ONLINE LEARNING PROBLEMS

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Advanced Financial Accounting
Fifth Edition

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Guide to Online Learning Problems

The online learning problems (**OLP**) on this website have been prepared to help guide you through some of the technical complexities of the chapters on consolidations, business combinations, foreign currency translation, and foreign operations. These problems supplement the Self-Study Problems (**SSP**) which are in the printed text.

The following list explains the major theme and content of each problem. Each problem is followed immediately by its sample solution. To access a problem directly, simply click on the problem number and you will be taken directly to the problem and its solution. You may then print out the problem and proceed to work on it.

In those problems that require consolidated financial statements, both the direct method and the worksheet (or spreadsheet) approaches are illustrated.

OLP 2-1 *Equity-method reporting.* This is a straight-forward practice problem on the equity method accounts.

OLP 2-2 *A simple consolidation of a parent-founded subsidiary.* The problem requires both a consolidated income statement and consolidated balance sheet.

OLP 2-3 *Equity-method versus cost-method reporting.* Effect of the two methods on a parent corporation's income statement and balance sheet.

OLP 3-1 *Comparison of different methods of effecting a business combination.* No calculations are required; this is a discussion problem.

OLP 3-2 *A business combination through a direct acquisition of net assets.* The problem requires calculation of goodwill, and then requires entries on the books of both the purchasing and selling corporations.

OLP 3-3 *A business combination through an exchange of shares.* A post-acquisition consolidated balance sheet is required.

OLP 3-4 *An exercise in negative goodwill.* This problem is parallel to **OLP 3-2**, but the lower purchase price creates negative goodwill instead of positive goodwill. The problem requires allocation of the negative goodwill.

OLP 4-1 *Parent-founded subsidiary at the end of the first year.* Cost and equity methods are compared.

OLP 4-2 *Consolidation one year following a business combination.* Both a balance sheet and a statement of earnings and retained earnings are required. The problem includes both upstream and downstream transactions. The basic data are the same as those in **OLP 3-2**.

OLP 4-3 *Equity reporting as one-line consolidation.* Specific comparative account balances are required, but not preparation of any parent company financial statements.

OLP 4-4 *Consolidation two years following a business combination.* Both an income statement and a balance sheet are required. The problem includes upstream and downstream transactions, but only one fair value increment.

OLP 5-1 *Consolidation two years after acquisition.* Consolidated balance sheet two years after acquiring a non-wholly-owned subsidiary. Upstream and downstream inventory transactions are included.

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OLP 5-2 *Consolidation one year after acquisition.* A consolidated income statement and balance sheet is required. This problem is parallel to **OLP 4-2**, but is for an 80%-owned subsidiary instead of a wholly-owned subsidiary.

OLP 5-3 *Two years after a 70% acquisition.* Specific account balances are required, namely goodwill and the non-controlling interest accounts.

OLP 5-4 *Consolidation two years subsequent to acquisition.* Consolidated retained earnings must be calculated for the beginning of the period. Both an income statement and a balance sheet are required.

OLP 6-1 *Upstream sale of an amortizable intangible asset.* Amortization is deducted directly from the asset. The problem requires an explanation of the consolidation adjustments that are necessary for each of three years.

OLP 6-2 *Downstream sale of equipment.* The problem requires unrealized profit adjustments for each of 4 years assuming that the subsidiary is wholly owned. Then the problem asks for a comparison assuming that the subsidiary is not wholly owned.

OLP 6-3 *Upstream sale of equipment.* Adjustments are required for 3 different years.

OLP 6-4 *Consolidated balance sheet 8 years subsequent to acquisition.* The problem includes upstream inventory sales and a downstream equipment sale.

OLP 6-5 *Comprehensive consolidation problem.* This problem has it all (or almost all): fair value increments and goodwill; intercompany transactions; and unrealized intercompany profits resulting from upstream inventory sales, downstream intercompany depreciable equipment sale, and upstream intercompany land sale. Three solution approaches are provided: (1) direct approach, additionally supported by a spreadsheet format for the direct-method balance sheet; (2) worksheet approach with three adjustment columns, as presented in the textbook; and (3) an additional worksheet approach with one adjustment column and final columns for the income statement and balance sheet.

OLP 8-1 *Foreign currency transaction, not hedged.* Journal entries are required for a series of inventory purchase transactions that spans a year-end.

OLP 8-2 *Foreign currency sale transaction, both unhedged and hedged.* Journal entries and financial statement impacts are required.

OLP 8-3 *Hedging of an anticipated transaction.* This problem illustrates how the forward contract establishes the cost of an asset acquisition, how the exchange gains and losses are deferred in other comprehensive income, and how the gains and losses cancel out at the end of the whole process.

OLP 9-1 *Comparison of temporal and current-rate translation.* Using one foreign subsidiary for one year, the problem explores the effect of the two translation methods, including identification of accounting exposure and general disposition of the translation gain or loss.

OLP 9-2 *Facets of current-rate and temporal translation.* The problem requires calculating the translation loss under the current rate method, plus a translated income statement using the temporal method.

OLP 9-3 *Disaggregation of translation loss under temporal method.* The temporal-method translation loss must be disaggregated into its constituent components. The key aspect of this problem is determining the exchange gain or loss on monetary items. This problem uses the data in **OLP 9-2**, but does not require that **OLP 9-2** be solved first.

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OLP 2-1

Parent Inc. is a private Canadian corporation. Parent has a wholly owned subsidiary, TB2, which Parent established in 2001 with an initial investment of $1,000,000. As a private corporation, Parent has obtained the agreement of all of its shareholders to use the differential reporting provisions of the *CICA Handbook* and therefore not issue consolidated statements to its shareholders. Instead, Parent will use the equity method of reporting its investment in TB2.

