Introduction to Accounting and Financial Reporting
ACCTG 215 Section E

Fall 2009 **Professor J.B. Paperman**

Exam II of 3

November 18, 2009

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By signing below you acknowledge that you are a part of a learning community at the Foster School of Business that is committed to the academic standards of honesty, respect, and integrity, and that you adhered to these standards while completing this exam.

a) **This exam is closed book and closed notes. You may use a calculator to assist in computations. You may not use a phone, iPod, or 'Blackberry' as a calculator.**

b) **You must complete this exam on your own. No assistance is allowed except that provided by the Professor and TA.**

TRUE/FALSE. (2 points each) Write 'T' if the statement is true and 'F' if the statement is false.

1) The sales discount account is an expense account.

F

2) Cash received from the sale of salvaged materials increases the total cost of land.

F

3) During periods of rising costs, FIFO generally results in a higher cost of goods sold.

F

4) Goodwill is amortized over its estimated useful life.

F

5) The net realizable value of accounts receivable is the full amount owed by customers.

T

6) Accrued interest on a note receivable is interest earned by the end of the year but not yet received.

T

7) Advertising costs that increase the value of trademarks are recorded to the asset account entitled trademarks.

F

8) The adjusting entry to account for future bad debts has the effect of (1) reducing assets and (2) increasing liabilities.

F

9) For inventory that is shipped FOB destination, title transfers from the seller to the buyer once the inventory begins shipment.

F

10) When the value of inventory falls below its cost, companies have the option of recording the inventory at cost or the lower market value.

T

-4

MULTIPLE CHOICE. (2 points each) Circle the one alternative that best completes the statement or answers the question.

11) Recognition of impairment for long-term assets is required if book value exceeds:

A. Original cost.
B. Present value of future cash flows.
C. Undiscounted future cash flows.
D. Accumulated depreciation.

12) Ending inventory is equal to the cost of items on hand plus:

A. Items in transit sold f.o.b. shipping point.
B. Sales discounts.
C. Items in transit sold f.o.b. destination.
D. Advertising expense.

13) Consider the following information pertaining to Old West's inventory:

Product	Quantity	Cost	Market Value
Revolvers	16	$120	$150
Spurs	23	27	22
Hats	12	56	40

At what amount should Old West report its inventory?

A. $3,213
B. $3,386
C. $2,996
D. $2,906.

14) In a period when inventory costs are rising, the inventory method that most likely results in the highest ending inventory is:

A. Lower-of-cost-or-market method.
B. Average cost.
C. FIFO.
D. LIFO.

15) The primary difference between a note receivable and an account receivable is:

A. The note receivable cannot be classified as a current asset.
B. Borrowers have the option of not paying a note receivable.
C. The account receivable is more likely to be collected.
D. The note receivable is evidenced by a written debt instrument.

16) Research and development costs should be:

A. Expensed in the period incurred.
B. Expensed in the period they are determined to be unsuccessful.
C. Deferred pending determination of success.
D. Expensed if unsuccessful, capitalized if successful.

17) Abbott Company purchased a computer that cost $10,000. It had an estimated useful life of 5 years and no residual value. The computer was depreciated by the straight-line method and was sold at the end of the fourth year of use for $3,000 cash. Abbott should record:

A. a gain of $1,000.
B. a loss of $1,000.
C. neither a gain nor a loss - the computer was sold at its book value.
D. neither a gain nor a loss - the gain that occurred in this case would not be recognized.

18) Northern Bear Inc. purchased the entire business of Southern Bear Co. including all its assets and liabilities for $700,000. Below is information related to the two companies:

	Northern Bear Inc.	Southern Bear Co.
Fair value of assets	1,050,000	800,000
Fair value of liabilities	575,000	300,000
Reported assets	800,000	650,000
Reported liabilities	500,000	250,000
Net Income for the year	60,000	50,000

How much goodwill did Northern Bear Inc. pay for acquiring Southern Bear Co.?

