ACCT 5101 Pretest

(updated 12/17/18)

CARLSON SCHOOL OF MANAGEMENT

- ✓ <u>REQUIRED</u> for all students who wish to register for ACCT 5101 who have not received a B- or better in ACCT 2050 <u>here</u> at the University of Minnesota -TC.

- ✓ Even if an equivalent to ACCT 2050 was completed at another institution, students are required to take the ACCT 5101 Pretest and pass it **prior** to receiving permission to register for the class.

- ✓ Students get <u>one</u> opportunity to take and pass this exam (with a score of 70% or better). Students who score between 68% up to 70% are eligible to take the ACCT 5101 Retake Exam. Any score lower than 68% is considered to have not passed the exam and will have to take ACCT 2050 here at the University of Minnesota - TC.

Exam Scheduling: **email ACCTpretest@umn.edu**

- There is no cost for taking the exam.
- Students are allowed up to 3 hours to complete the test.
- Students are allowed to have the following items in the room with them during the test: pencils/pens, simple calculator, scrap paper, and a bottle of water/soda.
- The last day to take the pretest in order to gain permission for the following semester is one week prior to the start of each semester.
- Exams will be offered on the following dates from 9:00am-12:00pm.

2019	Jan. 4 Jan. 16	Feb. 1	Mar. 1	April 5	May 3	June 7	July 5	Aug. 2 Aug. 28	Sept. 6	Oct. 4
	Nov. 8	Dec. 6								

Test Results:

- Results take a minimum of 5 business days – could be longer depending on the schedule of the person correcting the exam.
- Test scores are sent via email.
- Students may not retake the exam.
- Students who do not pass the exam must take ACCT 2050 and score a B- or better in order to register for ACCT 5101 in the future.

The sample pretest follows this page.

Example Pretest for Accounting 5101

This practice test was based on the most recent academic year's Accounting 5101 pretest given. While it is not intended as a study guide, nor should be taken as evidence of the topics that will be on the pretest you will take, it should offer you insight into the format, difficulty, and length of the test you will take.

The weights assigned to the problems in this test are as follows:

Part 1: Fundamentals

Problem	Description	Points
1	Adjusting Journal Entries and Financial Statements	30
2	Cash Flow Statements	20
3	Stockholders' Equity	10
Total Points		60

Part 2: Selected Issues

Problem	Description	Points
4	Accounts Receivable	10
5	Inventory	10
6	Fixed Assets	10
7	Future Value and Present Value Concepts	10
8	Bonds Payable	10
9	Assorted Topics—Multiple Choice	10
10	Assorted Topics—Essay	10
Total Points		70

Our analysis of the performance of students who have taken Intermediate Accounting in the past has helped us to better identify the course content skills needed to successfully compete the course. The requirement to pass the pretest, or to complete Acct 2050 with a grade of A or B, is an outcome of that analysis.

The minimum percentage for passing the pretest is 70%. For example, if this pretest were the actual test you took, you would need to score at least 91 out of 130 total points for a total passing percentage of 70%. If you scored 68-69%, you may elect to retake the pretest one time only.

Problem 1: Adjusting Journal Entries and Financial Statements

Snorkle-ooo Technology, Inc., a retailer of blue-rubber swim-fins, has a December 31, 2000 year-end for accounting purposes. Snorkle-ooo gives you the following **unadjusted** trial balance as of December 31, 2000.

Account	Debit	Credit
Cash	45,000	
Accounts Receivable	135,000	
Inventory	415,000	
Prepaid Expenses	32,000	
Property, Plant and Equipment	233,000	
Selling and Administrative Expense	95,000	
Accumulated Depreciation		55,000
Accounts Payable		25,000
Notes Payable		80,000
Common Stock ($1 par value)		75,000
Additional Paid-in Capital (Common Stock)		20,000
Retained Earnings		75,000
Sales Revenue		625,000
Column Totals	955,000	955,000

Additional Information:

1. Snorkle-ooo debits its inventory account whenever inventory is purchased. A physical count of the inventory on December 31, 2000 found that inventory costing $99,400 was on hand. Assume Snorkle-ooo records Cost of Good Sold Expense once a year, at the end of the year.