The history of earnings and dividends for TB2 is as follows:

Year ended	Net income (loss)	Dividends declared
December 31, 2001	$ (30,000)	0
December 31, 2002	(5,000)	0
December 31, 2003	250,000	0
December 31, 2004	37,000	$ 20,000
December 31, 2005	131,000	70,000
December 31, 2006	83,000	70,000
December 31, 2007	78,000	65,000

The 2007 dividend is due to be paid on January 15, 2008. All other dividends were paid within the year in which they were declared.

Required:

1. Determine the balance of the Investment in TB2 account on Parent's year-end 2007 balance sheet.
2. Record the journal entries relating to the investment in TB2 that will appear on Parent's books for the year ended December 31, 2007.

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OLP 2-1 Solution

Requirement 1

The investment account will consist of three components:

Initial investment	$ 1,000,000
Plus TB2's accumulated net income (loss) since its founding	544,000
Minus TB2's total dividends paid since its founding	–225,000
Investment in TB2, December 31, 2007	$ 1,319,000

Requirement 2

Journal entries relating to the investment for 2007:

December 31, 2007:

Investment in TB2	78,000	
Other income – equity in earnings of TB2		78,000
[to record TB2's net income for 2007]		
Dividends receivable	65,000	
Investment in TB2		65,000
[to record dividends declared]		

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OLP 2-2

In 1998, Brad Corporation established a wholly owned subsidiary, Pitt Limited, with an initial investment of $20,000,000. Brad is a Winnipeg-based appliance manufacturer. Brad established Pitt as a retail chain to sell Brad's appliances under several different brand names, as well as some lines of kitchen appliances imported from Europe. Both Brad and Pitt are Canadian corporations.

The separate-entity statements of income and retained earnings for the year ended December 31, 2007 are shown in Exhibit A. The balance sheets for December 31, 2007 are shown in Exhibit B. Additional information is as follows:

1. During 2007, Pitt purchased merchandise from Brad for a total price of $1,400,000. Brad's cost of goods sold for this merchandise was $1,100,000. Pitt sold all of the merchandise to unrelated customers for $2,100,000.
2. At year-end 2007, Pitt owed $200,000 to Brad for merchandise purchases.
3. On December 17, 2007, Pitt's board of directors declared dividends of $100,000, payable on January 10, 2008.
4. On July 1, 2007, Pitt borrowed $1,000,000 from Brad, interest to be paid annually at a rate of 6% per annum.
5. Brad Corporation uses the cost method for recording the investment in Pitt Limited.

Required:

Prepare a consolidated balance sheet at December 31, 2007, and a consolidated statement of income and retained earnings for the year then ended.

EXHIBIT A
Statements of Earnings and Retained Earnings
Year Ended December 31, 2007
(000 omitted)

	Brad Corp.	Pitt Ltd.
Sales revenue	$ 7,100	$ 3,400
Other income	235	840
Total revenue	7,335	4,240
Operating expenses:		
Cost of goods sold	4,175	1,900
Selling expenses	435	560
General and administrative expenses	995	770
Interest and other expenses	1,015	30
Total operating expenses	6,620	3,260
Earnings before income taxes	715	980
Income tax expense	215	290
Net earnings	500	690
Retained earnings, December 31, 2006	39,500	6,410
Dividends declared	(160)	(100)
Retained earnings, December 31, 2007	$ 39,840	$ 7,000

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EXHIBIT B
Balance Sheets
December 31, 2007
(000 omitted)

	Brad Corp.	Pitt Ltd.
Assets		
Cash and temporary investments	$ 1,500	$ 450
Current receivables and accrued expenses	3,400	1,890
Inventories	10,640	5,210
Current assets	15,540	7,550
Loan receivable	1,000	–
Land	18,000	–
Buildings and equipment (net)	37,700	22,450
Investment in Pitt Limited	20,000	–
Total assets	$ 92,240	$ 30,000
Liabilities and shareholders' equity		
Current payables and accrued liabilities	$ 2,820	$ 1,540
Income tax payable	180	85
Current liabilities	3,000	1,625
Long-term debt payable	33,750	1,000
Future income tax	2,650	375
Total liabilities	39,400	3,000
Common shares	13,000	20,000
Retained earnings	39,840	7,000
Total shareholders' equity	52,840	27,000
Total liabilities and shareholders' equity	$ 92,240	$ 30,000

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OLP 2-2 Solution

Direct method (000 omitted)

Assets		
Cash & investments (1,500 + 450)	$ 1,950	
Current rec. and accruals (3,400 + 1,890 – 200 – 100 – 30)	4,960	
Inventories (10,640 + 5,210)	15,850	$ 22,760
Loan receivable (1,000 + 0 – 1,000)	0	
Land (18,000 + 0)	18,000	
Buildings and equipment (net) (37,700 + 22,450)	60,150	
Investment in Pitt (20,000 + 0 – 20,000)	0	78,150
Total assets		$ 100,910
Liabilities and shareholders' equity		
Current payables and accruals (2,820 + 1,540 – 200 – 100 – 30)	$ 4,030	
Income tax payable (180 + 85)	265	$ 4,295
Long-term debt payable (33,750 + 1,000 – 1,000)	33,750	
Future income tax (2,650 + 375)	3,025	36,775
Total liabilities		41,070
Common shares (13,000 + 20,000 – 20,000)	13,000	
Retained earnings (39,840 + 7,000)	46,840	59,840
Total liabilities and shareholders' equity		$ 100,910

