

CHAPTER 2: THE BASIC FINANCIAL STATEMENTS

Text Problem Solutions

1. Using the data presented below:

a. Recreate the income statement and balance sheet using formulas wherever possible. Each statement should be on a separate worksheet. Try to duplicate the formatting exactly.

Original Data:

	A	B	C
1	Longwood Laser Engraving		
2	Income Statements		
3	For the Years 2008 and 2009		
4		<i>2009</i>	<i>2008</i>
5	Sales	\$2,900,000	\$2,350,000
6	Cost of Goods	2,030,000	1,645,000
7	Gross Profit	870,000	705,000
8	Depreciation	62,000	58,000
9	Selling & Admin. Expense	425,000	390,000
10	Lease Expense	65,000	65,000
11	Net Operating Income	318,000	192,000
12	Interest Expense	112,000	68,000
13	Earnings Before Taxes	206,000	124,000
14	Taxes	72,100	43,400
15	Net Income	\$133,900	\$80,600
16			
17	Notes:		
18	Tax Rate	35.00%	35.00%
19	Shares	38,000	30,000
20	Earnings per Share	\$3.52	\$2.69

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Formulas:

	A	B	C
1	Longwood Laser Engraving		
2	Income Statements		
3	For the Years 2008 and 2009		
4		<i>2009</i>	<i>2008</i>
5	Sales	2900000	2350000
6	Cost of Goods	2030000	1645000
7	Gross Profit	=B5-B6	=C5-C6
8	Depreciation	62000	58000
9	Selling & Admin. Expense	425000	390000
10	Lease Expense	65000	65000
11	Net Operating Income	=B7-SUM(B8:B10)	=C7-SUM(C8:C10)
12	Interest Expense	112000	68000
13	Earnings Before Taxes	=B11-B12	=C11-C12
14	Taxes	=B13*B18	=C13*C18
15	Net Income	=B13-B14	=C13-C14
16			
17	Notes:		
18	Tax Rate	0.35	0.35
19	Shares	38000	30000
20	Earnings per Share	=B15/B19	=C15/C19

Original Data:

	A	B	C
1	Longwood Laser Engraving		
2	Balance Sheet		
3	For the Year Ended December 31, 2009		
4		<i>2009</i>	<i>2008</i>
5	Assets		
6	Cash	\$52,000	\$41,000
7	Marketable Securities	25,000	21,000
8	Accounts Receivable	420,000	372,000
9	Inventory	515,000	420,000
10	<i>Total Current Assets</i>	1,012,000	854,000
11	Gross Fixed Assets	2,680,000	2,170,000
12	Accumulated Depreciation	547,000	485,000
13	<i>Net Plant & Equipment</i>	2,133,000	1,685,000
14	Total Assets	\$3,145,000	\$2,539,000
15			
16	Liabilities & Owner's Equity		
17	Accounts Payable	\$505,000	\$310,000
18	Accrued Expenses	35,000	30,000
19	<i>Total Current Liabilities</i>	540,000	340,000
20	Long-term Debt	1,168,100	1,061,000
21	<i>Total Liabilities</i>	1,708,100	1,401,000
22	Common Stock (\$2 par)	76,000	60,000
23	Additional Paid-in-Capital	691,000	542,000
24	Retained Earnings	669,900	536,000
25	<i>Total Owner's Equity</i>	1,436,900	1,138,000
26	Total Liab. & Owner's Equity	\$3,145,000	\$2,539,000

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Formulas:

	A	B	C
1	Longwood Laser Engraving		
2	Balance Sheet		
3	For the Year Ended December 31, 2009		
4		2009	2008
5	Assets		
6	Cash	52000	41000
7	Marketable Securities	25000	21000
8	Accounts Receivable	420000	372000
9	Inventory	515000	420000
10	<i>Total Current Assets</i>	=SUM(B6:B9)	=SUM(C6:C9)
11	Gross Fixed Assets	2680000	2170000
12	Accumulated Depreciation	=C12+'Income Statement a'!B8	485000
13	<i>Net Plant & Equipment</i>	=B11-B12	=C11-C12
14	Total Assets	=B10+B13	=C10+C13
15			
16	Liabilities & Owner's Equity		
17	Accounts Payable	505000	310000
18	Accrued Expenses	35000	30000
19	<i>Total Current Liabilities</i>	=SUM(B17:B18)	=SUM(C17:C18)
20	Long-term Debt	1168100	1061000
21	<i>Total Liabilities</i>	=SUM(B19:B20)	=SUM(C19:C20)
22	Common Stock (\$2 par)	=2*'Income Statement a'!B19	=2*'Income Statement a'!C19
23	Additional Paid-in-Capital	691000	542000
24	Retained Earnings	=C24+'Income Statement a'!B15	536000
25	<i>Total Owner's Equity</i>	=SUM(B22:B24)	=SUM(C22:C24)
26	Total Liab. & Owner's Equity	=B19+B20+B25	=C19+C20+C25

b. On another worksheet, create a statement of cash flows for 2009. Do not enter any numbers on this worksheet. All formulas should be linked directly to the source on previous worksheets.

Worksheet:

	A	B	C
1	Longwood Laser Engraving		
2	Statement of Cash Flows		
3	For the Year Ended December 31, 2009		
4	Cash Flows from Operations		
5	Net Income	\$ 133,900	
6	Depreciation Expense	62,000	
7	Change in Marketable Securities	(4,000)	
8	Change in Accounts Receivable	(48,000)	
9	Change in Inventory	(95,000)	
10	Change in Accounts Payable	195,000	
11	Change in Accrued Expenses	5,000	
12	<i>Total Cash Flows from Operations</i>		<u>248,900</u>
13	Cash Flows from Investing		
14	Change in Gross Fixed Assets	(510,000)	
15	<i>Total Cash Flows from Investing</i>		<u>-510,000</u>
16	Cash Flows from Financing		
17	Change in Long-term Debt	107,100	
18	Change in Common Stock (\$2 par)	16,000	
19	Change in Additional Paid-in-Capital	149,000	
20	<i>Total Cash Flows from Financing</i>		<u>272,100</u>
21	Net Change in Cash Balance		<u><u>\$ 11,000</u></u>

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Formulas:

	A	B	C
1	Longwood Laser Engraving		
2	Statement of Cash Flows		
3	For the Year Ended December 31, 2009		
4	Cash Flows from Operations		
5	Net Income	='Income Statement'!B15	
6	Depreciation Expense	='Income Statement'!B8	
7	Change in Marketable Securities	='Balance Sheet'!C7-'Balance Sheet'!B7	
8	Change in Accounts Receivable	='Balance Sheet'!C8-'Balance Sheet'!B8	
9	Change in Inventory	='Balance Sheet'!C9-'Balance Sheet'!B9	
10	Change in Accounts Payable	='Balance Sheet'!B17-'Balance Sheet'!C17	
11	Change in Accrued Expenses	='Balance Sheet'!B18-'Balance Sheet'!C18	
12	<i>Total Cash Flows from Operations</i>		=SUM(B5:B11)
13	Cash Flows from Investing		
14	Change in Gross Fixed Assets	='Balance Sheet'!C11-'Balance Sheet'!B11	
15	<i>Total Cash Flows from Investing</i>		=B14
16	Cash Flows from Financing		
17	Change in Long-term Debt	='Balance Sheet'!B20-'Balance Sheet'!C20	
18	Change in Common Stock (\$2 par)	='Balance Sheet'!B22-'Balance Sheet'!C22	
19	Change in Additional Paid-in-Capital	='Balance Sheet'!B23-'Balance Sheet'!C23	
20	<i>Total Cash Flows from Financing</i>		=SUM(B17:B19)
21	Net Change in Cash Balance		=SUM(C12:C20)

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c. Using Excel's outlining feature, create an outline on the statement of cash flows that, when collapsed, shows only the subtotals for each section.