A. $200,000
B. $400,000
C. $300,000
D. $250,000

19) The replacement of a major component increased the productive capacity of production equipment from 10 units per hour to 18 units per hour. The expenditure should be debited to:

A. Repairs.
B. Equipment.
C. Maintenance.
D. Gain from repairs.

20) The LIFO conformity rule states that if LIFO is used for:

A. One class of inventory, it must be used for all classes of inventory.
B. Tax purposes, it must be used for financial reporting.
C. One company in an affiliated group, it must be used by all companies in an affiliated group.
D. Domestic companies, it must be used by foreign partners.

21) In a periodic inventory system, at the time of a sale the cost of inventory sold is:

A. Debited to accounts receivable.
B. Credited to cost of goods sold.
C. Debited to cost of goods sold.
D. Not recorded.

22) Which of the following statements is true with respect to the percentage of credit sales method of accounting for uncollectible accounts?

(A) The amount recorded for bad debt expense does not depend on the balance of the allowance for uncollectible accounts.
B. This method is referred to as the balance sheet approach.
C. This method does not allow for future uncollectible accounts.
D. Under this method, bad debt expense is recorded at the time of an actual bad debt.

23) Which inventory method is better described as having an income statement focus and why is it considered as such?

A. FIFO; better approximates the value of ending inventory.
B. LIFO; better approximates the value of ending inventory.
(C) LIFO; better approximates inventory cost necessary to generate revenue.
D. FIFO; better approximates inventory cost necessary to generate revenue.

24) Inventory does not include:

A. Materials used in the production of goods to be sold.
B. Assets intended to be sold in the normal course of business.
(C) Equipment used in the manufacturing of assets for sale.
D. Assets currently in production for normal sales.

25) Which of the following intangible assets is not amortized?

A. Patents.
B. Copyrights.
C. Franchise fee.
(D) Goodwill.

26) Collections of accounts receivable that previously have been written off are credited to:

A. A gain account.
(B) Accounts receivable.
C. Bad debts expense.
D. Retained earnings.

Accts Receivable
Allowance for U.A.
Cash
Accts Receivable

27) On February 1, 2010, Middelton Corp. issues cash and accepts a $1,000 note receivable that offers 12% interest and is due in six months. How much interest revenue will Middleton Corp report during 2010?

A. $120.
B. $240.
C. $100.
(D) $60.

28) Credits sales are recorded as:

A. Debit cash; credit unearned revenues.
B. Debit revenues, credit accounts receivable.
C. Debit cash; credit revenues.
(D) Debit accounts receivable, credit revenues.

29) The factors that need to be known to compute depreciation are an asset's:

A. Cost, residual value, and physical life.
B. Cost, replacement value, and service life.
C. Fair market value, residual value, and economic life.
D. Cost, residual value, and service life.

30) How much will $25,000 grow to in seven years, assuming an interest rate of 12% compounded annually?

A. $55,267
B. $46,000
C. $61,899
D. $52,344

$PV = \frac{FV}{(1+i)^n}$

$FV = 25{,}000(1.12)^7$
$= 55{,}267.04$

31) Leonard's Jewelry owns a patent with a carrying value of $50 million at the end of 2010. Due to adverse economic conditions, Leonard's management determined that it should assess whether an impairment should be recognized for the patent. The estimated future cash flows (without discounting) to be provided by the patent total $43 million, and its fair value at that point totals $35 million. Under these circumstances, Leonard:

A. Would record no impairment loss on the patent.
B. Would record a $7 million impairment loss on the patent.
C. Would record a $15 million impairment loss on the patent.
D. Would record a $31 million impairment loss on the patent.

32) Which of the following does not change the balance in the accounts receivable account?

A. Returns on credit sales
B. Collections from customer accounts
C. Bad debts expense adjustment
D. Write-offs

33) In a perpetual inventory system, the cost of purchases is debited to:

A. Purchases.
B. Cost of goods sold.
C. Inventory.
D. Accounts payable.

34) When customers purchase products on account, Spitz Manufacturing offers them a 2% reduction in the amount owed if they pay within 10 days. This is an example of a:

A. Bad debt.
B. Sales discount.
C. Sales return.
D. Sales allowances.

35) The distinction between operating and nonoperating income relates to:

A. Continuity of income.
B. Principal activities of the reporting entity.
C. Consistency of income stream.
D. Reliability of measurements.