Consolidated Statement of Income and Retained Earnings

Sales revenue (7,100 + 3,400 – 1,400)	$9,100
Other income (235 + 840 – 100 – 30)	945
Total revenue	10,045
Operating expenses:	
Cost of goods sold (4,175 + 1,900 – 1,400)	4,675
Selling expenses (435 + 560)	995
General and administrative expenses (995 + 770)	1,765
Interest and other expenses (1,015 + 30 – 30)	1,015
Total operating expenses	8,450
Earnings before income taxes	1,595
Income tax expense (215 + 290)	505
Net earnings	1,090
Retained earnings, December 31, 2006 (39,500 + 6,410)	45,910
Dividends declared (160 + 100 – 100)	(160)
Retained earnings, December 31, 2007	$ 46,840

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Spreadsheet method (000 omitted)

	Trial balances Dr/(Cr)		Adjustments		Consolidated
	Brad	Pitt	Dr/(Cr)	key	trial balance
Cash & temp. investment	1,500	450			1,950
Receivables & accruals	3,400	1,890	(200)	c	
			(100)	d	
			(30)	f	4,960
Inventories	10,640	5,210			15,850
Loan receivable	1,000	-	(1,000)	e	-
Land	18,000	-			18,000
Bldgs & equipment	37,700	22,450			60,150
Investment in Pitt	20,000	-	(20,000)	a	-
Current payables & accruals	(2,820)	(1,540)	200	c	
			100	d	
			30	f	(4,030)
Income tax payable	(180)	(85)			(265)
Long-term debt payable	(33,750)	(1,000)	1,000	e	(33,750)
Future income tax	(2,650)	(375)			(3,025)
Common shares	(13,000)	(20,000)	20,000	a	(13,000)
Ret. earn., Dec 31, 2006	(39,500)	(6,410)			(45,910)
Sales revenue	(7,100)	(3,400)	1,400	b	(9,100)
Other income	(235)	(840)	100	d	
			30	f	(945)
Cost of goods sold	4,175	1,900	(1,400)	b	4,675
Selling expenses	435	560			995
G& A expenses	995	770			1,765
Interest and other exp.	1,015	30	(30)	f	1,015
Income tax expense	215	290			505
Dividends	160	100	(100)	d	160
Totals	-	-	-		-

Notes:

a. Acquisition adjustment

b. Eliminate intercompany sales

c. Eliminate intercompany receivable and payable

d. Eliminate intercompany dividends, including intercompany dividend payable/receivable

e. Eliminate intercompany loan

f. Eliminate intercompany interest accrual: \$1,000,000 × 6% × ½ year = \$30,000

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OLP 2-3

Refer to the information give for Brad and Pitt in **OLP 2-2**. Suppose that instead of recording the Investment in Pitt Limited by the cost method, Brad Corporation records the investment account by the equity method.

Required:

1. How would Brad Corporation's separate-entity balance sheet on December 31, 2007, differ from the one shown in Exhibit B of **OLP 2-2**?
2. Using the equity method, how would Brad's separate-entity income statement differ from that shown in Exhibit A of **OLP 2-2**?

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OLP 2-3 Solution

Required

If the equity method were used for recording the investment, two amounts on Brad's balance sheet would be different:

1. Investment in Pitt Limited would include all of Pitt's earnings since the company's founding, less the dividends paid. Pitt's separate-entity balance sheet shows a retained earnings balance of $7,000. Retained earnings is the accumulated earnings minus dividends. Therefore, the equity-method reporting of the investment account would be:

   the $20,000 initial investment
   + the $7,000 in unremitted (retained) earnings
   = $27,000.

2. Brad's retained earnings would be higher by the $7,000 net income (less dividends) of Pitt: $39,840 + $7,000 = $46,840.

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OLP 3-1

ABD Limited wishes to obtain control over the net assets of STD Inc. The Board of Directors of STD is willing to sell the business as a going concern. The executive committee of ABD's Board of Directors is considering the following options:

A. Buy all of the assets of STD for $6 million cash. ABD will also assume all of STD's liabilities.

B. Issue 300,000 new ABD shares to STD and take control of the assets and liabilities of STD. ABD shares are selling at $20 per share.

C. Issue 300,000 new ABD shares to the shareholders of STD in exchange for 100% of STD's outstanding shares.

D. ABD has two subsidiaries, SubX and SubY. ABD (the parent) would buy 26% of the outstanding shares of STD from the STD shareholders, SubX would purchase another 26%, and SubY would buy the remaining 48% of STD shares.

Required:

Explain the accounting implications of each of these four alternatives to the ABD Executive Committee.

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OLP 3-1 Solution

Case A

If ABD acquires the net assets directly from STD, the assets and liabilities will be recorded directly on ABD's books. ABD will own the assets and liabilities previously owned by STD. ABD will not own any shares of STD, which does continue to exist as a separate entity. STD's only asset, immediately after it sells its net assets, will be the cash received from ABD.

If there is goodwill arising from this transaction, that goodwill will be recorded on ABD's books and will be partially tax-deductible as "eligible capital property" subject to capital cost allowance.

Case B

This transaction is similar to Case A, except that payment is made in shares instead of cash. After the transaction, STD will be a shareholder of ABD; STD's only asset will be its shares in ABD. ABD takes title to the assets and assumes the liabilities. The assets, liabilities, and goodwill will be recorded directly on ABD's books, just as in Case A.

Case C

In this case ABD will not be acquiring the net assets directly. After the transaction, the former shareholders of STD will be new shareholders of ABD. As a result, the only new asset that will be recorded on ABD's books is the investment in STD's shares. If and when ABD prepares a set of separate-entity financial statements, STD's net assets will not be included.

However, ABD will have to issue consolidated statements for general use, if ABD is a public company. In the consolidated statements, STD's assets and liabilities will be added to ABD's, and goodwill (if any) will be reported on the consolidated balance sheet. No part of goodwill arising upon consolidation will be eligible for a tax deduction.

