

**York University AP/ADMS2500.03
Introduction to Financial Accounting
Final Examination Winter 2017**

Time: 3.0 hours

Test Form A

Questions: 50

Instructions:

- 1. Submit:** Both the pink mark sense sheet and the exam will be collected. Ensure your name is on both. **You will receive a Zero for your final exam if you do not turn in your question paper.**

Record your name and ID# here

NAME: _____

ID #: _____

2. Mark Sense Sheet:

- Record your name and student number and answer all questions on the computer mark sense sheet provided with an HB (soft lead) pencil. Bring several pencils in case one breaks. The computer will not recognize ink or hard lead pencils
- Test Form is 'A' and Code is your Section (in the left column)
- Fill in the bubbles for your name and student number in pencil (your phone number is not required). Leave the last column of the student number BLANK
- If you change an answer, use a high quality eraser to completely remove the previous mark. If the computer senses two answers to a question, only the first scanned will be recognized.

3. Exam Aids:

- Only calculators without alphanumeric programmable memories are allowed. It is strongly suggested you bring a couple of cheap 4 function computers to the exam in case one fails. Be prepared to be challenged by invigilators if you bring a “fancy” calculator.
- Compact foreign language/English dictionaries may be used. However, these will be examined by invigilators. If there are any loose pages or handwriting in the dictionary, it will be seized and you will be charged with academic dishonesty.
- In 2500, invigilators answer no questions of interpretation. They will pass along questions regarding possible errors/ typos/missing data to the head invigilator. If you believe a question contains an error and do not receive a response, make a detailed note on the back of your pink mark sense sheet and submit it with your paper.

4. Exam Strategy

- Careful budgeting of time on an accounting exam is essential. Bring a watch and check your progress regularly. Poor time management is the most common reason for poor exam performance in accounting.
- It is always a good idea to attempt the questions you deem easiest first. In an interrupted exam that is not restarted, your exam will be scored based on questions attempted.

- It is essential to transfer your answers to the grading sheet after each question in case the exam is interrupted by fire alarm.
- The last ten minutes of an exam should be devoted to double checking your transfers. What you submit is what is graded. If you have not transferred your answers to the mark sense sheet at the end of the exam, the invigilator will not wait. Your answer sheet will be seized and it will be graded based on whatever questions have choices filled in.
- Remember there is no penalty for guessing on a multiple choice computer graded exam. Submit a choice for every question. Also note that in 2500, *None of the above* does indeed represent a frequent correct choice to questions.

5. Exam room regulations:

- All personal belongings either on the floor or at the front of the exam room. All items on your desk will be examined by invigilators
- Bring appropriate ID as proof of registration. You will be required to sign in and show appropriate documentation. Students without ID will be allowed to write the exam, but will be photographed and asked to submit registration and photo ID to the School of Administrative Studies the next day.
- No student may leave the exam in the first hour. No student may start the exam after an hour. Students requiring restroom visits must be accompanied by an invigilator.
- The proctors will announce when there are 15 minutes remaining and any answers not transferred should be recorded at this time. No one is to leave their seat in the last 15 minutes.
- When time is called, the proctors will go down the rows collecting your answer sheets and this exam paper. They will not wait and they will not accept your sheet once they have passed. Any violation of this protocol will result in a grade of zero recorded for the exam.

6. Fire Alarms

- A frequent occurrence in York exams. In the event of a fire alarm, you are to leave your exam and answer sheet face down on your desk and immediately proceed outside with coats and all personal belongings. Print your surname on the back of the exam so you know which seat to return to. An invigilator will lead the group outside to a place of safety. There is to be no talking during the evacuation or outside. Most rooms are cleared so that exams can recommence, within 30 minutes of the alarm. You will be told after this time whether to re-enter the room and recommence the exam or to go home.

7. Academic Dishonesty

- You are reminded that cheating is a serious offense which can result in expulsion from university
- Exams at York are held in regular classrooms, which may involve tiered seating. Consequently, neck exercises are not allowed during exams. First instance of wandering eyes has the student relocated to the front of the room. Second instance results in seizure of paper.

8. Special Instructions

- Double check your transfers to the pink mark sense sheet

- The exam clearly indicates when a group of questions are related to a single data set. Otherwise, assume each question is independent of the others
- There is a cheat-sheet of ratios for financial statement analysis appended to this exam in case you need to use them
- With 180 minutes to do 50 questions, you should budget your time carefully and not spend more than 3 minutes on a question. If you do, you risk not finishing the exam. A time honoured exam strategy is to attempt the easiest questions first. This builds confidence, creates a bank of correct answers if the exam is terminated by fire alarm and also builds a time cushion to spend extra time on difficult questions.
- Unless otherwise indicated, please round your final answer to the nearest dollar.
- No pages can be detached from the whole exam booklet. Any missing or detached pages will result in a Zero for your final exam.

9. Reminder

- **This is a reminder to Submit:** Both the pink mark sense sheet and the exam will be collected. Ensure your name is on both. **You will receive a Zero if you do not turn in your question paper. No pages can be detached from the whole exam booklet. Any missing or detached pages will result in a Zero for your final exam.**

- The financial statements normally appear in a certain order. Which financial statements normally appear among the first two:
 - the cash flow statement and the income statement
 - the cash flow statement and the balance sheet
 - the balance sheet and the statement of retained earnings
 - the income statement and the balance sheet**
 - none of the above
- Kam Company Ltd.'s ending inventory is understated by \$4,000. The effects of this error on the current year's cost of goods sold and net income, respectively, are:
 - understated and overstated
 - overstated and understated**
 - understated and understated
 - overstated and overstated
 - none of the above
- On November 1, 2016, Davis Company sold (issued) 300, \$1,000, ten-year, 7% bonds at 96. Interest is payable each November 1 and May 1. The amount of discount amortization at each semi-annual interest date would be (assume straight-line amortization): Choose one answer.
 - \$1,019.
 - \$12,000.
 - \$1,200.
 - \$600.**
 - None of the above is correct.

