |
| Note payable—Rathmines Bank - Note 2 | 200,000 | [could be classified as long-term debt – see note 2] |
| Currently maturing portion of serial bonds | 500,000 | |
| Total current liabilities | | $1,650,000 |
| Long-term debt: | | |
| Serial bonds not maturing currently | 1,500,000 | |
| Total long-term debt | | 1,500,000 |
| Total liabilities | | $3,150,000 |

- Note 1: On January 25, 2013, the corporation borrowed $800,000, payable on January 25, 2016, and used the proceeds to replace cash that had been used to repay a note payable on January 20, 2013.
- Note 2: On January 26, 2013, the corporation issued 40,000 common shares and received proceeds totalling $300,000, of which $200,000 was used to liquidate a note payable that matured on January 27, 2013.

[see ASPE 1510.13 or the second paragraph on page 841 of Kieso et al (9th ed): Under ASPE, currently maturing debt can be classified as long-term if there is irrefutable evidence at time of issuing financial statements that debt **has been** or **will be** replaced by or converted to long-term debt or the company's own share capital.]

**QUESTION 3 (40 marks)**
**Answer ALL parts to this question. Each part is independent.**

**PART 1: (9 marks)**

On April 1, 2012 BondBeagle Inc. issues $2,500,000 face value bonds. The bond date is February 1, 2012, and the bonds carry a coupon rate of 6% per year, payable semi-annually on January 31 and July 31. The bonds' maturity date is January 31, 2022. The bonds are sold to provide an annual yield of 4%.

BondBeagle Inc. uses the effective interest rate method to amortize any bond premium or discount. BondBeagle Inc.'s accounting year-end is September 30.

**Required**
Present the journal entry to record the issuance of the bonds: show all supporting calculations.

Intro | INPUT | Text | Date_Tables | Issuance_Calc | **Issuance** | I1 | I2 | I3 | I4 | I5 | Retiremer

| | B | C | D | E |
|---|---|---|---|---|
| 2 | April 01, 2012 | Date of issuance | Dr | Cr |
| 3 | | | | |
| 4 | | | | |
| 5 | Cash | | 2,928,174.67 | |
| 6 | | Interest payable | | 25,000.00 |
| 7 | | Bonds payable | | 2,500,000.00 |
| 8 | | Bond premium | | 403,174.67 |
| 9 | | | | |
| | To record the issuance of 10.00-year bonds, face value $2,500,000, stated interest rate 6.0000% per annum. | | | |
| | The bond date is February 01, 2012 with interest paid semi-annually. | | | |
| | There are 118 months (including 20 interest payments) between the bond's issuance and maturity dates. | | | |
| | For details of how this journal entry's amounts are determined, please refer to the ISSUANCE_CALC sheet. | | | |

The following table is not required in your solution:

| | | If the bonds were issued on: | |
|---|---|---|---|
| 21 | | January 31, 2012 | July 31, 2012 |
| 22 | | There would be 20 semi-annual interest payments (120 months) between January 31, 2012 and the maturity date, January 31, 2022 | There would be 19 semi-annual interest payments (114 months) between July 31, 2012 and the maturity date, January 31, 2022 |
| 23 | Present value of the bond's 20.00 semi-annual interest payments of $75,000 (= $2,500,000 x 6.0000%/2) at 2.0000% effective interest rate [$1,226,357 = 16.35143 x $75,000] | 1,226,357.25 | |
| 24 | Present value of the maturity value of $2,500,000 at the end of 20.00 periods at 2.0000% effective interest rate [$1,682,425 = 0.67297 x $2,500,000] | 1,682,425.00 | |
| 25 | Present value of the bond's 19.00 semi-annual interest payments of $75,000 (= $2,500,000 x 6.0000%/2) at 2.0000% effective interest rate [$1,175,885 = 15.67846 x $75,000] | | 1,175,884.50 |
| 26 | Present value of the maturity value of $2,500,000 at the end of 19.00 periods at 2.0000% effective interest rate [$1,716,075 = 0.68643 x $2,500,000] | | 1,716,075.00 |
| 27 | Total | 2,908,782.25 | 2,891,959.50 |
| 28 | Bond proceeds, excluding any accrued interest and issuance cost, on April 01, 2012 (which lies between January 31, 2012 and July 31, 2012). $2,903,175 = $2,908,782 + {[($2,891,960 - $2,908,782)/6months] x 2months} | 2,903,174.67 | |