Case D

In this case, ABD acquires *indirect* control of STD. ABD is not acquiring all the shares of STD directly. Instead, two ABD subsidiaries are buying minority interest portions of STD's shares. Since ABD controls the two subsidiaries, ABD can control the subsidiaries' voting of their shares in STD, and thereby control the STD Board of Directors. There will be no change in the assets of ABD (as a separate entity) as a result of this transaction.

Since ABD will indirectly control STD, ABD must consolidate STD (along with the two intermediate subsidiaries) when ABD issues general purpose financial statements to the public. However the two subsidiaries do not control STD individually; when the subsidiaries prepare their financial statements, they cannot and will not consolidate STD.

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OLP 3-2

On January 1, 2006, Pasha Corporation acquired the net assets of Sirsi Limited. The acquisition took place by issuing new Pasha Corporation shares to Sirsi Limited. The value of the newly issued Pasha shares was estimated at $850,000. At the date of acquisition, the book values and fair values of Sirsi's assets and liabilities were as follows:

	Book value	Fair value
Assets		
Cash	$ 55,000	$ 55,000
Accounts receivable	135,000	135,000
Inventories	90,000	90,000
	280,000	
Land	180,000	300,000
Buildings	600,000	450,000
Accumulated depreciation, buildings	(170,000)	–
Equipment	200,000	180,000
Accumulated depreciation, equipment	(80,000)	–
Total assets	$ 1,010,000	
Liabilities and shareholders' equity		
Accounts payable	$ 140,000	140,000
Long-term debt payable	420,000	420,000
	560,000	
Common shares	200,000	
Retained earnings	250,000	
	450,000	
Total liabilities and shareholders' equity	$ 1,010,000	

Required:

1. Calculate the amount of goodwill, if any, reflected in this transaction.
2. Prepare the journal entry(ies) that are required to record the acquisition on the books of Pasha corporation.
3. Prepare the journal entry(ies) that are necessary on Sirsi's books to record this transaction.
4. Following the transaction, who owns Sirsi Limited?

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OLP 3-2 Solution

Requirement 1

Calculation of goodwill:

Purchase price							**$ 850,000**
	Book value	**Fair value**	**FV increment**		**% share**	**FVI acquired**	
Cash	$ 55,000	$ 55,000	-				
Accts. receivable	135,000	135,000	-				
Inventories	90,000	90,000					
Land	180,000	300,000	$120,000		100%	$120,000	
Buildings (net)	430,000	450,000	20,000		100%	20,000	
Equipment (net)	120,000	180,000	60,000		100%	60,000	
Accounts payable	(140,000)	(140,000)	–			–	
L-T debt payable	(420,000)	(420,000)	–			–	
Net asset FV		$650,000	$200,000	×	100%	= $200,000	= 200,000
Net asset BV	$450,000			×	100%		= 450,000
							650,000
Goodwill							$ 200,000

Alternative goodwill calculation:

Purchase price			$ 850,000
Book value of net assets (i.e., Sirsi's shareholders' equity)	$ 450,000		
Fair value increments (FV – BV):			
Land ($300,000 – $180,000)	120,000		
Buildings ($450,000 – $430,000)	20,000		
Equipment ($180,000 – $120,000)	60,000		
Total fair value of net assets acquired	650,000		
	× 100%	=	650,000
Goodwill			$ 200,000

Requirement 2

Journal entry to record the acquisition on Pasha's books:

Account	Debit	Credit
Cash	55,000	
Accounts receivable	135,000	
Inventories	90,000	
Land	300,000	
Buildings	450,000	
Equipment	180,000	
Goodwill	200,000	
Accounts payable		140,000
Long-term debt payable		420,000
Common shares		850,000

Requirement 3

Journal entry to record the sale on Sirsi's books:

Account	Debit	Credit
Accumulated depreciation – buildings	170,000	
Accumulated depreciation – equipment	80,000	
Accounts payable	140,000	
Long-term debt payable	420,000	
Investment in Pasha Corporation	850,000	
Gain on sale of net assets		400,000
Cash		55,000
Accounts receivable		135,000
Inventories		90,000
Land		180,000
Buildings		600,000
Equipment		200,000

Requirement 4

There is no change in the ownership of Sirsi Limited. Sirsi's assets and liabilities have been sold, but the former shareholders of Sirsi are still shareholders of Sirsi after the transaction.

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OLP 3-3

On January 1, 2006, Patricia Ltd. acquired 100% of the shares of Shelley Inc. The acquisition took place by issuing new Patricia Ltd. shares to the Shelley Inc. shareholders in a one-to-one exchange for their shares of Shelley Inc. The value of the newly issued Patricia Ltd. shares was estimated at $850,000. At the date of acquisition, the balance sheets for the companies were as follows:

	Patricia Ltd.	Shelley Inc.
Assets		
Cash	$ 80,000	$ 55,000
Accounts receivable	220,000	135,000
Inventories	100,000	90,000
Total current assets	400,000	280,000
Land	800,000	180,000
Buildings (net)	1,100,000	430,000
Equipment (net)	720,000	120,000
Total assets	$ 3,020,000	$ 1,010,000
Liabilities and shareholders' equity		
Accounts payable	$ 120,000	$ 140,000
Long-term debt payable	400,000	420,000
Total liabilities	520,000	560,000
Common shares	1,000,000	200,000
Retained earnings	1,500,000	250,000
Total shareholders' equity	2,500,000	450,000
Total liabilities and shareholders' equity	$ 3,020,000	$ 1,010,000

At the date of acquisition, the fair values of Shelley's assets and liabilities differed from book values as follows:

	Book value	Fair value
Land	$ 180,000	$ 300,000
Buildings	430,000	450,000
Equipment	120,000	180,000

Required:

Prepare the post-acquisition consolidated balance sheet for Patricia Ltd. at January 1, 2006, using the purchase method.