Use the following information to answer Questions 4 and 5:

Flow's balance sheet showed the net realizable accounts receivable on January 1 and December 31 as \$204,250 and \$262,200, representing 95% of the gross amount. During the year, sales were \$520,000, of which 60% was on credit. Collections of accounts receivable were \$245,000.

- What was the amount of accounts receivable written off during the year?
 - \$ 3,050
 - \$ 6,000**
 - \$ 9,050
 - \$214,000
 - \$217,050

$$\text{\$ } 204,250 / 0.95 + \text{\$ } 520,000 * 60\% - \text{\$ } 245,000 - \text{\$ } 262,200 / 0.95 = \text{\$ } 6,000$$

- What was the amount of bad debt expense for the year?
 - \$ 2,950.00
 - \$ 3,050.00
 - \$ 6,100.00
 - \$ 9,050.00**
 - \$11,947.50

$$(\$ 262,200/0.95 - \$ 262,200) + \$ 6,000 - (\$ 204,250/0.95 - \$ 204,250) = \$ 9,050$$

(End of Questions 4-5)

6. Which is not true about preferred shares?
(A) They usually do not carry voting rights.
(B) The same capital accounts are used to record the issuance of preferred shares and common shares.
(C) Preferred shareholders receive dividends in arrears only if the shares are cumulative.
(D) Preferred shares are either cumulative or noncumulative.
(E) All of the above is true.
7. Which of the following represents a company's the maximum number of shares issuable to the public?
(A) Authorized shares
(B) Issued shares
(C) Outstanding shares
(D) Treasury shares
(E) None of the above
8. If a company issues a 10% stock dividend when you are holding 400 shares of the company's stock:
(A) You can expect to receive an additional 400 shares in the mail
(B) You can expect to receive an additional 40 shares in the mail
(C) The aggregate market value of your holdings will probably not change on the immediate receipt of the additional shares
(D) The additional shares give you a larger voting interest (more control) of the company
(E) Two of the above statements are incorrect
9. True North Company reported total stockholders' equity of \$85,000 on its balance sheet dated December 31, 2006. During 2007, it reported a net income of \$10,000, declared and paid a cash dividend of \$1,000, and issued additional capital stock of \$30,000. Therefore, total stockholders' equity at December 31, 2007, was
A) \$85,000
B) \$124,000
C) \$95,000
D) \$126,000
E) None of the above

Use the following information to answer Questions 10-11:

Dix-Trente Inc. started its business on January 1, 2011. On December 31, 2013, Dix-Trente has outstanding shares as follows: a) preferred shares (5,000 shares), 6% cumulative, \$125,000, and b) common shares, unlimited # of shares authorized, 20,000 shares issued, and 15,000 shares outstanding. The results of company's operations (net income) were: \$(62,800) in 2011, \$56,500 in 2012, and \$93,000 in 2013.

10. Which of the following statements is correct?
- (A) Dix-Trente can pay \$7,500 dividends to preferred shareholders in 2012.
 - (B) Dix-Trente can pay \$15,000 dividends to preferred shareholders in 2012.
 - (C) Dix-Trente can pay dividends to common shareholders up to \$41,500 in 2012.
 - (D) Dix-Trente cannot pay dividends to preferred nor common shareholders in 2012.**
 - (E) None of the above is correct.

Retained Earnings 2011=(62,800)

Retained Earnings 2012= (62,800)+56,500=(6,300)

Retained Earnings 2013= (62,800)+56,500+93,000=86,700

So Dix-Trente can pay dividends in 2013.

11. Dix-Trente paid dividends of \$60,000 in 2013. The dividend should be distributed as follows:
- (A) \$1.50/preferred share; \$2.63/common share.
 - (B) \$1.50/preferred share; \$3.50/common share.
 - (C) \$3.00/preferred share; \$3.00/common share.
 - (D) \$4.50/preferred share; \$2.50/common share.**
 - (E) None of the above is correct.

Preferred Dividend : (\$ 125,000 x 6%) x 3 = \$ 22,500

Preferred Dividend per share : \$ 22,500/5,000 = \$ 4.50

Common Dividend : \$ 60,000 - \$ 22,500 = \$ 37,500

Common Dividend per share : \$ 37,500/15,000 = \$ 2.50

(End of Questions 10-11)

Use the following information to answer Questions 12 to 33:

You are the newly hired financial accountant from Comptabilité Inc. You are provided the following financial statements. You are asked to complete the cash flow statement and perform the financial analysis for this company. The owner is meeting with their bank in a couple of days and he is interested in understanding your assessment of the financial results of Comptabilité before meeting with the bank. The bank required Comptabilité to maintain a current ratio of 3.5 to 1.