2. The property, plant and equipment account includes property and equipment costing $180,000 that should be depreciated under the straight-line method. Assume a 6-year life and no salvage value.

3. The amount shown as Prepaid Expenses relates to rent paid in advance on Snorkle-ooo's retail outlet. This amount covers sixteen months and was paid on January 1, 2000.

4. The Notes Payable are 8%, 4-year notes issued on January 1, 2000. Interest is payable once a year, on January 1.

5. Snorkle-ooo has a 40% tax rate.

Required

Prepare the journal entries necessary at the end of 2000 (see Additional Information 1 through 5). **Closing entries are not required.**

Date	Accounts	debits	credits
Dec 30, 2000	COS	315600	
	Inventory		315600
	Depreciation	30000	
	Accumulated Deprecation		30000
	Rent Expense	24000	
	Prepaid Rent		24000
	Interest Expense	6400	
	Interest Payable		6400
	Income Tax Expense	61600	
	Income Tax Payable		61600

Prepare a **balance sheet** as of December 31, 2000.

A properly formatted income statement would include section headings are well as subtotals for current portions of assets and liabilities, net non-current assets, equity, total assets and total liabilities and equity. Retained earnings should of course be ending, not beginning, retained earnings.

Assets		**Liabilities**	
Current Assets		**Current Liabilities**	
Cash	45000	AP	25000
AR	135000	Income Taxes	61600
Inventory	99400	Interest	6400
Prepaid Expenses	8000		93000
	287400	**Noncurrent Liabilities**	
		Note Payable	80000
Noncurrent Assets			
PP&E	233000	**Equity**	
Less Accumulated Depreciation	-85000	Common Stock	75000
Net PP&E	148000	APIC	20000
		Retained Earnings	167400
			262400
	435400		435400

Prepare a multi-step **income statement** for the year ending December 31, 2000.

A properly formatted income statement would include a subtotal for gross margin and income before income taxes.

Sales	**625000**
Cost of Sales	**315600**
Gross Margin	**309400**
Selling & Administrative	**95000**
Rent	**24000**
Interest	**6400**
Depreciation	**30000**
Income Before Income Taxes	**154000**
Income Taxes	**61600**
Net Income	**92400**

Problem 2: Cash Flow Statement

Springz, producer of maps, gives you the following balance sheets information for the year ended December 31, 2000:

Balance Sheet Information	Dec 31, 2001	Dec 31, 2000	Change
Cash	25	50	(25)
Available for Sale Securities	225	260	(35)
Accounts Receivable – Net	180	110	70
Inventory	270	190	80
Land	390	450	(60)
Buildings and Equipment	740	740	-
Accumulated Depreciation	105	85	20
	1,935	1,885	
Deferred Income Taxes	15	20	(5)
Accounts Payable	160	170	(10)
Dividends Payable	20	-	20
Income Taxes Payable	5	15	(10)
Bonds Payable	805	900	(95)
Common Stock (no par)	610	500	110
Preferred Stock (no par)	50	50	-
Unrealized Loss on Available for Sale Securities	(35)	-	(35)
Treasury Stock	(65)	(60)	(5)
Retained Earnings	160	120	40
	1,935	1,885	

Springz also gives you this additional information for the year ending December 31, 2000:

1. For the year, the company reported:
   - Net income of $60
   - Dividends were declared but not yet paid of $20
   - Amortization of bond discount of $15
   - Gain on the sale of land of $40
2. Springz Company had the following transactions pertaining to property, plant and equipment during the year:
   - Sold land for $100 cash
3. Springz did not buy or sell any marketable securities during the year.
4. Springz Company had the following transactions pertaining to shareholders' equity during the year:
   - Bondholders of Springz Company converted $110 of Bonds into common stock.