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OLP 3-3 Solution

Patricia Ltd.
Consolidated Balance Sheet
January 1, 2006

Assets	
Cash (80,000 + 55,000)	$ 135,000
Accounts receivable (220,000 + 135,000)	355,000
Inventories (100,000 + 90,000)	190,000
Total current assets	680,000
Land (800,000 + 180,000 + **120,000**)	1,100,000
Buildings (net) (1,100,000 + 430,000 + **20,000**)	1,550,000
Equipment (net) (720,000 + 120,000 + **60,000**)	900,000
Investment in Shelley Inc. (850,000 + 0 – **850,000**)	–
Goodwill (+ **200,000**)	200,000
Total assets	$ 4,430,000
Liabilities and shareholders' equity	
Accounts payable (120,000 + 140,000)	$ 260,000
Long-term debt payable (400,000 + 420,000)	820,000
Total liabilities	1,080,000
Common shares (1,000,000 + 850,000 + 200,000 – **200,000**)	1,850,000
Retained earnings (1,500,000 + 250,000 – **250,000**)	1,500,000
Total shareholders' equity	3,350,000
Total liabilities and shareholders' equity	$ 4,430,000

Note: The blue-highlighted amounts are adjustments that must be made to:

- recognize fair value increments,
- recognize goodwill,
- eliminate Patricia's investment account, and
- eliminate Shelley's date-of-acquisition shareholders' equity.

These adjustments can also be made in a spreadsheet format.

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OLP 3-4

[*Note*: this is a problem on negative goodwill.]

On December 31, 2006, Patricia Ltd. acquired 100% of the shares of Shelley Inc. The value of the newly issued Patricia shares was estimated at $430,000. At the date of acquisition, the balance sheets for the two companies were as follows:

	Patricia	Shelley
Assets		
Cash	$ 80,000	$ 55,000
Accounts receivable	220,000	135,000
Inventories	100,000	90,000
Total current assets	400,000	280,000
Land	800,000	180,000
Buildings (net)	1,100,000	430,000
Equipment (net)	720,000	120,000
Total assets	$ 3,020,000	$ 1,010,000
Liabilities and shareholders' equity		
Accounts payable	$ 120,000	$ 140,000
Long-term debt payable	400,000	420,000
Total liabilities	520,000	560,000
Common shares	1,000,000	200,000
Retained earnings	1,500,000	250,000
Total shareholders' equity	2,500,000	450,000
Total liabilities and shareholders' equity	$ 3,020,000	$ 1,010,000

At the date of acquisition, the fair values of Shelley's assets differed from book values as follows:

	Book value	Fair value
Land	$ 180,000	$ 300,000
Buildings	430,000	450,000
Equipment	120,000	180,000

Required:

Determine the fair values for Shelley Inc.'s non-current assets (including goodwill) that Patricia Ltd. will use to prepare the post-acquisition consolidated balance sheet on December 31, 2006

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OLP 3-4 Solution

The first task is to calculate the "acquisition equation" – fair value increments and goodwill (or negative goodwill, in this case). Using the alternative type of goodwill calculation shown in the **OLP 3-2** solution:

Purchase price			$ 430,000
Book value of net assets (i.e., shareholders' equity)	$ 450,000		
Plus fair value increments (FV – BV):			
Land ($300,000 – $180,000)	120,000		
Buildings ($450,000 – $430,000)	20,000		
Equipment ($180,000 – $120,000)	60,000		
Total fair value of net assets acquired	650,000		
	× 100%	=	650,000
Negative Goodwill			$ 220,000

Because there is negative goodwill, the fair values of the non-current assets (with a few exceptions) must be proportionately reduced until the $220,000 negative goodwill is eliminated. The allocation is as follows:

Asset	Fair value	% of total fair value	Allocation of negative GW	Revised fair value
Land	$ 300,000	32.26%	$ 70,972	$ 229,028
Buildings	450,000	48.39%	106,458	343,542
Equipment	180,000	19.35%	42,570	137,430
	$ 930,000	100.00%	$ 220,000	$ 710,000

When the post-acquisition balance sheet is prepared, the non-current assets must be consolidated at their revised fair values, as shown in the table above.

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OLP 4-1

On April 2, 2005, Parent Corporation formed a new corporation, Subsidiary Limited, to carry out part of Parent's business. Parent purchased Subsidiary's new shares by investing $500,000 to establish Subsidiary. There are no shareholders other than Parent.

Using the $500,000 initial capital as a base, Subsidiary negotiated long-term loans from an institutional investor, established an operating line of credit with a major Canadian bank, purchased capital assets, and began operations.

Subsidiary acts as a sales agent for Parent. During 2005, Subsidiary purchased inventory totaling $250,000 from Parent. At the end of 2005, $100,000 of that amount was still in Subsidiary's inventory. Parent's production cost (i.e., cost of goods sold) was 40% of the selling price.

During 2005, Parent charged Subsidiary management fees of $750,000. The amount had not been paid by the end of the year, but was still shown as a short-term payable on Subsidiary's books.

During 2005, Parent purchased land for $750,000. On December 16, 2005, Parent sold the land to Subsidiary for $900,000, accepting cash of $400,000 and a promissory note for the rest of the purchase price. The fair value of the land on December 31, 2005, was $1,500,000.