**Question 3 (40 marks) (continued)**
**Answer ALL parts to this question. Each part is independent.**

## PART 2: (12 marks)

On February 1, 2013 BondBeagle Inc. issues $2,000,000 face value bonds. The bond date is February 1, 2013, and the bonds carry a coupon rate of 4% per year, payable semi-annually on January 31 and July 31. The bonds' maturity date is January 31, 2033. Proceeds upon issuance were $1,537,705, and the bonds provide an annual yield of 6%.

BondBeagle Inc. uses the effective interest rate method to amortize any bond premium or discount. On September 30, 2028 BondBeagle Inc. retires 30% of the bonds at 102.50%, excluding accrued interest. BondBeagle Inc.'s accounting year-end is August 31.

**Required**
Present all necessary journal entries for the retired bonds on September 30, 2028.

To answer this question you must first determine the amortized cost (carrying value) of the bond at July 31, 2028 (shown as $1,844,278 below).

| | |
|---|---|
| 2013 | 11 |
| 2014-2027 | 168 (14yrs x 12) |
| 2028 | 7 |
| | 186 months |

186/6 = 31 periods

February 1, 2013 to July 31, 2028: 31 interest pymt periods: 9 remaining periods to maturity.

| | | | |
|---|---|---|---|
| $40,000 | x | 7.786108922 | = $311,444 |
| $2,000,000 | x | 0.766416732 | = 1,532,833 |
| Amortized cost at July 31, 2028 | | | = $1,844,278 (rounded) |

Intro | INPUT | Text | Date_Tables | Issuance_Calc | Issuance | I1 | I2 | I3 | I4 | I5 | Retirement | R1 | R2 | R3 | R4 | R5 | Maturity | Amort_T

Instructions: Enter your data in the INPUT screen: all other screens are "Output screens".

| | B | C | D | E | F |
|---|---|---|---|---|---|
| 2 | | | | | |
| 3 | Date of retirement<br>September 30, 2028 | | Dr | Cr | |
| 4 | Interest expense | | 2,766.42 | | = $1,844,279 (net bond liability at beginning of August 01, 2028) x 3.000000% (semi-annual yield) x 1/6 months x 30.0000% retired. |
| 5 | | Bond discount | | 766.42 | = $2,766 - $2,000 |
| 6 | | Interest payable | | 2,000.00 | = $2,000,000 x 30.0000% retired x 1/12 months x 4.0000% |
| 7 | | | | | |
| | To record interest expense incurred on 30.0000% of the bonds between August 31, 2028 (the closest preceding accounting year-end date to the retirement date) and September 30, 2028. Effective interest rate method.<br>[Note: September 30, 2028 is neither an accounting year-end or a bond interest payment anniversary date.] | | | | |

| | | | | |
|---|---|---|---|---|
| 12 | Loss on retirement | 60,183.49 | | = ($619,000 - $4,000 + $45,183) - ($600,000 ) |
| | Use Ctrl+ and Ctrl- to zoom in and out. | | | = $2,000 (see above journal entry)<br>+ $2,000 (= $2,000,000 x 30.0000% retired x 1/12 months x 4.0000% accrued at August 31, 2028)<br>July 31, 2028 is the closest preceding interest payment date to the date of retirement. |
| 13 | Interest payable | 4,000.00 | | |
| 14 | Bond payable | 600,000.00 | | = $2,000,000 x 30.0000% retired |
| 15 | Bond discount | | 45,183.49 | = $155,721 x 30.00% (unamortized at beginning of August 01, 2028) - $1,533 [$1,533 = ($1,844,279 x 3.000000% yield x 2/6 x 30.00%) - ($2,000,000 x 2.0000% interest paid x 2/6 x 30.00%) amortization, July 31, 2028 to September 30, 2028 on the 30.00% retired)].<br>July 31, 2028 is the closest preceding interest payment date to the date of retirement. |
| 16 | | | | |
| 17 | Cash | | 619,000.00 | = $615,000 (=$2,000,000 x 30.0000% x 102.5000%)<br>+ $2,000 accrued (as appears in the journal entry above)<br>+ $2,000 accrued at August 31, 2028 |
| 18 | | | | |
| 19 | To record the retirement at 102.5000% of 20.00 year 4.0000% bonds, issued February 01, 2013, face value $600,000. | | | |