Comptabilité Inc.
Balance Sheet
As at September 30, 2016

ASSETS:		2016		2015
Cash	\$	17,000	\$	22,000
Interest Receivable	\$	7,000	\$	4,000
Accounts Receivable	\$	230,000	\$	250,000
Inventory	\$	208,000	\$	218,000
Prepaid Rent	\$	8,000	\$	7,200

Notes Receivable	\$	160,000	\$	160,000
Property, Plant & Equipment	\$	640,000	\$	626,000
Accumulated Depreciation	\$	(200,000)	\$	(145,000)
	\$	1,070,000	\$	1,142,200

LIABILITIES & SHAREHOLDERS' EQUITY

Accounts Payable	\$	135,000	\$	130,000
Wages Payable	\$	15,000	\$	10,200
Notes Payable	\$	30,000	\$	212,000
Common Shares	\$	400,000	\$	400,000
Retained Earnings	\$	490,000	\$	390,000
	\$	1,070,000	\$	1,142,200

**Comptabilité Inc.
Income Statement
For the Year Ended September 30, 2016**

Sales	\$	2,700,000
<u>Cost of Goods Sold</u>	\$	<u>1,620,000</u>
Gross Profit	\$	1,080,000
Interest Income	\$	13,000
Gain on Sale of Equipment	\$	6,000
Wage Expense	\$	320,000
Depreciation Expense	\$	64,000
Rent Expense	\$	48,000
Other Expense	\$	507,000
Net Income	\$	<u>160,000</u>

Additional Information:

- The company purchased equipment on the first day of fiscal year 2016 for \$ 32,000 cash.
- The company sold surplus equipment for \$ 15,000 cash at the beginning of fiscal year 2016.
- Dividend on common shares were declared and paid in cash.
- Both notes receivable and notes payable have a 2-year term.
- Total number of common shares issued and outstanding on September 30, 2016 is 40,000.
- The market price for each common share is \$10 on September 30, 2016.
- For simplicity, assume that the company is exempted from income taxes.

Cash Flow from Operations (Direct Method):

Please use the **direct** method to prepare the cash flow from operations for Questions 12-14.

12. Cash received from customers is:

- (A) \$ 20,000
- (B) \$ 2,680,000
- (C) \$ 2,720,000**
- (D) \$ 2,739,000
- (E) None of the Above

$$\text{\$ } 250,000 + \text{\$ } 2,700,000 - \text{\$ } 230,000$$

13. Cash paid to suppliers is:

- (A) \$ 1,397,000
- (B) \$ 1,605,000**
- (C) \$ 1,610,000
- (D) \$ 1,740,000
- (E) None of the Above

$$\text{Purchase : } \text{\$ } 1,620,000 + \text{\$ } 208,000 - \text{\$ } 218,000 = \text{\$ } 1,610,000$$

$$\text{Cash paid : } \text{\$ } 130,000 + \text{\$ } 1,610,000 - \text{\$ } 135,000 = \text{\$ } 1,605,000$$

14. Cash paid for wages:

- (A) \$ 315,200**
- (B) \$ 320,000
- (C) \$ 324,800
- (D) \$ 330,200
- (E) None of the Above

$$\text{\$ } 10,200 + \text{\$ } 320,000 - \text{\$ } 15,000 = \text{\$ } 315,200$$

(End of Questions 12-14)

Cash Flow from Operations (Indirect Method):

Please use the indirect method to prepare the cash flow from operations for Questions 15-17.

15. Under the indirect method, how would you adjust the net income to reflect the cash impact of sale of equipment?

- (A) An addition of \$15,000 to the net income
- (B) A deduction of \$15,000 to the net income
- (C) An addition of \$6,000 to the net income
- (D) A deduction of \$6,000 to the net income**
- (E) None of the Above

Under the indirect method, gain on disposal of equipment should be deducted from net income

16. Under the indirect method, how would you adjust the net income to reflect the cash impact of depreciation expense?

- (A) An addition of \$64,000 to the net income
- (B) A deduction of \$64,000 to the net income
- (C) An addition of \$55,000 to the net income
- (D) A deduction of \$55,000 to the net income
- (E) None of the Above

Under the indirect method, depreciation expense should be added to net income

17. Cash Impact of total changes in working capital is:

- (A) \$ 36,800
- (B) \$ (36,800)
- (C) \$ 36,000
- (D) \$ 27,200
- (E) None of the Above

Interest Receivable (\$ 3,000) + AR \$ 20,000 + Inventory \$ 10,000 + Prepaid Rent (\$ 800) + AP \$ 5,000 + Wages Payable \$ 4,800

(End of Questions 15-17)

Questions 18 to 33 are also based on Comptabilité:

18. The carrying value of the surplus equipment sold is:

- (A) \$ 6,000
- (B) \$ 9,000
- (C) \$ 15,000
- (D) \$ 18,000
- (E) None of the above

**The carrying value of the equipment=Cash proceeds from the sale-gain
=\$15,000-\$6,000=\$9,000**

19. The original cost of the surplus equipment disposed is:

- (A) \$ 18,000
- (B) \$ 15,000
- (C) \$ 14,000
- (D) \$ 9,000
- (E) None of the above

**Accumulated Depreciation on Disposed Equipment= \$ 145,000 + \$ 64,000 - \$ 200,000 =
9,000**

Original Cost of Disposed Equipment = Carrying Value \$ 9,000 + Accumulated Depreciation \$ 9,000 = \$ 18,000

20. The entry to record the disposal of the surplus equipment is :

	Debit	Credit
(A) Cash	\$ 6,000	
Gain on Sale of Equipment		\$ 6,000
(B) Cash	\$ 15,000	
Equipment		\$ 15,000
(C) Cash	\$ 15,000	
Accumulated Depreciation	\$ 9,000	
Equipment		\$ 18,000
Gain on Sale of Equipment		\$ 6,000
(D) Cash	\$ 15,000	
Equipment		\$ 9,000
Gain on Sale of Equipment		\$ 6,000
(E) None of the above		

21. Which of the following statements regarding dividend payment for Comptabilité Inc. is correct?

- (A) If the dividend is declared but not paid by Comptabilité during 2016, the debt to equity ratio will go up.
- (B) On the date of record, Comptabilité needs to debit Retained earnings and Credit Dividend Payable.
- (C) If the dividend declared and issued is a stock dividend, total cash flow will be reduced by the amount of stock dividend issued.
- (D) The payment of dividend will affect the cash flow from operating activity.
- (E) None of the above.