The separate-entity net income and dividends (declared and paid) for 2005 were as follows:

	Parent	Subsidiary
Net income	$ 6,500,000	$ 1,250,000
Dividends	$ 1,000,000	$ 800,000

Required:

Determine the following amounts:

1. The balance in Parent's *Investment in Subsidiary* account at year-end 2005, assuming:
    a. Parent uses the cost method of recording.
    b. Parent uses the equity method of recording.
2. Parent's consolidated net income for the year ending December 31, 2005, assuming that Parent's reported net income is based on cost method recording.
3. Parent's *Equity in the earnings of Subsidiary*, as would be shown on Parent's separate-entity income statement for 2005, assuming that Parent reports its investment by the equity method.

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OLP 4-1 Solution

Requirement 1

Cost method:

The Investment account will consist only of the initial investment of $500,000. Subsidiary's dividends received by Parent will be in Parent's *other income* or *dividend income* account.

Equity method:

The Investment account will include the initial investment, plus the unremittted earnings, adjusted for unrealized profits included in *either company's* reported separate-entity net income:

Initial investment		$ 500,000
Unremitted earnings:		
Subsidiary reported net income	$ 1,250,000	
Dividends paid	(800,000)	450,000
Adjustments for unrealized profits:		
Inventory ($100,000 × 60%)	(60,000)	
Land	(150,000)	(210,000)
Balance, December 31, 2005		$ 740,000

Requirement 2

Parent's reported net income	$ 6,500,000
Less dividend income received from Subsidiary	(800,000)
Subsidiary's reported net income	1,250,000
Unadjusted combined net income	6,950,000
Adjustments for unrealized profits:	
Inventory ($100,000 × 60%)	(60,000)
Land	(150,000)
Consolidated net income	$ 6,740,000

Notice that the consolidated net income is equal to Parent's net income plus the $240,000 adjusted net change in Subsidiary's earnings: ($1,250,000 – 800,000) – ($60,000 + 150,000).

Requirement 3

Subsidiary's separate-entity earnings	$ 1,250,000
Less adjustments for unrealized profits (above)	(210,000)
Parent's equity in the earnings of Subsidiary	$ 1,040,000

Note that Parent's equity in Subsidiary's earnings is $800,000 higher than the net $240,000 change in the Investment account. That is because the $800,000 intercompany dividend is eliminated from Parent's separate-entity earnings before Parent's $1,040,000 equity in Subsidiary's earnings is added back in.

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OLP 4-2

On January 1, 2006, Pasha Corporation acquired 100% of the shares of Sirsi Limited. The acquisition took place by issuing new Pasha Corporation shares to the Sirsi shareholders in a one-to-one exchange for their shares of Sirsi. The value of the newly issued Pasha shares was estimated at $850,000. At the date of acquisition, the balance sheets for Pasha and Sirsi were as follows:

Pre-Acquisition Balance Sheets

	January 1, 2006	
	Pasha Corp.	**Sirsi Ltd.**
Assets		
Cash	$ 80,000	$ 55,000
Accounts receivable	220,000	135,000
Inventories	100,000	90,000
Total current assets	400,000	280,000
Land	800,000	180,000
Buildings (net)	1,100,000	430,000
Equipment (net)	720,000	120,000
Total assets	$ 3,020,000	$ 1,010,000
Liabilities and shareholders' equity		
Accounts payable	120,000	$ 140,000
Long-term debt payable	400,000	420,000
Total liabilities	520,000	560,000
Common shares	1,000,000	200,000
Retained earnings	1,500,000	250,000
Total shareholders' equity	2,500,000	450,000
Total liabilities and shareholders' equity	$ 3,020,000	$ 1,010,000

At the date of acquisition, the fair values of Sirsi's assets and liabilities differed from book values as follows:

	Net book value	Fair value
Land	$ 180,000	$ 300,000
Buildings	430,000	450,000
Equipment	120,000	180,000

Prior to the acquisition (that is, before January 1, 2006), Pasha had bought goods from Sirsi at a selling price of $50,000. The goods had cost Sirsi $30,000 to produce. The goods were still in Sirsi's inventory at January 1, 2006.

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The fiscal year-end for both Pasha and Sirsi is December 31. Additional information is as follows:

1. On November 15, 2006, Sirsi purchased inventory from Pasha for $100,000. Of that amount, $40,000 was still in Sirsi's inventory at December 31, 2006. Sirsi paid in full prior to December 31, 2006. Pasha's gross profit on the sale was 60%.
2. In February 2006, Sirsi sold 40% of its land to Pasha for $140,000 cash.
3. Sirsi declared dividends of $30,000 on September 30, 2006; the dividends were paid on November 15, 2006.
4. Sirsi's policy is to use straight line amortization. On the date of acquisition, the estimated remaining life of the buildings is 20 years and equipment is 6 years.
5. A year-end impairment test indicated that there was no impairment of goodwill.

The separate-entity financial statements for the year ending December 31, 2006, are shown in **Exhibit A** and **Exhibit B**.

Required:

Prepare Pasha's consolidated balance sheet at December 31, 2006 and the consolidated income statement for the year ended December 31, 2006, using the purchase method.