**Question 3 (40 marks) (continued)**
**Answer ALL parts to this question. Each part is independent.**

**PART 3: (12 marks)**

On 1/1/2012 Hobbit Inc. issued a 4 year 10% $1,000,000 bond payable to Middle-Earth Bank. Interest payment dates are June 30 and December 31 and the bonds were issued to provide a semi-annual yield of **5%**. By December 2013 Hobbit Inc. is in financial difficulties and is about to miss the 31/12/2013 interest payment. Hobbit Inc. negotiates an agreement with Middle-Earth Bank whereby the bank agrees to waive the 31/12/2013 interest payment and to replace, effective 31/12/2013, the above bond with an 8 year $700,000 bond bearing 14% annual interest, payable semi-annually. Due to Hobbit Inc.'s precarious situation, lenders would normally seek an 8% semi-annual return on this 'bail-out' financing.

**Required**

(a) Is this troubled debt restructuring a *settlement* or a *modification*? Your answer must show all supporting calculations.

(b) Answer either i or ii:

i If in part (a) you deem this restructuring to be a *settlement* provide any journal entries on Hobbit Inc's books that may be necessary on 31/12/2013.

ii If in part (a) you deem this restructuring to be a *modification*, what is the total of the interest expense that will be recognized by Hobbit Inc. during the 8 year life of the $700,000 bond.

**Step 1**

PV of the 4 year bond at 31/12/2013, using the old bond's historic 5% semi-annual yield:

| | | | | | |
|---|---|---|---|---|---|
| PVA, 4 periods, 5%, $50,000 | $ 50,000 | 5.00% | 4 | 3.545950504 | $177,298 |
| PV, 4 periods, 5%, $1,000,000 | $ 1,000,000 | 5.00% | 4 | 0.822702475 | 822,702 |
| | | | | | 1,000,000 |
| 31/12/2013 interest payment | | | | | 50,000 |
| PV of old debt owed at 31/12/2013, using the old bond's historic 5% semi-annual yield: | | | | | $1,050,000 |

PV of the new 8 year bond at 31/12/2013, using the old bond's historic 5% semi-annual yield:

| | | | | | |
|---|---|---|---|---|---|
| PVA, 16 periods, 5%, $49,000 | $ 49,000 | 5.00% | 16 | 10.837769560 | $531,051 |
| PV, 16 periods, 5%, $700,000 | $ 700,000 | 5.00% | 16 | 0.458111522 | 320,678 |
| PV of new debt at 31/12/2013, using the old bond's historic 5% semi-annual yield: | | | | | $851,729 |

**Step 2**

| | |
|---|---|
| Difference ($1,050,000 - $851,729). | $198,271 |
| Difference as a percentage of $1,050,000 | 18.88% |

Greater than 10% and thus this is a 'settlement' and the old bond is derecognized.

**Step 3**

As this is a 'settlement' calculate the PV of the new bond using the prevailing 8% required semi-annual rate of return for bonds with similar risk and maturity.

PV of the new 8 year bond at 31/12/2013,using the prevailing rate of return for bonds with similar risk and maturity:

| | | | | | |
|---|---|---|---|---|---|
| PVA, 16 periods, 8%, $49,000 | $ 49,000 | 8.00% | 16 | 8.851369155 | $433,717 |
| PV, 16 periods, 8%, $700,000 | $ 700,000 | 8.00% | 16 | 0.291890468 | 204,323 |

| | |
|---|---|
| PV of new debt at 31/12/2013, using the prevailing 8% required semi-annual rate of return for bonds with similar risk and maturity. | $638,040 |
| Face value of the new 8 year bond: | 700,000 |
| Therefore, bond discount is: | $61,960 |