36) Quaker State Inc. offers a new employee a lump sum signing bonus at the date of employment. Alternatively, the employee can take $8,000 at the date of employment plus $20,000 at the end of each of his first three years of service. Assuming the employee's time value of money is 10% annually, what lump sum at employment date would make him indifferent between the two options?

PV = 20,000 × 2.4869

PV = 49,738

+ 8,000

57,738

A. $23,026
B. $57,737
C. $62,711
D. None of these is correct.

SHORT ANSWER. (3 points per blank) Write the word, number or phrase that best completes each statement or answers the question.

37) A company has the following balances on December 31, 2010, before any adjusting entries: Accounts receivable = $80,000 and allowance for uncollectible accounts = $900 (credit). The company estimates uncollectible accounts based on an aging of accounts receivable as shown below.

Age Group	Amount Receivable	Estimated Percent Uncollectible	
Not yet due	$48,000	5%	2400
0–30 days past due	18,000	15%	2700
31–90 days past due	10,000	40%	4000
More than 90 days past due	4,000	80%	3200
Total	$80,000		12,300

Determine:

A) Ending Allowance for Doubtful Accounts

$12,300

B) Bad Debt Expense for the period.

12,300 - 900 = $11,400

38) During 2010, its first year of operations, a company provides services on account of $250,000. By the end of 2010, cash collections on these accounts total $130,000. The company estimates that 10% of the uncollected accounts will be bad debts. Determine the Bad Debt Expense for 2010.

250,000 - 130,000 = 120,000

X 0.1

$12,000 ← Bad Debt Expense

39) A company reports the following amounts at the end of the year: Total sales = $380,000; cash = $35,000; sales discounts = $10,000; accounts receivable = $20,000; sales returns = $15,000; operating expenses = $70,000; sales allowances = $25,000. Compute net sales.

Net Sales = $330,000

40) During 2010, a company sells 500 units of inventory for $90 each. The company has the following inventory purchase transactions for 2010:

Date	Transaction	Number of Units	Unit Cost	Total Cost
Jan. 1	Beginning inventory	80	$79	$ 6,320
May 5	Purchase	270	80	21,600
Nov. 3	Purchase	190	82	15,580
		540		$43,500

80.56

Calculate cost of goods sold and ending inventory for 2010 assuming the company uses each of the following cost assumptions with a periodic inventory system.

	COGS	Ending Inventory
FIFO	$40,220	$3,280
LIFO	$40,340	$3,160
Weighted-Average	$40,277.78	$3,222.22

41. Stephan's Resorts purchased equipment for $40,000. Residual value at the end of an estimated four-year service life is expected to be $10,000. The machine operated for 2,200 hours in the first year, 2,700 hours in the second year and the company expects the machine to operate for a total of 10,000 hours over its four-year life. Calculate depreciation expense for the first and second year using each of the following depreciation methods:

30,000 x 0.25 = 7,500

40,000 x 0.5 = 20,000

20,000 x 0.5 = 10,000

straight-line year 1 $7,500 year 2 $7,500

double-declining-balance year 1 20,000 year 2 $10,000

42. Burger Chef acquired a delivery truck on March 1, 2010 for $30,000. The company estimates a residual value of $2,000 and a 6-year service life. It expects to drive the truck 80,000 miles. Actual mileage was 12,000 miles in 2010 and 16,000 miles in 2011. Calculate depreciation expense using the activity-based method for 2010 and 2011, assuming a December 31 year-end.

2010 Depreciation

$ 4,200

2011 Depreciation $ 5,600

28,000 x 0.15 = 4,200

28,000 x 0.2 = 5,600

43. On January 1, 2010, The Donut Stop purchased a patent for $80,000. The remaining legal life is 20 years, but the company estimates the patent will be useful for only five more years. In January 2011, the company incurred legal fees of $25,000 in successfully defending a patent infringement suit. The successful defense did not change the company's estimate of useful life. The Donut Stop's year end is December 31st. Record the purchase and amortization in 2010 and the legal fees and amortization in 2011. What is the balance in the patents account at the end of 2011?