EXHIBIT A
Statements of Earnings and Retained Earnings
Year Ended December 31, 2006

	Pasha Corp.	Sirsi Ltd.
Sales revenue	$ 3,643,000	$ 2,400,000
Other income	30,000	60,000
Total revenue	3,673,000	2,460,000
Operating expenses:		
Cost of goods sold	1,825,000	1,440,000
Selling expenses	542,000	390,000
General and administrative expenses	685,000	514,000
Interest and other expenses	20,000	26,000
Total operating expenses	3,072,000	2,370,000
Earnings before income taxes	601,000	90,000
Income tax expense	171,000	27,000
Net earnings	430,000	63,000
Retained earnings, December 31, 2005	1,500,000	250,000
Dividends declared	(110,000)	(30,000)
Retained earnings, December 31, 2006	$ 1,820,000	$ 283,000

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EXHIBIT B
Balance Sheets
December 31, 2006

	December 31, 2006	
	Pasha Corp.	**Sirsi Ltd.**
Assets		
Cash	$ 100,000	$ 150,000
Accounts receivable	300,000	85,000
Inventories	190,000	80,000
Total current assets	590,000	315,000
Land	1,050,000	90,000
Buildings (net)	1,300,000	420,000
Equipment (net)	880,000	110,000
Investment in Sirsi Limited	850,000	–
Total assets	$ 4,670,000	$ 935,000
Liabilities and shareholders' equity		
Accounts payable	600,000	$ 132,000
Long-term debt payable	400,000	320,000
Total liabilities	1,000,000	452,000
Common shares	1,850,000	200,000
Retained earnings	1,820,000	283,000
Total shareholders' equity	3,670,000	483,000
Total liabilities and shareholders' equity	$ 4,670,000	$ 935,000

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OLP 4-2 Solution

Goodwill calculation:

The acquisition is similar to the one described in **OLP 3-2**, but is accomplished by an exchange of shares rather than by a direct purchase of net assets. The goodwill calculation is as follows (same as in **OLP 3-2 Solution**):

Purchase price										**$ 850,000**
	Book value	**Fair value**	**FV increment**		**% share**		**FVI acquired**			
Cash	$ 55,000	$ 55,000	-							
Accts. receivable	135,000	135,000	-							
Inventories	90,000	90,000								
Land	180,000	300,000	$120,000		100%		$120,000			
Buildings (net)	430,000	450,000	20,000		100%		20,000			
Equipment (net)	120,000	180,000	60,000		100%		60,000			
Accounts payable	(140,000)	(140,000)	–				–			
L-T debt payable	(420,000)	(420,000)	–				–			
Net asset FV		$650,000	$200,000	×	100%	=	$200,000	=		200,000
Net asset BV	$450,000			×	100%			=		450,000
										650,000
Goodwill										$ 200,000

Alternative goodwill calculation:

Purchase price			$ 850,000
Book value of net assets (i.e., Sirsi's shareholders' equity)	$ 450,000		
Fair value increments (FV – BV):			
Land ($300,000 – $180,000)	120,000		
Buildings ($450,000 – $430,000)	20,000		
Equipment ($180,000 – $120,000)	60,000		
Total fair value of net assets acquired	650,000		
	× 100%	=	650,000
Goodwill			$ 200,000

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Consolidation, Direct Method

Pasha Corporation
Consolidated Statement of Income and Retained Earnings
Year ended December 31, 2006
(000 omitted)

Revenue	
Sales revenue (3,643 + 2,400 – **100**)	$ 5,943
Other income (30 + 60 – **30** – **20**)	40
Total revenue	5,983
Operating expenses	
Cost of goods sold (1,825 + 1,440 – **100** + **24**)	3,189
Selling expenses (542 + 390)	932
General and administrative expenses (685 + 514 + **1** + **10**)	1,210
Interest and other expenses (20 + 26)	46
Total operating expenses	5,377
Earnings before income taxes	606
Income tax expense (171 + 27)	198
Net earnings	408
Retained earnings, December 31, 2005	1,500
Less Dividends declared (110 + 30 – **30**)	110
Retained earnings, December 31, 2006	1,798

Notes:

- Intercompany sales of $100 is removed from both sales and cost of sales
- Unrealized inventory profit = $40 × 60% = $24, subtracted from inventory and added to cost of sales
- Other income is reduced by $30 dividends Pasha received from Sirsi
- Other income is reduced by the unrealized profit on the intercompany sale of land. The land profit must be calculated on the difference between the intercompany selling price ($140) and the fair value of the land at the date of acquisition: profit = $140 – ($300 × 40% portion sold) = $140 – $120 = $20 unrealized profit.
- Amortization of the FVIs on depreciable capital assets must be added:
  - Buildings: $20 ÷ 20 = $1
  - Equipment: $60 ÷ 6 = $10

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Pasha Corporation
Consolidated Balance Sheet
December 31, 2006
(000 omitted)

Assets	
Cash (100 + 150)	$ 250
Accounts receivable (300 + 85)	385
Inventories (190 + 80 – **24**)	246
Total current assets	881
Land (1,050 + 90 + **120** – **20**)	1,240
Buildings (net) (1,300 + 420 + **20** – **1**)	1,739
Equipment (net) (880 + 110 + **60** – **10**)	1,040
Investment in Sirsi Limited (850 – **850**)	–
Goodwill (+ **200**)	200
Total assets	$ 5,100
Liabilities and shareholders' equity	
Accounts payable (600 + 132)	$ 732
Long-term debt payable (400 + 320)	720
Total liabilities	1,452
Common shares (1,850 + 200 – **200**)	1,850
Retained earnings (1,820 + 283 – **250** – **24** – **20** – **1** – **10**)	1,798
Total shareholders' equity	3,648
Total liabilities and shareholders' equity	$ 5,100

Notes:

- No adjustment for pre-acquisition inter-company inventory sale. Prior to the acquisition, the two companies are presumed to be operating at arm's length.
- Unrealized profit of $24 subtracted from inventory
- FVI of $120 added to Land
- Unrealized profit of $20 on intercompany land sale subtracted from Land
- FVI of $20 added to Buildings
- Amortization of FVI, $20 ÷ 20 = $1, subtracted from Buildings (i.e., added to accumulated amortization)
- FVI of $60 added to Equipment
- Amortization of FVI, $60 ÷ 6 = $10, subtracted from Equipment (i.e., added to accumulated amortization)
- Investment in Sirsi is eliminated
- Retained earnings is adjusted as follows:
    - Sirsi's date-of-acquisition retained earnings of $250 is eliminated
    - Unrealized profits on inventory ($24) and land ($20) are eliminated
    - Amortization of FVIs on buildings ($1) and equipment ($10) is deducted