Required:

Based on the following information, produce an indirect cash flow statement for the year ended December 31, 2000. You may use any method you are comfortable with to produce the cash flow statement. If necessary, include appropriate disclosures of non-cash activities.

Here's a worksheet, which would not have been graded:

	This Year	Last Year	Change	Operating	Investing	Financing	Non-Cash	Reclass	Total
Cash	25	50	(25)						(25)
Available for Sale Securities	225	260	(35)					35	-
Accounts Receivable - Net	180	110	70	(70)					-
Inventory	270	190	80	(80)					-
Land	390	450	(60)	(40)	100				-
Buildings and Equipment	740	740	-						-
	1,830	1,800							
Accumulated Depreciation	105	85	20	20					-
Deferred Income Taxes	15	20	(5)	(5)					-
Accounts Payable	160	170	(10)	(10)					-
Dividends Payable	20	-	20					20	-
Income Taxes Payable	5	15	(10)	(10)					-
Bonds Payable	805	900	(95)	15			(110)		-
Common Stock (no par)	610	500	110				110		-
Preferred Stock (no par)	50	50	-						-
Unrealized Loss on Available for Sale Securities	(35)	-	(35)					(35)	-
Treasury Stock	(65)	(60)	(5)			(5)			-
Retained Earnings	160	120	40	60				(20)	-
	1,830	1,800		(120)	100	(5)	-	-	(25)

Here is the cash flow statement, which would be graded. If you hand in a worksheet and not a statement, then you will receive no credit for the problem!

Springz Company Statement of Cash Flows for year ended Dec 31, 2001

Operating Activities	
Net Income	60
Depreciation	20
Amortization of bond	15
Gain on sale of land	(40)
Effect due to change in operating accounts	
Accounts Receivable	(70)
Inventory	(80)
Accounts Payable	(10)
Income Taxes Payable	(10)
Deferred Income Taxes	(5)
	(120)
Investing Activities	
Proceeds from sale of land	100
Financing Activities	
Purchase of Treasury Stock	(5)
Change in Cash	**($25)**
Cash at beginning of year	50
Cash at end of year	25

Non Cash Activities

The company converted $110 of Bonds Payable to Common Stock

Problem 3: Stockholders' Equity

Mosquito Waters Resorts has been in business since 1987. The stockholders' equity section of Mosquito's balance sheet on January 1, 2000 is as follows:

	Stockholders' Equity Section as of January 1, 2000	
Common Stock (Par value $25.00 per share; 50,000 shares authorized; 28,000 shares issued and outstanding)	$	700,000
Additional Paid-in Capital on Common Stock		100,000
Preferred Stock (Par value $5.00 per share; 5,000 shares authorized; 3,000 shares issued and outstanding)		15,000
Additional Paid-in Capital on Preferred Stock		7,000
Retained Earnings		560,000
Total Stockholders' Equity	$	1,382,000

Required:

1. Prepare the journal entries for the following three transactions:

   On July 15, 2000, Mosquito issues 600 shares of its preferred stock, receiving $15.00 per share.

Date	Accounts	debits	credits
July 15, 2000	Cash	9000	
	Preferred Stock		3000
	APIC		6000

   On December 31, 2000, Mosquito declares annual dividends on preferred stock. Dividends are to be paid on the shares of preferred stock outstanding on December 31, 2000. Each share of preferred stock will receive an amount of 10% of its par value. The dividends will be paid on January 18, 2001.

Date	Accounts	Debits	credits
Dec 31, 2000	Dividends	1800	
	Dividends Payable		1800

On March 31, 2000, Mosquito purchased 4,000 shares of its common stock in the open market for $150,000. On November 15, 2000, Mosquito reissued (or sold) 2,000 of these shares for $40 per share.