22. Total dividend declared and paid by Comptabilité is:

- (A) \$ 390,000
- (B) \$ 160,000
- (C) \$ 100,000
- (D) \$ 60,000
- (E) None of the Above

\$ 390,000 + \$ 160,000 - \$ 490,000 = \$ 60,000

23. Total Cash Flow due to Financing Activities is:

- (A) \$ 122,000
- (B) \$ 182,000
- (C) \$(122,000)
- (D) \$(242,000)
- (E) None of the above

Cash flow due to financing activities=(notes paid)+(dividend paid)

$$= (\$30 - \$212,000) + (\$60,000) = (\$242,000)$$

24. Which of the following statements is **correct** regarding the disclosure for the cash flow statement prepared for Comptabilité Inc. above?
- (A) **Total cash interest received is \$ 10,000**
 - (B) If applicable, total interest received and paid need to be disclosed in the financing section of the cash flow statement.
 - (C) If applicable, dividends declared but not paid for the period needs to be disclosed.
 - (D) If applicable, any common shares issued to purchase a piece of property for Comptabilité Inc. needs to be disclosed and included in the cash flow from investing activities.
 - (E) None of the above is correct

25. The return on assets for Comptabilité Inc in 2016 is:

- (A) 34.7%
- (B) 32.9%
- (C) 15%
- (D) 14.5%**
- (E) None of the above

$$\$ 160,000 / ((\$1,070,000 + 1,142,200) / 2)$$

26. The current ratio for Comptabilité Inc. in 2016 is:

- (A) 3.08
- (B) 3.13**
- (C) 3.35
- (D) 3.57
- (E) None of the above

$$(\$ 17,000 + \$ 7,000 + \$ 230,000 + \$ 208,000 + 8,000) / (\$ 135,000 + \$ 15,000) = 3.13$$

27. Which of the following statements regarding the management of inventory is correct?

- (A) The inventory turnover ratio for Comptabilité is 7.79 times in 2016.
- (B) The average time the inventory is held within Comptabilité is approximately 48 days in 2016.**
- (C) The physical count on September 30, 2016 shows an understatement of inventory of \$ 5,000 and Comptabilité journalizes the understatement by debiting inventory \$ 5,000 and crediting cost of goods sold by \$ 5,000 indicating that Comptabilité is using the periodic inventory system.
- (D) If the goods are sold on the basis of FOB shipping point, the inventory sold on September 30, 2016 will be included as part of their year-end inventory.
- (E) All of the above are correct.

$$\text{Inventory turnover: } \$ 1,620,000 / ((\$208,000 + \$ 218,000) / 2) = 7.61 \text{ times}$$

$$\text{Days Inventory outstanding: } 365 \text{ days} / 7.61 = 48 \text{ days}$$

28. Which of the following statements regarding the management of accounts receivable is correct, assuming Comptabilité Inc. provides a credit term of 2/10, net 35 to its customers and all sales made by Comptabilité are credit sales.
- (A) The accounts receivable turnover is 11.25 times in 2016.
 - (B) Comptabilité's number of days accounts receivable outstanding in 2016 is 32.4 days.
 - (C) Comptabilité is doing a great job in managing the collection of their accounts receivable.
 - (D) The credit term indicates that a customer will receive 2% discount if payment is made within 10 days, and the total amount is due in 35 days.
 - (E) **All of the above is correct.**

AR Turnover : $(\$ 2,700,000/(\$ 230,000 + \$ 250,000)/2) = 11.25$ times

Days AR outstanding : $365/11.25 = 32.4$ days

29. Assume that the dividend declared and paid as worked out in Question 22 is for the preferred shareholder, calculate the Price Earnings ratio for Comptabilité Inc. on September 30, 2016:
- (A) 2.5
 - (B) **4.0**
 - (C) 6.7
 - (D) 25
 - (E) None of the above

Earnings per share : $(\$ 160,000 - \$ 60,000)/40,000 = \$ 2.5$

PE Ratio : $\$ 10/\$2.5 = 4$

30. The 2016 equity ratio for Comptabilité Inc. is (ignore information provided in Question 29)?
- (A) 0.69
 - (B) **0.83**
 - (C) 1.20
 - (D) 1.45
 - (E) None of the above

$\$ 890,000/\$ 1,070,000 = 0.83$

31. Comptabilité is currently using straight-line depreciation with no residual value. What is the life of the asset used for the depreciation calculation?
- (A) 3.5 years
 - (B) 2.5 years
 - (C) **10 years**
 - (D) 10.5 years
 - (E) None of the above

Depreciation for 2016 = $\$ 64,000$

Assets subject to depreciation in 2016 : $\$ 640,000$

Depreciation Rate : $\$ 640,000/\$ 64,000 = 10\%$ meaning 10 years

32. In reference to the second piece of the additional information and assume that the surplus equipment is not sold. However, the recent assessment shows that the fair market value of this surplus equipment is \$ 6,000, the present value of the future cash flow that can be generated by this equipment is \$ 3,000 and the undiscounted future cash flow is \$ 4,500. Which of the following statement is correct if Comptabilité has a policy of writing down the equipment to its fair value?
- (A) Comptabilité has to write down the value of the surplus equipment by \$ 6,000.
 - (B) Comptabilité has to write down the value of the surplus equipment by \$ 3,000.**
 - (C) Comptabilité has to write down the value of the surplus equipment by \$ 4,500.
 - (D) Comptabilité does not have to make any adjustment as this equipment is still generating revenue.
 - (E) None of the above