Worksheet:

1	2	A	B	C
	1	Longwood Laser Engraving		
	2	Statement of Cash Flows		
	3	For the Year Ended December 31, 2009		
	4	Cash Flows from Operations		
	5	Net Income	\$ 133,900	
	6	Depreciation Expense	62,000	
	7	Change in Marketable Securities	(4,000)	
	8	Change in Accounts Receivable	(48,000)	
	9	Change in Inventory	(95,000)	
	10	Change in Accounts Payable	195,000	
	11	Change in Accrued Expenses	5,000	
-	12	<i>Total Cash Flows from Operations</i>		<u>248,900</u>
	13	Cash Flows from Investing		
	14	Change in Gross Fixed Assets	(510,000)	
-	15	<i>Total Cash Flows from Investing</i>		<u>-510,000</u>
	16	Cash Flows from Financing		
	17	Change in Long-term Debt	107,100	
	18	Change in Common Stock (\$2 par)	16,000	
	19	Change in Additional Paid-in-Capital	149,000	
-	20	<i>Total Cash Flows from Financing</i>		<u>272,100</u>
	21	Net Change in Cash Balance		<u><u>\$ 11,000</u></u>

Collapsed Worksheet:

1	2	A	B	C
	1	Longwood Laser Engraving		
	2	Statement of Cash Flows		
	3	For the Year Ended December 31, 2009		
	4	Cash Flows from Operations		
+	12	<i>Total Cash Flows from Operations</i>		<u>248,900</u>
	13	Cash Flows from Investing		
+	15	<i>Total Cash Flows from Investing</i>		<u>-510,000</u>
	16	Cash Flows from Financing		
+	20	<i>Total Cash Flows from Financing</i>		<u>272,100</u>
	21	Net Change in Cash Balance		<u><u>\$ 11,000</u></u>

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d. Suppose that sales were \$3,200,000 in 2009 rather than \$2,900,000. What is the 2009 net income and retained earnings?

Net Income: cell B15

	A	B
1	Longwood Laser Engraving	
2	Income Statements	
3	For the Years 2008 and 2009	
4	2009	
5	Sales	\$3,200,000
6	Cost of Goods	2,030,000
7	Gross Profit	1,170,000
8	Depreciation	62,000
9	Selling & Admin. Expense	425,000
10	Lease Expense	65,000
11	Net Operating Income	618,000
12	Interest Expense	112,000
13	Earnings Before Taxes	506,000
14	Taxes	177,100
15	Net Income	\$328,900

Retained Earnings: cell B13

	A	B
1	Longwood Laser Engraving	
2	Balance Sheet	
3	For the Year Ended December 31, 2009	
4	2009	
5	Liabilities & Owner's Equity	
6	Accounts Payable	\$505,000
7	Accrued Expenses	35,000
8	<i>Total Current Liabilities</i>	540,000
9	Long-term Debt	1,168,100
10	<i>Total Liabilities</i>	1,708,100
11	Common Stock (\$2 par)	76,000
12	Additional Paid-in-Capital	691,000
13	Retained Earnings	864,900
14	<i>Total Owner's Equity</i>	1,631,900
15	Total Liab. & Owner's Equity	\$3,340,000

e. Undo the changes from part d, and change the tax rate to 40%. What is the 2009 net income and retained earnings?

Net Income: cell B15

	A	B
1	Longwood Laser Engraving	
2	Income Statements	
3	For the Years 2008 and 2009	
4	2009	
5	Sales	\$2,900,000
6	Cost of Goods	2,030,000
7	Gross Profit	870,000
8	Depreciation	62,000
9	Selling & Admin. Expense	425,000
10	Lease Expense	65,000
11	Net Operating Income	318,000
12	Interest Expense	112,000
13	Earnings Before Taxes	206,000
14	Taxes	82,400
15	Net Income	\$123,600
16		
17	Notes:	
18	Tax Rate	40.00%