Date	Accounts	debits	credits
Mar 31, 2000	Treasury Stock	150000	
	Cash		150000
Nov 15, 2000	Cash	80000	
	Treasury Stock		75000
	Additional Paid In Capital-Common Stock		5000

2. Assume net income for 2000 was $360,000. Prepare the Stockholders' Equity section of Mosquito's balance sheet as of **December 31, 2000**.

In addition to taking the beginning balances shown before and adding the effects of the transactic ... has to determine ... outstanding and issue

Note: This is number of shares issued * par value, not number of shares outstanding time par value!

	Stockholders' Equity Section as of December 31, 2000	
Common Stock (Par value $25.00 per share; 50,000 shares authorized; 28,000 shares issued; 26,000 outstanding)	$	700,000
Additional Paid-in Capital on Common Stock		105,000
Preferred Stock (Par value $5.00 per share; 5,000 shares authorized; 3,600 shares issued and outstanding)		18,000
Additional Paid-in Capital on Preferred Stock		13,000
Retained Earnings		918,200
Treasury Stock - Common Stock		(75,000)
Total Stockholders' Equity	$	1,679,200

Beginning less dividends plus income.

Problem 4: Accounts Receivable

Here is some information relating to sales and accounts receivable for Grunge Plaid Corporation, a retailer of Seattle fashions, as of Dec 31, 2000:

Age of Accounts	Balance Receivable	Estimate of Percentage that will Prove Uncollectible
0 - 30 days	500,000	0.5%
31 - 60 days	120,000	1.0%
61 - 90 days	40,000	5.0%
More than 90 days	30,000	10.0%

At the beginning of the year, the company had a credit balance in the Allowance for Doubtful accounts of $4,000. During the year, the company wrote-off $2,300 of identified uncollectible accounts and collect $800 from accounts written-off in previous years. The company uses the Aging-of-Accounts-Receivable method for recognizing bad debt expense.

Recall there are two methods for computing bad debt, Aging-of-Accounts-Receivable and Percentage-of-Sales. You should review both methods.

Required:

1. Prepare the journal entry for December 31, 2000, to record the provision for bad debts expense.

Date	Accounts	debits	credits
Dec 30, 2000	Bad Debt Expense	6200	
	Allowance		6200

2. Prepare a schedule, in good form, computing the balance in Grunge Plaid's Allowance for Doubtful Accounts. In other words, show the activity affecting this account during 2000, to arrive at the ending balance on December 31, 2000.

Allowance for Doubtful Accounts:

Beg Balance	4,000
Less Write-off	(2,300)
Collection	800
Bad Debt	6,200
End Balance	8,700

Problem 5: Inventory

In its first month of operation, Manifesto Corporation purchased the following inventory available for sale:

	Quantity	Price per Unit
Day 1	5,000	$ 6.50
Day 5	6,000	$ 8.00
Day 8	4,000	$ 8.25
Total	15,000	

The company sold 8,000 units during the first month.

Required:

Calculate the dollar value of cost of goods sold, ending inventory and goods available for sale for each of the following cost flow assumptions:

	LIFO	FIFO	Weighted Average
Ending Inventory	48500	56000	52966
Cost of Goods Sold	65000	56500	60534
Goods Available for Sale	113500	113500	113500

LIFO Cost of Sales		4,000	$	8	$	33,000
		4,000	$	8	$	32,000
					$	65,000
LIFO Ending Inventory		5,000	$	7	$	32,500
		2,000	$	8	$	16,000
					$	48,500
Available for Sale (all methods)					$	113,500
FIFO Cost of Sales		5,000	$	7	$	32,500
		3,000	$	8	$	24,000
					$	56,500
FIFO Ending Inventory		4,000	$	8	$	32,000
		3,000	$	8	$	24,000
					$	56,000
Weighted Average Cost	$	113,500		15,000	$	7.57
Cost of Sales		8,000	$	7.57	$	60,534
Ending Inventory		7,000	$	7.57	$	52,967

Problem 6: Fixed Assets

Cavity Baking Co. has purchased three machines in recent years. However, each machine is depreciated under a different depreciation method. Here is the relevant information:

Machine	Date Purchased	Cost	Salvage Value	Useful Life in Years	Depreciation Method
Oven	07/1/1999	$30,000	$3,000	5	Straight-line
Mixer	01/1/1999	$20,000	$0	8	Double Declining Balance
Forklift	01/1/1998	$25,000	$4,000	5	Sum-of-the-Years' Digits

Assumption: Depreciation expense is recorded once a year, at the end of the year.