2010 Purchase Entry

Patent 80,000

Cash 80,000

2010 Amortization

EXP

Amortization ^ 16,000 - 1

Patent 16,000

2011 Legal Fees

Patent 25,000

Accounts Payable 25,000

2011 Amortization

EXP.

Amortization 16,000 - 2

Patent 16,000

Patent	
80,000	16,000
25,000	16,000
73,000	

Balance in patent account 73,000

$(1+i)^{\wedge}$

-3

44. On September 8, a company provides services on account to a customer for $1,800, terms 2/10, n/30. The customer pays for those services on September 15. For the company, record the service on account on September 8 and the collection of cash on September 15.

September 8

	Dr.	Cr.
Accounts Receivable	1,800	
Service Revenue		1,800

September 15

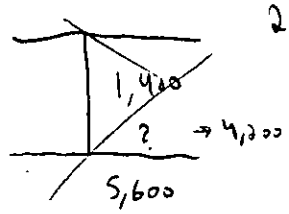
	Dr.	Cr.
Cash	1,764	
~~Purchase~~ Discount	36	
Accounts Receivable		1,800

−1

45. A company uses the allowance method to account for uncollectible accounts. During the year, the company has actual bad debts of $25,000. Record the write-off of uncollectible accounts.

	Dr.	Cr.
Allowance For Uncollectible Accounts	25,000	
Accounts Receivable		25,000

46. At the end of the year, a company reports a balance in its allowance for uncollectible accounts of $1,400 (*credit*) before adjusting entries. The company estimates future uncollectible accounts to be 2% of credit sales for the year. Credit sales for the year total $280,000. Record the adjusting entry for the allowance for uncollectible accounts using the percentage of credit sales method.



280,000 × 0.2 = 5,600

	Dr.	Cr.
Bad Debt Expense	5,600	
Allowance for Uncollectible Accounts		5,600

−1

47. BC Training reports sales revenue of $2,000,000. Average inventory during the year is $200,000. The inventory turnover ratio for the year is 8.0. What amount of gross profit does the company report in its income statement?

Inventory Turnover Ratio = $\frac{COGS}{Avg\ Inventory}$ = $8 = \frac{COGS}{200,000}$

COGS = 1,600,000

2,000,000 − 1600,000 = $400,000

↳ Gross Profit

48. Excerpts from Stealth Company's December 31, 2011 and 2010, financial statements are presented below.

	2011	2010
Accounts receivable	$ 40,000	$ 36,000
Merchandise inventory	28,000	35,000
Net sales	190,000	186,000
Cost of goods sold	114,000	108,000
Total assets	425,000	405,000
Total shareholders' equity	240,000	225,000
Net income	32,500	28,000

What is Stealth's average collection period during 2011?