31/12/2013 J/E to record the bond restructuring

| | | | |
|---|---|---|---|
| (Old) Bond payable | 1,000,000 | | |
| (Old) Bond discount | | 0 | [$0 =$1,000,000 - $1,000,000 (PV of the 4 year bond at 31/12/2013, using the old bond's historic 5% semi-annual yield:)]. |
| Interest payable | 50,000 | | |
| (New) Bond discount | 61,960 | | |
| (New) Bond payable | | 700,000 | |
| Gain on bond restructuring | | 411,960 | |

This amortization table (assumes semi-annual interest payments) is not required:

| Beginning of period | Face value | Bond discount | Beginning of period amortized cost | 7% interest paid per 6 months | 8% interest expense per 6 months | Bond discount amortization | End of period amortized cost | End of period | |
|---|---|---|---|---|---|---|---|---|---|
| 31-Dec-13 | 700,000 | **61,960** | 638,040 | 49,000 | 51,043 | 2,043 | 640,084 | 30-Jun-14 | 1 |
| 30-Jun-14 | 700,000 | 59,916 | 640,084 | 49,000 | 51,207 | 2,207 | 642,290 | 31-Dec-14 | 2 |
| 31-Dec-14 | 700,000 | 57,710 | 642,290 | 49,000 | 51,383 | 2,383 | 644,674 | 30-Jun-15 | 3 |
| 30-Jun-15 | 700,000 | 55,326 | 644,674 | 49,000 | 51,574 | 2,574 | 647,247 | 31-Dec-15 | 4 |
| 31-Dec-15 | 700,000 | 52,753 | 647,247 | 49,000 | 51,780 | 2,780 | 650,027 | 30-Jun-16 | 5 |
| 30-Jun-16 | 700,000 | 49,973 | 650,027 | 49,000 | 52,002 | 3,002 | 653,029 | 31-Dec-16 | 6 |
| 31-Dec-16 | 700,000 | 46,971 | 653,029 | 49,000 | 52,242 | 3,242 | 656,272 | 30-Jun-17 | 7 |
| 30-Jun-17 | 700,000 | 43,728 | 656,272 | 49,000 | 52,502 | 3,502 | 659,774 | 31-Dec-17 | 8 |
| 31-Dec-17 | 700,000 | 40,226 | 659,774 | 49,000 | 52,782 | 3,782 | 663,555 | 30-Jun-18 | 9 |
| 30-Jun-18 | 700,000 | 36,445 | 663,555 | 49,000 | 53,084 | 4,084 | 667,640 | 31-Dec-18 | 10 |
| 31-Dec-18 | 700,000 | 32,360 | 667,640 | 49,000 | 53,411 | 4,411 | 672,051 | 30-Jun-19 | 11 |
| 30-Jun-19 | 700,000 | 27,949 | 672,051 | 49,000 | 53,764 | 4,764 | 676,815 | 31-Dec-19 | 12 |
| 31-Dec-19 | 700,000 | 23,185 | 676,815 | 49,000 | 54,145 | 5,145 | 681,960 | 30-Jun-20 | 13 |
| 30-Jun-20 | 700,000 | 18,040 | 681,960 | 49,000 | 54,557 | 5,557 | 687,517 | 31-Dec-20 | 14 |
| 31-Dec-20 | 700,000 | 12,483 | 687,517 | 49,000 | 55,001 | 6,001 | 693,519 | 30-Jun-21 | 15 |
| 30-Jun-21 | 700,000 | 6,481 | 693,519 | 49,000 | 55,481 | 6,481 | 700,000 | 31-Dec-21 | 16 |
| | | | Totals | 784,000 | **845,960** | **61,960** | | | |

If this restructuring were deemed a *modification* then the total of the interest expense that will be recognized by Hobbit Inc. during the 8 year life of the $700,000 bond is $434,000.

| | |
|---|---|
| Total interest expense if the restructuring were deemed a *settlement* (as above) | 845,960 |
| Gain on *settlement* | 411,960 |
| Total interest expense if the restructuring were (incorrectly) deemed a *modification* | 434,000 |

Or: $434,000 = interest paid of $784,000 [$7,000,000 x 14% x 8 years] less $350,000 amortization [$1,050,000 - $700,000]

**Question 3 (40 marks) (continued)**
**Answer ALL parts to this question. Each part is independent.**

**PART 4: (7 marks)**

Rebecca Land Corp. issued a 5-year, zero-interest-bearing note with a $1,000,000 face value to Lindsay Inc. for $1,000,000 cash. Rebecca also gave Lindsay the right to use a parcel of land for equipment storage for 5 years. Interest rates for notes of this type were 8% at the time of issue.