Carrying Value = \$ 9,000

Fair Value = \$ 6,000

Write Down = \$ 3,000

33. If you recognized that the ending inventory for 2015 is understated by \$ 50,000, and adjusted this error in 2016, which of the following statement is correct?
- (A) The net income for 2016 is understated by \$ 50,000.
 - (B) The current assets for 2016 is understated by \$ 50,000.
 - (C) The cost of goods sold for 2015 is understated by \$ 50,000.
 - (D) Owner's equity is not affected in 2016.**
 - (E) None of the above is correct.

(End of Comptabilité Questions)

34. Which of the following is a profitability ratio:
- (A) Working capital turnover
 - (B) Current ratio
 - (C) Quick ratio
 - (D) Return on assets**
 - (E) Preferred dividend coverage
35. Which of the following will improve a company's working capital management position?
- (A) An increased level of bad debts
 - (B) An increase in the length of the production process
 - (C) An increased debtor collection period
 - (D) An increased amount of bonds issuance
 - (E) An increase in the credit period allowed by suppliers**
36. Which of the following events decreases earnings per share?
- (A) Payment of a previously declared cash dividend.
 - (B) Declaration of a 5-percent stock dividend.

- (C) Declaration of a cash dividend for preferred shares.
- (D) Declaration of a 2-for-1 stock split.
- (E) None of the above

37. Which of the following would NOT improve the current ratio?

- (A) Borrow short term to finance additional fixed assets.
- (B) Issue long-term debt to buy inventory.
- (C) Sell common stock to reduce current liabilities.
- (D) Sell fixed assets to reduce accounts payable.
- (E) Sell long-term investment to increase cash

38. Suppose that Chicken Express, Inc. has a ROA of 7% and pays a 6% coupon on its debt. Chicken Express has a capital structure that is 70% equity and 30% debt. Relative to a firm that is 100% equity-financed, Chicken Express's Net Profit will be _____ and its ROE will be _____.

- (A) lower, lower
- (B) higher, higher
- (C) higher, lower
- (D) lower, higher
- (E) It is impossible to predict.

39. A firm has a higher quick (or acid test) ratio than the industry average, which implies.

- (A) the firm has a higher P/E ratio than other firms in the industry
- (B) the firm is more likely to avoid insolvency in short run than other firms in the industry
- (C) the firm may be less profitable than other firms in the industry
- (D) A and B.
- (E) B and C.

40. An example of a liquidity ratio is _____.

- (A) Return on assets
- (B) current ratio
- (C) acid test or quick ratio
- (D) A and C
- (E) B and C

41. If the interest rate on debt is lower than ROA, then a firm will _____ by increasing the use of debt in the capital structure.

- (A) increase the ROE
- (B) not change the ROE
- (C) decrease the ROE
- (D) change the ROE in an indeterminable manner
- (E) none of the above

42. Which of the following ratios is not a test of liquidity?

- (A) Receivable turnover.
- (B) Payables turnover.
- (C) Current ratio.
- (D) Cash coverage ratio.
- (E) All of the above are tests of liquidity

43. If a company has a quick ratio of 1.2, what respective effects will the borrowing of cash on a short-term basis and the collection of accounts receivable have on the ratio?

	<u>Short-term Borrowing</u>	<u>Collection of Receivables</u>
(A)	Increase	No effect
(B)	Increase	Increase
(C)	Decrease	No effect
(D)	Decrease	Decrease
(E)	Increase	Decrease

44. A company has a current ratio of 2.4 before paying off a large current liability with cash. After this payment, the current ratio would be:

- (A) Greater than 2.4 or less than 2.4 depending upon the amount of the liability.
- (B) Less than 2.4.
- (C) Equal to 2.4.
- (D) Greater than 2.4
- (E) None of the above is correct.

45. The primary objective of the separation of duties for internal control purposes is:

- (A) to provide greater training to employees by allowing them to work on different tasks.
- (B) to make sure that individual employees, acting alone, are discouraged from committing fraudulent actions.
- (C) to ensure that no employee accumulates too much organizational power and control.
- (D) to provide a work environment where no employee is required to do so many tasks that he/she becomes indispensable to the company.
- (E) None of the above is correct

46. Which of the following statements is correct?

- (A) The periodic interest payment on a bond is based on the market interest rate.
- (B) When issuing bonds, companies usually sell the bonds to an underwriter which, in turn, sells the bonds to the potential buyers.
- (C) Selling a bond at a premium means that the amount the firm received is lower than the face value of the bond.

- (D) The nominal interest rate and the market interest rate are usually equal on the date of issuance of the bond.
(E) None of the above is correct.

47. On January 1, 2009, McDougal Company issued \$8,000,000 of 10-year bonds at a 11% stated interest rate to be paid annually. Calculate the issuance price if the market rate of interest is 9%. Choose one answer.