Required:

1. Compute the amount of **accumulated depreciation** for **the oven** on December 31, **2000.**

Answer is $8,100, calculated as follows:

Oven

Year	Depreciation	Accumulated Depreciation
1999	2,700	2,700
2000	5,400	**8,100**

2. Compute the amount of **accumulated depreciation** for **the mixer** on December 31, **2000.**

Answer is $8,750, calculated as follows:

Mixer

Year	Depreciation	Accumulated Depreciation
1999	5,000	5,000
2000	3,750	**8,750**

3. Prepare the journal entry to record **total** depreciation expense, for all three assets, for the year **2000**.

Date	Accounts	debits	credits
Dec 31, 2000	Depreciation	13,350	
	Accumulated Depreciation		13,350
	5,400 + 3,750 + 4,200		

Forklift Depreciation

Year	Depreciation
1998	7,000
1999	5,600
2000	**4,200**

Problem 7: Future Value and Present Value Concepts

Note: Compound Interest tables are provided for you at the end of the exam. Assume annuity payments are made at the end of each period.

a) If you need $20,000 at the end of five years to purchase an automobile, what lump sum must be invested now, assuming 6% percent interest compounded annually?

N = 5, R = 6 giving PV factor of .7473
*.7473 * $20,000 = $14,946*

b) In the question above, instead of a depositing a lump sum now to purchase the automobile you decided to make annual deposits for 5 years, beginning at the end of this year. Assume the same interest as above. How much must you deposit annually?

N = 5, R =6 giving FVA of 5.6371
*? * 5.6371 = $20,000 → $20,000/5.6371 = ? = $3,548 (rounded)*

c) If you were to deposit $2,000 every six months, starting six months from now, how much would you have six years from now assuming 8% interest compounded semi-annually (4% every six months)?

N =12, R =4 giving FVA of 15.02581
*15.02581 * $2,000 = $30,052*

d) Someone offers to give you $1,500 for old car (which is probably more than what your car is worth!). The catch is, they cannot pay you for two years. What is the present value of this offer assuming a 10% interest rate compounded annually?

N =2, R = 10 giving PV of .8264
*$1,500 * .8264 = $1,240 (rounded)*

e) Somebody else wants your old car. They will pay you $500 now, $500 in twelve months, and $500 in eighteen months. What is present value of these payments assuming a 10% interest rate compounded semi-annually (5% every six months)?

N = 3, R = 5 giving PV .8638 (payment 18 months from now)
N = 2, R = 5 giving PV .9070 (payment 12 months from now)

.8638	*	*$500*	=	*$432*
.9070	*	*$500*	=	*$453*
1	*	*$500*	=	*$500*
Total value				*$1,385*

Problem 8: Bonds Payable

Bitenoff, Inc. issues bonds payable to finance an acquisition. The bonds payable were issued on January 1, 2000 and mature on December 31, 2005 (Making them six year bonds). The bonds pay interest twice a year, on June 30 and December 31 of each year. The coupon rate on the bonds is 8% (4% every six months), and the effective market rate when they were issued was 12% (6% every six months). The face value of the bonds is $100,000.

Note: Compound Interest tables are provided for you at the end of the exam.

Required:

1. Compute the proceeds received by Bitenoff upon issuance of these bonds. In other words, compute the initial carrying value of these bonds.

Proceeds are computed as the sum of the discounted value of the principal payment and interest payments, discounted at the effective rate of return.