Avg collection Period = $\frac{365}{c.t.r.}$

c.t.r. = $\frac{Net\ Credit\ Sales}{Avg.\ Accounts\ Rec.}$

$\frac{190,000}{\left(\frac{40,000 + 36,000}{2}\right)}$ = 5

$\frac{365}{5}$ = 73

average collection period = 73 days

D

Present Value of $1

Periods	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	15%	20%
1	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8696	0.8333
2	0.9426	0.9246	0.9070	0.8900	0.8734	0.8573	0.8417	0.8264	0.8116	0.7972	0.7561	0.6944
3	0.9151	0.8890	0.8638	0.8396	0.8163	0.7938	0.7722	0.7513	0.7312	0.7118	0.6575	0.5787
4	0.8885	0.8548	0.8227	0.7921	0.7629	0.7350	0.7084	0.6830	0.6587	0.6355	0.5718	0.4823
5	0.8626	0.8219	0.7835	0.7473	0.7130	0.6806	0.6499	0.6209	0.5935	0.5674	0.4972	0.4019
6	0.8375	0.7903	0.7462	0.7050	0.6663	0.6302	0.5963	0.5645	0.5346	0.5066	0.4323	0.3349
7	0.8131	0.7599	0.7107	0.6651	0.6227	0.5835	0.5470	0.5132	0.4817	0.4523	0.3759	0.2791
8	0.7894	0.7307	0.6768	0.6274	0.5820	0.5403	0.5019	0.4665	0.4339	0.4039	0.3269	0.2326
9	0.7664	0.7026	0.6446	0.5919	0.5439	0.5002	0.4604	0.4241	0.3909	0.3606	0.2843	0.1938
10	0.7441	0.6756	0.6139	0.5584	0.5083	0.4632	0.4224	0.3855	0.3522	0.3220	0.2472	0.1615
11	0.7224	0.6496	0.5847	0.5268	0.4751	0.4289	0.3875	0.3505	0.3173	0.2875	0.2149	0.1346
12	0.7014	0.6246	0.5568	0.4970	0.4440	0.3971	0.3555	0.3186	0.2858	0.2567	0.1869	0.1122
13	0.6810	0.6006	0.5303	0.4688	0.4150	0.3677	0.3262	0.2897	0.2575	0.2292	0.1625	0.0935
14	0.6611	0.5775	0.5051	0.4423	0.3878	0.3405	0.2992	0.2633	0.2320	0.2046	0.1413	0.0779
15	0.6419	0.5553	0.4810	0.4173	0.3624	0.3152	0.2745	0.2394	0.2090	0.1827	0.1229	0.0649
16	0.6232	0.5339	0.4581	0.3936	0.3387	0.2919	0.2519	0.2176	0.1883	0.1631	0.1069	0.0541
17	0.6050	0.5134	0.4363	0.3714	0.3166	0.2703	0.2311	0.1978	0.1696	0.1456	0.0929	0.0451
18	0.5874	0.4936	0.4155	0.3503	0.2959	0.2502	0.2120	0.1799	0.1528	0.1300	0.0808	0.0376
19	0.5703	0.4746	0.3957	0.3305	0.2765	0.2317	0.1945	0.1635	0.1377	0.1161	0.0703	0.0313
20	0.5537	0.4564	0.3769	0.3118	0.2584	0.2145	0.1784	0.1486	0.1240	0.1037	0.0611	0.0261
21	0.5375	0.4388	0.3589	0.2942	0.2415	0.1987	0.1637	0.1351	0.1117	0.0926	0.0531	0.0217
22	0.5219	0.4220	0.3418	0.2775	0.2257	0.1839	0.1502	0.1228	0.1007	0.0826	0.0462	0.0181
23	0.5067	0.4057	0.3256	0.2618	0.2109	0.1703	0.1378	0.1117	0.0907	0.0738	0.0402	0.0151
24	0.4919	0.3901	0.3101	0.2470	0.1971	0.1577	0.1264	0.1015	0.0817	0.0659	0.0349	0.0126
25	0.4776	0.3751	0.2953	0.2330	0.1842	0.1460	0.1160	0.0923	0.0736	0.0588	0.0304	0.0105
30	0.4120	0.3083	0.2314	0.1741	0.1314	0.0994	0.0754	0.0573	0.0437	0.0334	0.0151	0.0042
35	0.3554	0.2534	0.1813	0.1301	0.0937	0.0676	0.0490	0.0356	0.0259	0.0189	0.0075	0.0017
40	0.3066	0.2083	0.1420	0.0972	0.0668	0.0460	0.0318	0.0221	0.0154	0.0107	0.0037	0.0007
45	0.2644	0.1712	0.1113	0.0727	0.0476	0.0313	0.0207	0.0137	0.0091	0.0061	0.0019	0.0003
50	0.2281	0.1407	0.0872	0.0543	0.0339	0.0213	0.0134	0.0085	0.0054	0.0035	0.0009	0.0001