Retained Earnings: cell B24

	A	B
1	Longwood Laser Engraving	
2	Balance Sheet	
3	For the Year Ended December 31, 2009	
4	2009	
16	Liabilities & Owner's Equity	
17	Accounts Payable	\$505,000
18	Accrued Expenses	35,000
19	<i>Total Current Liabilities</i>	540,000
20	Long-term Debt	1,168,100
21	<i>Total Liabilities</i>	1,708,100
22	Common Stock (\$2 par)	76,000
23	Additional Paid-in-Capital	691,000
24	Retained Earnings	659,600
25	<i>Total Owner's Equity</i>	1,426,600
26	Total Liab. & Owner's Equity	\$3,134,700

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2. Using the data from the previous problem:

a. Create a common-size income statement for 2008 and 2009. This statement should be created on a separate worksheet with all formulas linked directly to the income statement.

Worksheet:

	A	B	C
1	Longwood Laser Engraving		
2	Income Statements		
3	For the Years 2008 and 2009		
4		2009	2008
5	Sales	100.00%	100.00%
6	Cost of Goods	70.00%	70.00%
7	Gross Profit	30.00%	30.00%
8	Depreciation	2.14%	2.47%
9	Selling & Admin. Expense	14.66%	16.60%
10	Lease Expense	2.24%	2.77%
11	Net Operating Income	10.97%	8.17%
12	Interest Expense	3.86%	2.89%
13	Earnings Before Taxes	7.10%	5.28%
14	Taxes	2.49%	1.85%
15	Net Income	4.62%	3.43%

Formulas:

	A	B	C
1	Longwood Laser Engraving		
2	Income Statement		
3	For the Years 2008 and 2009		
4		2009	2008
5	Sales	=Income Statement a!B5/Income Statement a!\$B\$5	=Income Statement a!C5/Income Statement a!\$C\$5
6	Cost of Goods	=Income Statement a!B6/Income Statement a!\$B\$5	=Income Statement a!C6/Income Statement a!\$C\$5
7	Gross Profit	=Income Statement a!B7/Income Statement a!\$B\$5	=Income Statement a!C7/Income Statement a!\$C\$5
8	Depreciation	=Income Statement a!B8/Income Statement a!\$B\$5	=Income Statement a!C8/Income Statement a!\$C\$5
9	Selling & Admin. Expense	=Income Statement a!B9/Income Statement a!\$B\$5	=Income Statement a!C9/Income Statement a!\$C\$5
10	Lease Expense	=Income Statement a!B10/Income Statement a!\$B\$5	=Income Statement a!C10/Income Statement a!\$C\$5
11	Net Operating Income	=Income Statement a!B11/Income Statement a!\$B\$5	=Income Statement a!C11/Income Statement a!\$C\$5
12	Interest Expense	=Income Statement a!B12/Income Statement a!\$B\$5	=Income Statement a!C12/Income Statement a!\$C\$5
13	Earnings Before Taxes	=Income Statement a!B13/Income Statement a!\$B\$5	=Income Statement a!C13/Income Statement a!\$C\$5
14	Taxes	=Income Statement a!B14/Income Statement a!\$B\$5	=Income Statement a!C14/Income Statement a!\$C\$5
15	Net Income	=Income Statement a!B15/Income Statement a!\$B\$5	=Income Statement a!C15/Income Statement a!\$C\$5

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b. Create a common-size balance sheet for 2008 and 2009. This statement should be created on a separate worksheet with all formulas linked directly to the balance sheet.

Worksheet:

	A	B	C
1	Longwood Laser Engraving		
2	Balance Sheet		
3	For the Year Ended December 31, 2009		
4		<i>2009</i>	<i>2008</i>
5	Assets		
6	Cash	1.65%	1.61%
7	Marketable Securities	0.79%	0.83%
8	Accounts Receivable	13.35%	14.65%
9	Inventory	16.38%	16.54%
10	<i>Total Current Assets</i>	32.18%	33.64%
11	Gross Fixed Assets	85.21%	85.47%
12	Accumulated Depreciation	17.39%	19.10%
13	<i>Net Plant & Equipment</i>	67.82%	66.36%
14	Total Assets	100.00%	100.00%
15			
16	Liabilities & Owner's Equity		
17	Accounts Payable	16.06%	12.21%
18	Accrued Expenses	1.11%	1.18%
19	<i>Total Current Liabilities</i>	17.17%	13.39%
20	Long-term Debt	37.14%	41.79%
21	<i>Total Liabilities</i>	54.31%	55.18%
22	Common Stock (\$2 par)	2.42%	2.36%
23	Additional Paid-in-Capital	21.97%	21.35%
24	Retained Earnings	21.30%	21.11%
25	<i>Total Owner's Equity</i>	45.69%	44.82%
26	Total Liab. & Owner's Equity	100.00%	100.00%