Principal Payments: For n = 12, r = 6, the PV is .4970, so $100,000 * PV = $49,700
Interest Payments: For n = 12, r = 6, the PVA is 8.3838, so $4,000 * PVA = $33,535
Thus, proceeds are **$83,235**.

A partial amortization table follows, but is not required.

Six Month Period	Liability at Beginning of Period	Effective Interest	Coupon Rate	Increase/(Decrease) in Book Value of Liability	Liability at End of Period
1	$ 83,235	$ 4,994	$ 4,000	$ 994	$ 84,229
2	84,229	5,054	4,000	1,054	85,283

2. Prepare the journal entry to record the issuance of the bond payable, on January 1, 2000.

Date	Accounts	debits	credits
Jan 1, 2000	Bond Payable		83,235
	Cash	83,235	

3. Prepare the journal entries to record the interest expense and interest payment for the first year, on June 30, 2000 and December 31, 2000.

Date	Accounts	Debits	credits
Jun 30, 2000	Interest Expense	4,994	
	Bond payable		994
	Cash		4,000
Dec 31, 2000	Interest Expense	5,054	
	Bond payable		1,054
	Cash		4,000

Interest expense is beginning bond payable balance * market rate at time of issue

Problem 9: Assorted Topics--Multiple Choice

Select the **best** answer for each of the five multiple-choice questions. Each question is worth 2 points.

1) Bert Inc. has current assets of $400,000 and current liabilities of $500,000. Bert Inc's current ratio would be increased by
   a) The purchase of $100,000 in inventory on account
   b) The collection of $100,000 of accounts receivable
   c) The purchase of temporary investments for $100,000 cash
   d) The payment of $100,000 of accounts payable

2) In year 1, Ernie Construction Inc agrees to construct a school building for $12,000,000, receiving payments for the work of $6,000,000 in both year 1 and 2. Ernie estimates that the costs will be $4,000,000 in year 1 and $6,000,000 in year 2. If Ernie uses the percentage-of-completion method (based on total costs), what amount of profit is recognized in year 1 and year 2 of the contract, respectively?
   a) $0 and $2,000,000
   b) $2,000,000 and $0
   c) $1,000,000 and $1,000,000
   d) $800,000 and $1,200,000

3) In regards to Deferred Income taxes, a permanent difference
   a) Results in income tax payable greater than income tax expense
   b) Causes a difference between financial income and tax income in the current year
   c) Requires disclosure on a firm's income tax return
   d) Results in a deferred tax asset

4) When a capital lease in signed, it necessary to prepare an amortization schedule to determine
   a) How much of each payment decreases the lease liability
   b) How much of each payment is recognized as interest expense
   c) How much of each payment is recognized as rent expense
   d) Both (a) and (b)

5) Short-term marketable securities were acquired by Grover Co. on July 1, Year 1 for $20,000, and classified as available-for-sale. On December 31, Year 1, the securities had a market value of $21,000. What adjustment is Grover required to make at year-end?
   a) Debit the asset account "securities available for sale" and credit the equity account "unrealized holding gain"
   b) Credit the asset account "securities available for sale" and debit the equity account "unrealized holding gain"
   c) Debit the asset account "securities available for sale" and credit the temporary account "unrealized holding gain"
   d) No entry is necessary

Problem 10: Assorted Topics—Essay

Provide a short answer to each question in the space provided. Each question is worth 2 points.

(a) Two companies issue bonds payable on the same date. Both companies' bonds pay interest semiannually, mature in five years, and have face value of $100,000. Company A issues bonds with a coupon (or stated) rate of 15% and these sell at an effective (or market) rate of 12%. Company B issues bonds with a coupon rate of 10% and these sell at an effective rate of 13%. Which company sold bonds at a discount? Which company sold bonds at a premium? Whose bonds does the market perceive as more risky?

Company B sold its bonds at a discount. Company A sold its bonds at a premium. The market perceives Company B's bonds to be more risky as the market rate is higher than A's.