Future Value of $1

Periods	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	15%	20%
1	1.0300	1.0400	1.0500	1.0600	1.0700	1.0800	1.0900	1.1000	1.1100	1.1200	1.1500	1.2000
2	1.0609	1.0816	1.1025	1.1236	1.1449	1.1664	1.1881	1.2100	1.2321	1.2544	1.3225	1.4400
3	1.0927	1.1249	1.1576	1.1910	1.2250	1.2597	1.2950	1.3310	1.3676	1.4049	1.5209	1.7280
4	1.1255	1.1699	1.2155	1.2625	1.3108	1.3605	1.4116	1.4641	1.5181	1.5735	1.7490	2.0736
5	1.1593	1.2167	1.2763	1.3382	1.4026	1.4693	1.5386	1.6105	1.6851	1.7623	2.0114	2.4883
6	1.1941	1.2653	1.3401	1.4185	1.5007	1.5869	1.6771	1.7716	1.8704	1.9738	2.3131	2.9860
7	1.2299	1.3159	1.4071	1.5036	1.6058	1.7138	1.8280	1.9487	2.0762	2.2107	2.6600	3.5832
8	1.2668	1.3686	1.4775	1.5938	1.7182	1.8509	1.9926	2.1436	2.3045	2.4760	3.0590	4.2998
9	1.3048	1.4233	1.5513	1.6895	1.8385	1.9990	2.1719	2.3579	2.5580	2.7731	3.5179	5.1598
10	1.3439	1.4802	1.6289	1.7908	1.9672	2.1589	2.3674	2.5937	2.8394	3.1058	4.0456	6.1917
11	1.3842	1.5395	1.7103	1.8983	2.1049	2.3316	2.5804	2.8531	3.1518	3.4785	4.6524	7.4301
12	1.4258	1.6010	1.7959	2.0122	2.2522	2.5182	2.8127	3.1384	3.4985	3.8960	5.3503	8.9161
13	1.4685	1.6651	1.8856	2.1329	2.4098	2.7196	3.0658	3.4523	3.8833	4.3635	6.1528	10.6993
14	1.5126	1.7317	1.9799	2.2609	2.5785	2.9372	3.3417	3.7975	4.3104	4.8871	7.0757	12.8392
15	1.5580	1.8009	2.0789	2.3966	2.7590	3.1722	3.6425	4.1772	4.7846	5.4736	8.1371	15.4070
16	1.6047	1.8730	2.1829	2.5404	2.9522	3.4259	3.9703	4.5950	5.3109	6.1304	9.3576	18.4884
17	1.6528	1.9479	2.2920	2.6928	3.1588	3.7000	4.3276	5.0545	5.8951	6.8660	10.7613	22.1861
18	1.7024	2.0258	2.4066	2.8543	3.3799	3.9960	4.7171	5.5599	6.5436	7.6900	12.3755	26.6233
19	1.7535	2.1068	2.5270	3.0256	3.6165	4.3157	5.1417	6.1159	7.2633	8.6128	14.2318	31.9480
20	1.8061	2.1911	2.6533	3.2071	3.8697	4.6610	5.6044	6.7275	8.0623	9.6463	16.3665	38.3376
21	1.8603	2.2788	2.7860	3.3996	4.1406	5.0338	6.1088	7.4002	8.9492	10.8038	18.8215	46.0051
22	1.9161	2.3699	2.9253	3.6035	4.4304	5.4365	6.6586	8.1403	9.9336	12.1003	21.6447	55.2061
23	1.9736	2.4647	3.0715	3.8197	4.7405	5.8715	7.2579	8.9543	11.0263	13.5523	24.8915	66.2474
24	2.0328	2.5633	3.2251	4.0489	5.0724	6.3412	7.9111	9.8497	12.2392	15.1786	28.6252	79.4968
25	2.0938	2.6658	3.3864	4.2919	5.4274	6.8485	8.6231	10.8347	13.5855	17.0001	32.9190	95.3962
30	2.4273	3.2434	4.3219	5.7435	7.6123	10.0627	13.2677	17.4494	22.8923	29.9599	66.2118	237.3763
35	2.8139	3.9461	5.5160	7.6861	10.6766	14.7853	20.4140	28.1024	38.5749	52.7996	133.1755	590.6682
40	3.2620	4.8010	7.0400	#####	14.9745	21.7245	31.4094	45.2593	65.0009	93.0510	267.8635	######
45	3.7816	5.8412	8.9850	#####	21.0025	31.9204	48.3273	72.8905	109.5302	163.9876	538.7693	######
50	4.3839	7.1067	11.4674	#####	29.4570	46.9016	74.3575	117.3909	184.5648	289.0022	######	######