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Formulas:

	A	B	C
1		Longwood Laser Engraving	
2		Balance Sheet	
3			
4		2009	2008
5	Assets		
6	Cash	=Balance Sheet!B6/Balance Sheet!\$B\$14	=Balance Sheet!C6/Balance Sheet!\$C\$14
7	Marketable Securities	=Balance Sheet!B7/Balance Sheet!\$B\$14	=Balance Sheet!C7/Balance Sheet!\$C\$14
8	Accounts Receivable	=Balance Sheet!B8/Balance Sheet!\$B\$14	=Balance Sheet!C8/Balance Sheet!\$C\$14
9	Inventory	=Balance Sheet!B9/Balance Sheet!\$B\$14	=Balance Sheet!C9/Balance Sheet!\$C\$14
10	<i>Total Current Assets</i>	=Balance Sheet!B10/Balance Sheet!\$B\$14	=Balance Sheet!C10/Balance Sheet!\$C\$14
11	Gross Fixed Assets	=Balance Sheet!B11/Balance Sheet!\$B\$14	=Balance Sheet!C11/Balance Sheet!\$C\$14
12	Accumulated Depreciation	=Balance Sheet!B12/Balance Sheet!\$B\$14	=Balance Sheet!C12/Balance Sheet!\$C\$14
13	<i>Net Plant & Equipment</i>	=Balance Sheet!B13/Balance Sheet!\$B\$14	=Balance Sheet!C13/Balance Sheet!\$C\$14
14	Total Assets	=Balance Sheet!B14/Balance Sheet!\$B\$14	=Balance Sheet!C14/Balance Sheet!\$C\$14
15			
16	Liabilities & Owner's Equity		
17	Accounts Payable	=Balance Sheet!B17/Balance Sheet!\$B\$14	=Balance Sheet!C17/Balance Sheet!\$C\$14
18	Accrued Expenses	=Balance Sheet!B18/Balance Sheet!\$B\$14	=Balance Sheet!C18/Balance Sheet!\$C\$14
19	<i>Total Current Liabilities</i>	=Balance Sheet!B19/Balance Sheet!\$B\$14	=Balance Sheet!C19/Balance Sheet!\$C\$14
20	Long-term Debt	=Balance Sheet!B20/Balance Sheet!\$B\$14	=Balance Sheet!C20/Balance Sheet!\$C\$14
21	<i>Total Liabilities</i>	=Balance Sheet!B21/Balance Sheet!\$B\$14	=Balance Sheet!C21/Balance Sheet!\$C\$14
22	Common Stock (\$2 par)	=Balance Sheet!B22/Balance Sheet!\$B\$14	=Balance Sheet!C22/Balance Sheet!\$C\$14
23	Additional Paid-in-Capital	=Balance Sheet!B23/Balance Sheet!\$B\$14	=Balance Sheet!C23/Balance Sheet!\$C\$14
24	Retained Earnings	=Balance Sheet!B24/Balance Sheet!\$B\$14	=Balance Sheet!C24/Balance Sheet!\$C\$14
25	<i>Total Owner's Equity</i>	=Balance Sheet!B25/Balance Sheet!\$B\$14	=Balance Sheet!C25/Balance Sheet!\$C\$14
26	Total Liab. & Owner's Equity	=Balance Sheet!B26/Balance Sheet!\$B\$14	=Balance Sheet!C26/Balance Sheet!\$C\$14