(b) Your company is going to issue a 10% stock dividend. After the stock dividend is issued, what is the effect of the balance sheet?

There will be no effect upon the balance sheet categories in total—retained earnings will decrease and contributed capital will increase.

Assume a scenario of inflation: the costs of inventory, raw materials, equipment, wages, securities, etc… are constantly increasing over time. For simplicity's sake, also assume that your company's revenues are constant (they are not increasing). Your company uses straight-line deprecation and FIFO method for valuing inventories. You are **only** allowed to decide the following:

- What depreciation method and inventory costing method are used for tax purposes,
- Whether to account for marketable securities as available-for-sale or trading, and
- Whether to obtain financing using interest-bearing debt or common stock. Assume that dividends paid will be equal interest payments on debt.

(a) You want to maximize income. Name one means of doing so.

You could elect to account for securities as trading and issue stock instead of debt.

(b) You want to maximize cash flow. Name one means of doing so.

You could issue debt instead of stock, choose weighted-average inventory costing for taxes purposes (cannot use LIFO), and choose accelerated deprecation (MACRS) for tax purposes.

(c) You are trying to decide whether to account for a 4-year equipment lease as an operating lease or as a capital lease. At the end of year 0, before committing to the lease, your firm's assets and liabilities are $30,000 and $20,000 respectively. You estimate that with the leased equipment year 1 revenues and expenses, including income taxes, will be $10,000 and $6,000 respectively. You will acquire the leased equipment on the first day of year 1; the present value of the lease payments is $8,000. Which method do you choose to maximize ROA in year 1?

No matter what the implicit rate is used in calculating the PV of the lease payments, average total assets will be greater under the capital lease. Net income will be the same under both methods. So ROA will be higher if the firm accounts for the lease as an operating lease.

Table 1 - Future Value of $ 1

Periods	1 %	2 %	3 %	4%	5 %	6 %	8%	10 %	12 %
1	1.0100	1.0200	1.0300	1.0400	1.0500	1.0600	1.0800	1.1000	1.1200
2	1.0201	1.0404	1.0609	1.0816	1.1025	1.1236	1.1664	1.2100	1.2544
3	1.0303	1.0612	1.0927	1.1249	1.1576	1.1910	1.2597	1.3310	1.4049
4	1.0406	1.0824	1.1255	1.1699	1.2155	1.2625	1.3605	1.4641	1.5735
5	1.0510	1.1041	1.1593	1.2167	1.2763	1.3382	1.4693	1.6105	1.7623
6	1.0615	1.1262	1.1941	1.2653	1.3401	1.4185	1.5869	1.7716	1.9738
7	1.0721	1.1487	1.2299	1.3159	1.4071	1.5036	1.7138	1.9487	2.2107
8	1.0829	1.1717	1.2668	1.3686	1.4775	1.5939	1.8509	2.1436	2.4760
9	1.0937	1.1951	1.3048	1.4233	1.5513	1.6895	1.9990	2.3580	2.7731
10	1.1046	1.2190	1.3439	1.4802	1.6289	1.7909	2.1589	2.5937	3.1059
12	1.1268	1.2682	1.4258	1.6010	1.7959	2.0122	2.5182	3.1384	3.8960
24	1.2697	1.60844	2.03279	2.5633	3.2251	4.04893	6.34118	9.84973	15.1786
30	11.3479	1.81136	2.42726	3.2434	4.32194	5.74349	10.06266	17.4494	29.9599