Present Value of Ordinary Annuity of $1

Periods	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	15%	20%
1	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8696	0.8333
2	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1.7125	1.6901	1.6257	1.5278
3	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4437	2.4018	2.2832	2.1065
4	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.1024	3.0373	2.8550	2.5887
5	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6959	3.6048	3.3522	2.9906
6	5.4172	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859	4.3553	4.2305	4.1114	3.7845	3.3255
7	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.7122	4.5638	4.1604	3.6046
8	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	5.1461	4.9676	4.4873	3.8372
9	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.5370	5.3282	4.7716	4.0310
10	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.8892	5.6502	5.0188	4.1925
11	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	6.2065	5.9377	5.2337	4.3271
12	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.4924	6.1944	5.4206	4.4392
13	10.6350	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.7499	6.4235	5.5831	4.5327
14	11.2961	10.5631	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.9819	6.6282	5.7245	4.6106
15	11.9379	11.1184	10.3797	9.7122	9.1079	8.5595	8.0607	7.6061	7.1909	6.8109	5.8474	4.6755
16	12.5611	11.6523	10.8378	10.1059	9.4466	8.8514	8.3126	7.8237	7.3792	6.9740	5.9542	4.7296
17	13.1661	12.1657	11.2741	10.4773	9.7632	9.1216	8.5436	8.0216	7.5488	7.1196	6.0472	4.7746
18	13.7535	12.6593	11.6896	10.8276	10.0591	9.3719	8.7556	8.2014	7.7016	7.2497	6.1280	4.8122
19	14.3238	13.1339	12.0853	11.1581	10.3356	9.6036	8.9501	8.3649	7.8393	7.3658	6.1982	4.8435
20	14.8775	13.5903	12.4622	11.4699	10.5940	9.8181	9.1285	8.5136	7.9633	7.4694	6.2593	4.8696
21	15.4150	14.0292	12.8212	11.7641	10.8355	10.0168	9.2922	8.6487	8.0751	7.5620	6.3125	4.8913
22	15.9369	14.4511	13.1630	12.0416	11.0612	10.2007	9.4424	8.7715	8.1757	7.6446	6.3587	4.9094
23	16.4436	14.8568	13.4886	12.3034	11.2722	10.3711	9.5802	8.8832	8.2664	7.7184	6.3988	4.9245
24	16.9355	15.2470	13.7986	12.5504	11.4693	10.5288	9.7066	8.9847	8.3481	7.7843	6.4338	4.9371
25	17.4131	15.6221	14.0939	12.7834	11.6536	10.6748	9.8226	9.0770	8.4217	7.8431	6.4641	4.9476
30	19.6004	17.2920	15.3725	13.7648	12.4090	11.2578	10.2737	9.4269	8.6938	8.0552	6.5660	4.9789
35	21.4872	18.6646	16.3742	14.4982	12.9477	11.6546	10.5668	9.6442	8.8552	8.1755	6.6166	4.9915
40	23.1148	19.7928	17.1591	15.0463	13.3317	11.9246	10.7574	9.7791	8.9511	8.2438	6.6418	4.9966
45	24.5187	20.7200	17.7741	15.4558	13.6055	12.1084	10.8812	9.8628	9.0079	8.2825	6.6543	4.9986
50	25.7298	21.4822	18.2559	15.7619	13.8007	12.2335	10.9617	9.9148	9.0417	8.3045	6.6605	4.9995