- (A) \$8,000,000
(B) \$9,026,776
(C) \$8,923,840
(D) \$11,376,000
(E) None of the above is close to the issuance price.

$$\begin{aligned}\text{Issue price} &= 8,000,000 * \text{Factor}(9, 10) + 8,000,000 * 0.11 * \text{factor}(9, 10) \\ &= 8,000,000 * 0.4224 + 880,000 * 6.4177 \\ &= 3,379,200 + 5,647,576 \\ &= 9,026,776\end{aligned}$$

48. On January 2, 2008, Needy Company borrowed \$10,000 from Eastern Bank. The loan is payable in equal principal installments of \$2,000 each, payable on December 31 of each year, beginning in 2008. Disregarding interest, the portion of the \$10,000 loan that should be considered a current liability on the company's 2008 year-end balance sheet would be

- (A) \$10,000.
(B) \$ 8,000.
(C) \$ 2,000.
(D) \$ 0.
(E) None of the above

49. Accrued liabilities can best be described as

- (A) long-term liabilities.
(B) current amounts owed to trade suppliers.
(C) current liabilities to be recognized as revenue in a future period.
(D) current amounts owed to various parties excluding trade suppliers.
(E) None of the above is correct.

50. The lower of cost and market rule for inventory is an example of the application of:

- (A) the historical cost principle.
(B) the materiality constraint.
(C) the economic entity assumption.
(D) the conservatism concept.
(E) None of the above.

*End of the Exam.
Have a great summer!*

Appendix 1

Key Financial Ratios

Equity Ratio = *Common Shareholders' Equity / Total Assets*

Bond Interest Coverage = *Operating Income / Annual Bond Interest*

Preferred Dividend Coverage = *Operating Income / (Bond Interest + Preferred Dividend Requirements)*

Working Capital Turnover = *Sales / Working Capital*

Current Ratio = *Current Assets / Current Liabilities*

Quick Ratio = *Quick Assets / Current Liabilities*

Inventory Turnover = *Cost of Sales / Average Inventory*

Accounts Receivable Turnover = *Trade Receivables / Sales*

Average Collection Period = *(Trade Accounts Receivable / Sales) * 365*

Return on Assets = *Operating Income / Total Average Assets*

Return on Common Shareholders Equity = *(Net Income – Preferred Dividend Requirement) / Average Common Shareholders Equity*

Return on Sales = *Net Income / Net Sales*

Earnings Per Share = *(Net income – Preferred Div. Requirement) / Weighted Average # of common shares*