**Required**
Prepare the journal entries to record the issuance of the note by (1) Rebecca and (2) Lindsay.

Rebecca

| | | |
|---|---|---|
| Cash | 1,000,000 | |
| Notes Payable | | * 680,500 |
| Unearned Revenue (Rent) | | 319,420 |

Lindsay

| | | |
|---|---|---|
| Notes Receivable | * 680,500 | |
| Prepaid Rent | 319,420 | |
| Cash | | 1,000,000 |

$680,580 is the present value of $1,000,000 at 8% for 5 years

**QUESTION 4 (19 marks)**
**Answer ALL parts to this question. Each part is independent.**

**PART 1: (5 marks)**

What are the items that increase retained earnings?

Items that increase retained earnings are:

- net income,
- prior period adjustments (error corrections),
- financial reorganization, and
- certain changes in accounting principle.

What are the items that decrease retained earnings?

Items that decrease retained earnings are:

- net loss,
- cash, property and most stock dividends,
- some treasury shares transactions,
- prior period adjustments (error corrections), and
- certain changes in accounting principle.

**PART 2: (9 marks)**

In each of the following independent cases, it is assumed that the corporation has outstanding 20,000, $0.80, preferred shares, with a carrying value of $200,000, and 80,000 common shares, with a carrying value of $800,000. No dividends have been declared for 2010 or 2011.

(a) At December 31, 2012, the board of directors wants to distribute $125,000 in dividends. How much will the preferred shareholders receive if their shares are cumulative and nonparticipating? Show all supporting calculations.

(b) At December 31, 2012, the board of directors wants to distribute $210,000 in dividends. How much will the preferred shareholders receive if their shares are cumulative and participating up to a 15% return in total? Show all supporting calculations.

(c) On December 31, 2012, the preferred shareholders received an $80,000 dividend on their shares, which are cumulative and fully participating. How much money was distributed in total for dividends to the preferred and common shares? Show all supporting calculations.

(a) Preferred: $48,000. [($0.80 x 20,000) x 2 yrs arrearages] + [($0.80 x 20,000) for 2012].
Common: $77,000 = $125,000 - $48,000. Not Asked.

(b) Preferred: $62,000 = [($0.80 x 20,000) x 2 yrs arrearages] + ($200,000 x 15%).
Common: $148,000 = $210,000 - $62,000. [ $148,000 is an 18.5% return on $800,000]. Not Asked.

(c) $272,000 ($192,000 to common and $80,000 to preferred: Not Asked).

- $80,000 - [($0.80 x 20,000) x 2 yrs arrearages] = $48,000;
- $48,000/$200,000 = 24%.
- 24% x ($200,000 + $800,000) = $240,000;
- Total dividend declared = $240,000 + [($0.80 x 20,000) x 2 yrs arrearages] = $272,000.

**Question No. 4 (19 marks) (continued)**
**Answer ALL parts to this question. Each part is independent.**

**PART 3: (5 marks)**

Sasquatch Corporation's last year-end balance sheet reported the following in its shareholders equity section:

| | |
|---|---|
| Common shares, no par, outstanding 5,000 shares | $115,000 |
| Retained earnings | 200,000 |

The following transactions occurred this year:
(a) Purchased 70 common shares at $30 per share, to be held as treasury shares.
(b) Sold 60 treasury shares at $32 per share.
(c) Retired the remaining treasury shares.

**Required**
Prepare the journal entries for these transactions.

| | | | |
|---|---|---|---|
| (a) | Treasury Shares (70 x $30) | 2,100 | |
| | Cash | | 2,100 |
| (b) | Cash (60 x $32) | 1,920 | |
| | Treasury Shares (60 x $30) | | 1,800 |
| | Contributed Surplus | | 120 |
| (c) | Common Shares 10 x ($115,000/5,000) | 230 | |
| | Contributed Surplus | 70 | |
| | Treasury Shares (10 x $30) | | 300 |

## 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 |