Table 2 - Present Value of $ 1

Periods	1 %	2 %	3 %	4%	5 %	6 %	8%	10 %	12 %
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9259	0.9091	0.8929
2	0.9803	0.9612	0.9426	0.9246	0.9070	0.8900	0.8573	0.8264	0.7972
3	0.9706	0.9423	0.9151	0.8890	0.8638	0.8396	0.7938	0.7513	0.7118
4	0.9610	0.9238	0.8885	0.8548	0.8227	0.7921	0.7350	0.6830	0.6355
5	0.9515	0.9057	0.8626	0.8219	0.7835	0.7473	0.6806	0.6209	0.5674
6	0.9421	0.8880	0.8375	0.7903	0.7462	0.7050	0.6302	0.5645	0.5066
7	0.9327	0.8706	0.8131	0.7599	0.7107	0.6651	0.5835	0.5132	0.4524
8	0.9235	0.8535	0.7894	0.7307	0.6768	0.6274	0.5403	0.4665	0.4039
9	0.9143	0.8368	0.7664	0.7026	0.6446	0.5919	0.5003	0.4241	0.3606
10	0.9053	0.8204	0.7441	0.6756	0.6139	0.5584	0.4632	0.3855	0.3220
12	0.8875	0.7885	0.7014	0.6246	0.5568	0.4970	0.3971	0.3186	0.2567
24	0.7876	0.6217	0.4919	0.3901	0.3101	0.2470	0.1577	0.1015	0.0659
30	0.7419	0.5521	0.4120	0.3083	0.2314	0.1741	0.0994	0.0573	0.0334

Table 3 - Future Value of an Annuity of $ 1 in Arrears

Periods	1 %	2 %	3 %	4%	5 %	6 %	8%	10 %	12 %
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	2.0100	2.0200	2.0300	2.0400	2.0500	2.0600	2.0800	2.1000	2.1200
3	3.0301	3.0604	3.0909	3.1216	3.1525	3.1836	3.2464	3.3100	3.3744
4	4.0604	4.1216	4.1836	4.2465	4.3101	4.3746	4.5061	4.6410	4.7793
5	5.1010	5.2040	5.3091	5.4163	5.5256	5.6371	5.8666	6.1051	6.3529
6	6.1520	6.3081	6.4684	6.6330	6.8019	6.9753	7.3359	7.7156	8.1152
7	7.2135	7.4343	7.6625	7.8983	8.1420	8.3938	8.9228	9.4872	10.0890
8	8.2857	8.5830	8.8923	9.2142	9.5491	9.8975	10.6366	11.4359	12.2997
9	9.3685	9.7546	10.1591	10.5828	11.0266	11.4913	12.4876	13.5795	14.7757
10	10.4622	10.9497	11.4639	12.0061	12.5779	13.1808	14.4866	15.9374	17.5487
12	12.6825	13.41209	14.19203	15.02581	15.91713	16.86994	18.97713	21.38428	24.13313
24	26.9735	30.4219	34.4265	39.0826	44.5020	50.8156	66.7648	88.4973	118.1552
30	34.7849	40.5681	47.5754	56.0849	66.4389	79.0582	113.2832	164.4940	241.3327

Table 4 - Present Value of an Annuity of $ 1 in Arrears

Periods	1 %	2 %	3 %	4%	5 %	6 %	8%	10 %	12 %
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9259	0.9091	0.8929
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.7833	1.7355	1.6901
3	2.9410	2.8839	2.8286	2.7751	2.7233	2.6730	2.5771	2.4869	2.4018
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3121	3.1699	3.0374
5	0.4853	4.7135	4.5797	4.4518	4.3295	4.2124	3.9927	3.7908	3.6048
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.6229	4.3553	4.1114
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5.2064	4.8684	4.5638
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.7466	5.3349	4.9676
9	8.5660	8.1622	7.7861	7.4353	7.1078	6.8017	6.2469	5.7590	5.3283
10	9.4713	8.9826	8.5302	8.1109	7.7217	7.3601	6.7101	6.1446	5.6502
12	11.2551	10.5753	9.9540	9.3851	8.8633	8.3838	7.5361	6.8137	6.1944
24	21.2434	18.9139	16.9355	15.2470	13.7986	12.5504	10.5288	8.9847	7.7843
30	25.8077	22.3965	19.6004	17.2920	15.3725	13.7648	11.2578	9.4269	8.0552