Price Earnings Ratio = *Market Price of Common Share / EPS*

Dividend Yield = *Dividends per Share / Market Price per share*

Dividend Payout Ratio = *Common Dividends per Share / Earnings per Share*

Appendix 2 Time Value Tables

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

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	1.0100	1.0200	1.0300	1.0400	1.0500	1.0600	1.0700	1.0800	1.0900	1.1000	1.1100	1.1200	1.1300	1.1400	1.1500	1.1600	1.2000	1.2400	1.2500	1.3000
2	1.0201	1.0404	1.0609	1.0816	1.1025	1.1236	1.1449	1.1664	1.1881	1.2100	1.2321	1.2544	1.2769	1.2996	1.3225	1.3456	1.4400	1.5376	1.5625	1.6900
3	1.0303	1.0612	1.0927	1.1249	1.1576	1.1910	1.2250	1.2597	1.2950	1.3310	1.3676	1.4049	1.4429	1.4815	1.5209	1.5609	1.7280	1.9066	1.9531	2.1970
4	1.0406	1.0824	1.1255	1.1699	1.2155	1.2625	1.3108	1.3605	1.4116	1.4641	1.5181	1.5735	1.6305	1.6890	1.7490	1.8106	2.0736	2.3642	2.4414	2.8561
5	1.0510	1.1041	1.1593	1.2167	1.2763	1.3382	1.4026	1.4693	1.5386	1.6105	1.6851	1.7623	1.8424	1.9254	2.0114	2.1003	2.4883	2.9316	3.0518	3.7129
6	1.0615	1.1262	1.1941	1.2653	1.3401	1.4185	1.5007	1.5869	1.6771	1.7716	1.8704	1.9738	2.0820	2.1950	2.3131	2.4364	2.9860	3.6352	3.8147	4.8268
7	1.0721	1.1487	1.2299	1.3159	1.4071	1.5036	1.6058	1.7138	1.8280	1.9487	2.0762	2.2107	2.3526	2.5023	2.6600	2.8262	3.5832	4.5077	4.7684	6.2749
8	1.0829	1.1717	1.2668	1.3686	1.4775	1.5938	1.7182	1.8509	1.9926	2.1436	2.3045	2.4760	2.6584	2.8526	3.0590	3.2784	4.2998	5.5895	5.9605	8.1573
9	1.0937	1.1951	1.3048	1.4233	1.5513	1.6895	1.8385	1.9990	2.1719	2.3579	2.5580	2.7731	3.0040	3.2519	3.5179	3.8030	5.1598	6.9310	7.4506	10.604
10	1.1046	1.2190	1.3439	1.4802	1.6289	1.7908	1.9672	2.1589	2.3674	2.5937	2.8394	3.1058	3.3946	3.7072	4.0456	4.4114	6.1917	8.5944	9.3132	13.786
11	1.1157	1.2434	1.3842	1.5395	1.7103	1.8983	2.1049	2.3316	2.5804	2.8531	3.1518	3.4785	3.8359	4.2262	4.6524	5.1173	7.4301	10.657	11.642	17.922
12	1.1268	1.2682	1.4258	1.6010	1.7959	2.0122	2.2522	2.5182	2.8127	3.1384	3.4985	3.8960	4.3345	4.8179	5.3503	5.9360	8.9161	13.215	14.552	23.298
13	1.1381	1.2936	1.4685	1.6651	1.8856	2.1329	2.4098	2.7196	3.0658	3.4523	3.8833	4.3635	4.8980	5.4924	6.1528	6.8858	10.699	16.386	18.190	30.288
14	1.1495	1.3195	1.5126	1.7317	1.9799	2.2609	2.5785	2.9372	3.3417	3.7975	4.3104	4.8871	5.5348	6.2613	7.0757	7.9875	12.839	20.319	22.737	39.374
15	1.1610	1.3459	1.5580	1.8009	2.0789	2.3966	2.7590	3.1722	3.6425	4.1772	4.7846	5.4736	6.2543	7.1379	8.1371	9.2655	15.407	25.196	28.422	51.186
16	1.1726	1.3728	1.6047	1.8730	2.1829	2.5404	2.9522	3.4259	3.9703	4.5950	5.3109	6.1304	7.0673	8.1372	9.3576	10.748	18.488	31.243	35.527	66.542
17	1.1843	1.4002	1.6528	1.9479	2.2920	2.6928	3.1588	3.7000	4.3276	5.0545	5.8951	6.8660	7.9861	9.2765	10.761	12.468	22.186	38.741	44.409	86.504
18	1.1961	1.4282	1.7024	2.0258	2.4066	2.8543	3.3799	3.9960	4.7171	5.5599	6.5436	7.6900	9.0243	10.575	12.375	14.463	26.623	48.039	55.511	112.455
19	1.2081	1.4568	1.7535	2.1068	2.5270	3.0256	3.6165	4.3157	5.1417	6.1159	7.2633	8.6128	10.197	12.056	14.232	16.777	31.948	59.568	69.389	146.192
20	1.2202	1.4859	1.8061	2.1911	2.6533	3.2071	3.8697	4.6610	5.6044	6.7275	8.0623	9.6463	11.523	13.743	16.367	19.461	38.338	73.864	86.736	190.050
21	1.2324	1.5157	1.8603	2.2788	2.7860	3.3996	4.1406	5.0338	6.1088	7.4002	8.9492	10.804	13.021	15.668	18.822	22.574	46.005	91.592	108.420	247.065
22	1.2447	1.5460	1.9161	2.3699	2.9253	3.6035	4.4304	5.4365	6.6586	8.1403	9.9336	12.100	14.714	17.861	21.845	26.186	55.206	113.574	135.525	321.184
23	1.2572	1.5769	1.9736	2.4647	3.0715	3.8197	4.7405	5.8715	7.2579	8.9543	11.026	13.552	16.627	20.362	24.891	30.376	66.247	140.831	169.407	417.539
24	1.2697	1.6084	2.0328	2.5633	3.2251	4.0489	5.0724	6.3412	7.9111	9.8497	12.239	15.179	18.788	23.212	28.625	35.236	79.497	174.631	211.758	542.801
25	1.2824	1.6406	2.0938	2.6658	3.3864	4.2919	5.4274	6.8485	8.6231	10.835	13.585	17.000	21.231	26.462	32.919	40.874	95.396	216.542	264.698	705.641
30	1.3478	1.8114	2.4273	3.2434	4.3219	5.7435	7.6123	10.063	13.268	17.449	22.892	29.960	39.116	50.950	66.212	85.850	237.376	634.820	807.794	*
35	1.4166	1.9999	2.8139	3.9461	5.5160	7.6861	10.677	14.785	20.414	28.102	38.575	52.800	72.069	98.100	133.176	180.314	590.668	*	*	*
36	1.4308	2.0399	2.8983	4.1039	5.7918	8.1473	11.424	15.968	22.251	30.913	42.818	59.136	81.437	111.834	153.152	209.164	708.802	*	*	*
40	1.4889	2.2080	3.2620	4.8010	7.0400	10.286	14.974	21.725	31.409	45.259	65.001	93.051	132.782	188.884	267.864	378.721	*	*	*	*
50	1.6446	2.6916	4.3839	7.1067	11.467	18.420	29.457	46.902	74.358	117.391	184.565	289.002	450.736	700.233	*	*	*	*	*	*