Future Value of Ordinary Annuity of $1

Periods	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	15%	20%
1	1.0300	1.0400	1.0500	1.0600	1.0700	1.0800	1.0900	1.1000	1.1100	1.1200	1.1500	1.2000
2	2.0909	2.1216	2.1525	2.1836	2.2149	2.2464	2.2781	2.3100	2.3421	2.3744	2.4725	2.6400
3	3.1836	3.2465	3.3101	3.3746	3.4399	3.5061	3.5731	3.6410	3.7097	3.7793	3.9934	4.3680
4	4.3091	4.4163	4.5256	4.6371	4.7507	4.8666	4.9847	5.1051	5.2278	5.3528	5.7424	6.4416
5	5.4684	5.6330	5.8019	5.9753	6.1533	6.3359	6.5233	6.7156	6.9129	7.1152	7.7537	8.9299
6	6.6625	6.8983	7.1420	7.3938	7.6540	7.9228	8.2004	8.4872	8.7833	9.0890	10.0668	11.9159
7	7.8923	8.2142	8.5491	8.8975	9.2598	9.6366	10.0285	10.4359	10.8594	11.2997	12.7268	15.4991
8	9.1591	9.5828	10.0266	10.4913	10.9780	11.4876	12.0210	12.5795	13.1640	13.7757	15.7858	19.7989
9	10.4639	11.0061	11.5779	12.1808	12.8164	13.4866	14.1929	14.9374	15.7220	16.5487	19.3037	24.9587
10	11.8078	12.4864	13.2068	13.9716	14.7836	15.6455	16.5603	17.5312	18.5614	19.6546	23.3493	31.1504
11	13.1920	14.0258	14.9171	15.8699	16.8885	17.9771	19.1407	20.3843	21.7132	23.1331	28.0017	38.5805
12	14.6178	15.6268	16.7130	17.8821	19.1406	20.4953	21.9534	23.5227	25.2116	27.0291	33.3519	47.4966
13	16.0863	17.2919	18.5986	20.0151	21.5505	23.2149	25.0192	26.9750	29.0949	31.3926	39.5047	58.1959
14	17.5989	19.0236	20.5786	22.2760	24.1290	26.1521	28.3609	30.7725	33.4054	36.2797	46.5804	71.0351
15	19.1569	20.8245	22.6575	24.6725	26.8881	29.3243	32.0034	34.9497	38.1899	41.7533	54.7175	86.4421
16	20.7616	22.6975	24.8404	27.2129	29.8402	32.7502	35.9737	39.5447	43.5008	47.8837	64.0751	104.9306
17	22.4144	24.6454	27.1324	29.9057	32.9990	36.4502	40.3013	44.5992	49.3959	54.7497	74.8364	127.1167
18	24.1169	26.6712	29.5390	32.7600	36.3790	40.4463	45.0185	50.1591	55.9395	62.4397	87.2118	153.7400
19	25.8704	28.7781	32.0660	35.7856	39.9955	44.7620	50.1601	56.2750	63.2028	71.0524	101.4436	185.6880
20	27.6765	30.9692	34.7193	38.9927	43.8652	49.4229	55.7645	63.0025	71.2651	80.6987	117.8101	224.0256
21	29.5368	33.2480	37.5052	42.3923	48.0057	54.4568	61.8733	70.4027	80.2143	91.5026	136.6316	270.0307
22	31.4529	35.6179	40.4305	45.9958	52.4361	59.8933	68.5319	78.5430	90.1479	103.6029	158.2764	325.2369
23	33.4265	38.0826	43.5020	49.8156	57.1767	65.7648	75.7898	87.4973	101.1742	117.1552	183.1678	391.4842
24	35.4593	40.6459	46.7271	53.8645	62.2490	72.1059	83.7009	97.3471	113.4133	132.3339	211.7930	470.9811
25	37.5530	43.3117	50.1135	58.1564	67.6765	78.9544	92.3240	108.1818	126.9988	149.3339	244.7120	566.3773
30	49.0027	58.3283	69.7608	83.8017	101.0730	122.3459	148.5752	180.9434	220.9132	270.2926	499.9569	######
35	62.2759	76.5983	94.8363	#####	147.9135	186.1021	235.1247	298.1268	379.1644	483.4631	######	######
40	77.6633	98.8265	126.8398	#####	213.6096	279.7810	368.2919	486.8518	645.8269	859.1424	######	######
45	95.5015	125.8706	167.6852	#####	305.7518	417.4261	573.1860	790.7953	######	######	######	######
50	116.1808	158.7738	219.8154	#####	434.9860	619.6718	888.4411	######	######	######	######	######