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

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	1.0000	1.0200	1.0300	1.0400	1.0500	1.0600	1.0700	1.0800	1.0900	1.1000	1.1100	1.1200	1.1300	1.1400	1.1500	1.1600	1.2000	1.2400	1.2500	1.3000
2	2.0100	2.0200	2.0300	2.0400	2.0500	2.0600	2.0700	2.0800	2.0900	2.1000	2.1100	2.1200	2.1300	2.1400	2.1500	2.1600	2.2000	2.2400	2.2500	2.3000
3	3.0301	3.0604	3.0909	3.1216	3.1525	3.1836	3.2149	3.2464	3.2781	3.3100	3.3421	3.3744	3.4069	3.4396	3.4725	3.5056	3.6400	3.7776	3.8125	3.9900
4	4.0604	4.1216	4.1836	4.2465	4.3101	4.3744	4.4399	4.5061	4.5731	4.6410	4.7097	4.7793	4.8498	4.9211	4.9934	5.0667	5.3680	5.6842	5.7656	6.1870
5	5.1010	5.2040	5.3091	5.4163	5.5256	5.6371	5.7507	5.8666	5.9847	6.1051	6.2278	6.3528	6.4803	6.6101	6.7424	6.8771	7.4416	8.0484	8.2070	9.0431
6	6.1520	6.3081	6.4684	6.6330	6.8019	6.9753	7.1533	7.3359	7.5233	7.7156	7.9129	8.1152	8.3227	8.5355	8.7537	8.9775	9.9299	10.980	11.259	12.756
7	7.2135	7.4343	7.6625	7.8983	8.1420	8.3938	8.6540	8.9228	9.2004	9.4872	9.7833	10.089	10.405	10.730	11.067	11.414	12.916	14.615	15.073	17.583
8	8.2857	8.5830	8.8923	9.2142	9.5491	9.8975	10.260	10.637	11.028	11.436	11.859	12.300	12.757	13.233	13.727	14.240	16.499	19.123	19.842	23.858
9	9.3685	9.7546	10.159	10.583	11.027	11.491	11.978	12.488	13.021	13.579	14.164	14.776	15.416	16.085	16.786	17.519	20.799	24.712	25.802	32.015
10	10.462	10.950	11.464	12.006	12.578	13.181	13.816	14.487	15.193	15.937	16.722	17.549	18.420	19.337	20.304	21.321	25.959	31.643	33.253	42.619
11	11.567	12.169	12.808	13.486	14.207	14.972	15.784	16.645	17.560	18.531	19.561	20.655	21.814	23.045	24.349	25.733	32.150	40.238	42.566	56.405
12	12.683	13.412	14.192	15.026	15.917	16.870	17.888	18.977	20.141	21.384	22.713	24.133	25.650	27.271	29.002	30.850	39.581	50.895	54.208	74.327
13	13.809	14.680	15.618	16.627	17.713	18.882	20.141	21.495	22.953	24.523	26.212	28.029	29.985	32.089	34.352	36.786	48.497	64.110	68.760	97.625
14	14.947	15.974	17.066	18.292	19.599	21.015	22.550	24.215	26.019	27.975	30.095	32.393	34.883	37.581	40.505	43.672	59.196	80.496	86.949	127.913
15	16.097	17.293	18.599	20.024	21.579	23.276	25.129	27.152	29.361	31.772	34.405	37.280	40.417	43.842	47.580	51.660	72.035	100.815	109.687	167.286
16	17.258	18.639	20.157	21.825	23.657	25.673	27.888	30.324	33.003	35.950	39.190	42.753	46.672	50.980	55.717	60.925	87.442	126.011	138.109	218.472
17	18.430	20.012	21.762	23.698	25.840	28.213	30.840	33.750	36.974	40.545	44.501	48.884	53.739	59.118	65.075	71.673	105.931	157.253	173.636	285.014
18	19.615	21.412	23.414	25.645	28.132	30.906	33.999	37.450	41.301	45.599	50.396	55.750	61.725	68.394	75.836	84.141	128.117	195.994	218.045	371.518
19	20.811	22.841	25.117	27.671	30.539	33.760	37.379	41.446	46.018	51.159	56.939	63.440	70.749	78.969	88.212	98.603	154.740	244.033	273.556	483.973
20	22.019	24.297	26.870	29.778	33.066	36.786	40.995	45.762	51.160	57.275	64.203	72.052	80.947	91.025	102.444	115.380	186.688	303.601	342.945	630.165
21	23.239	25.783	28.676	31.969	35.719	39.993	44.865	50.423	56.765	64.002	72.265	81.699	92.470	104.768	118.810</					

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

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	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	0.8333	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	0.6944	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	0.5787	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	0.4823	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	0.4019	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	0.3349	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	0.2791	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	0.2326	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	0.1938	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	0.1615	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	0.1346	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	0.1122	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	0.0935	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	0.0779	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	0.0649	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	0.0541	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	0.0451	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	0.0376	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	0.0313	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	0.0261	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	0.0217	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	0.0181	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	0.0151	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	0.0126	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	0.0105	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	0.0042	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	0.0017	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	0.0014	*	*	*
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	0.0007	*	*	*
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	*	*	*	*

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%	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	0.8333	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	1.5278	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	2.1065	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	2.5887	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	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	3.3255	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	3.6046	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	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	4.0310	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	4.1925	3.6819	3.5705	3.0915
11	10.368	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	4.3271	3.7757	3.6564	3.1473
12	11.255	10.575	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	4.4392	3.8514	3.7251	3.1903
13	12.134	11.348	10.635	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	4.5327	3.9124	3.7801	3.2233
14	13.004	12.106	11.296	10.563	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.9819	6.6282	6.3025	6.0021	5.7245	5.4675	4.6106	3.9616	3.8241	3.2487
15	13.865	12.849	11.938	11.118	10.380	9.7122	9.1079	8.5595	8.0607	7.6061	7.1909	6.8109	6.4624	6.1422	5.8474	5.5755	4.6755	4.0013	3.8593	3.2682
16	14.718	13.578	12.561	11.652	10.838	10.106	9.4466	8.8514	8.3126	7.8237	7.3792	6.9740	6.6039	6.2651	5.9542	5.6685	4.7296	4.0333	3.8874	3.2832
17	15.562	14.292	13.166	12.166	11.274	10.477	9.7632	9.1216	8.5436	8.0216	7.5488	7.1196	6.7291	6.3729	6.0472	5.7487	4.7746	4.0591	3.9099	3.2948
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.3719	8.7556	8.2014	7.7016	7.2497	6.8399	6.4674	6.1280	5.8178	4.8122	4.0799	3.9279	3.3037
19	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.6036	8.9501	8.3649	7.8393	7.3658	6.9380	6.5504	6.1982	5.8775	4.8435	4.0967	3.9424	3.3105
20	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.8181	9.1285	8.5136	7.9633	7.4694	7.0248	6.6231	6.2593	5.9288	4.8696	4.1103	3.9539	3.3158
21	18.857	17.011	15.415	14.029	12.821	11.764	10.836	10.017	9.2922	8.6487	8.0751	7.5620	7.1016	6.6870	6.3125	5.9731	4.8913	4.1212	3.9631	3.3198
22	19.660	17.658	15.937	14.																

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