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Consolidation Worksheet **(000 omitted)**

	Trial balances Dr/(Cr)		Adjustments		Consolidated	Consolidated	
	Pasha	Sirsi	Dr/(Cr)	key	trial balance	Income statement	Balance Sheet
Cash	100	150			250		250
Accounts receivable	300	85			385		385
Inventories	190	80	(24)	c	246		246
Land	1,050	90	120	a			
			(20)	d	1,240		1,240
Buildings (net)	1,300	420	20	a			
			(1)	f	1,739		1,739
Equipment (net)	880	110	60	a			
			(10)	g	1,040		1,040
Investment in Sirsi	850	-	(850)	a	-		
Goodwill			200	a	200		200
Accounts payable	(600)	(132)			(732)		(732)
Long-term debt payable	(400)	(320)			(720)		(720)
Common shares	(1,850)	(200)	200	a	(1,850)		(1,850)
Ret. earn., Dec 31, 2005	(1,500)	(250)	250	a	(1,500)		(1,500)
					-		
Sales revenue	(3,643)	(2,400)	100	b	(5,943)	(5,943)	
Other income	(30)	(60)	20	d			
			30	e	(40)	(40)	
Cost of goods sold	1,825	1,440	24	c			
			(100)	b	3,189	3,189	
Selling expenses	542	390			932	932	
G & A expenses	685	514	1	f			
			10	g	1,210	1,210	
Interest and other expenses	20	26			46	46	
Income tax expense	171	27			198	198	
[Net earnings]						(408)	
Dividends declared	110	30	(30)	e	110	110	
[Change in ret. earnings]						(298)	(298)
Totals	-	-	-		-		-

Notes:

a. Acquisition transaction—FVIs and goodwill

b. Eliminate intercompany sales

c. Eliminate unrealized profit in Sirsi's inventory: $40 × 60% = $24

d. Eliminate unrealized profit from Sirsi' land sale to Pasha:

$140 – ($300 × 40%) = $140 – $120 = $20

e. Eliminate dividends paid by Sirsi to Pasha

f. Amortize FVI on buildings: $20/20 years = $1

g. Amortize FVI on equipment: $ 60/6 years = $10

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OLP 4-3

Information on Pasha Corporation and Sirsi Limited is explained in **OLP 4-2**. It is *not* necessary to solve **OLP 4-2** in order to solve this problem.

Required:

Suppose that Pasha wishes to record its investment in Sirsi by the equity method. Determine the following amounts that will appear on Pasha's year-end separate-entity financial statements for 2006:

1. The amount reported as *Equity in earnings of Sirsi* on Pasha's 2006 income statement.
2. The amount in Pasha's *Investment in Sirsi* account at the end of 2006.
3. The post-closing amount of Pasha's *Retained earnings* on the year-end 2006 balance sheet.

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OLP 4-3 Solution

Goodwill calculation:

Note: Since there has been no goodwill impairment, it is not really necessary to calculate the amount of goodwill. Goodwill will not affect any of the amounts asked for in this problem.

The acquisition is the same as the one described in **OLP 3-2 and 4-2**. The goodwill calculation is as follows (i.e., the same as in **OLP 3-2 and 4-2 Solutions**):

Purchase price									**$ 850,000**
	Book value	**Fair value**	**FV increment**		**% share**		**FVI acquired**		
Cash	$ 55,000	$ 55,000	-						
Accts. receivable	135,000	135,000	-						
Inventories	90,000	90,000							
Land	180,000	300,000	$120,000		100%		$120,000		
Buildings (net)	430,000	450,000	20,000		100%		20,000		
Equipment (net)	120,000	180,000	60,000		100%		60,000		
Accounts payable	(140,000)	(140,000)	–				–		
L-T debt payable	(420,000)	(420,000)	–				–		
Net asset FV		$650,000	$200,000	×	100%	=	$200,000	=	200,000
Net asset BV	$450,000			×	100%			=	450,000
									650,000
Goodwill									$ 200,000

Alternative goodwill calculation:

Purchase price			$ 850,000
Book value of net assets (i.e., Sirsi's shareholders' equity)	$ 450,000		
Fair value increments (FV – BV):			
Land ($300,000 – $180,000)	120,000		
Buildings ($450,000 – $430,000)	20,000		
Equipment ($180,000 – $120,000)	60,000		
Total fair value of net assets acquired	650,000		
	× 100%	=	650,000
Goodwill			$ 200,000

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Required:

1. Equity in earnings of Sirsi, year ended December 31, 2006:

Sirsi's reported separate-entity net income		$ 63,000
Less adjustments:		
Unrealized profit in inventory sold to Pasha	$ 24,000	
Unrealized profit from sale of land to Pasha	20,000	
Amortization of FVI on buildings	1,000	
Amortization of FVI on equipment	10,000	(55,000)
		$ 8,000

2. Investment in Sirsi, December 31, 2006:

Acquisition cost	$ 850,000
Plus equity in Sirsi's earnings, year ended December 31, 2006 (above)	8,000
Less dividends received from Sirsi	(30,000)
Investment account balance, equity method, December 31, 2006	$ 828,000

3. Pasha equity-method post-closing retained earnings, December 31, 2006:

Pasha separate-entity retained earnings, December 31, 2005	$ 1,500,000
Pasha's separate-entity net income, before equity in Sirsi's earnings	430,000
Less Pasha's dividends	(110,000)
	1,820,000
Plus equity in Sirsi's earnings since date of acquisition (above, for first year)	8,000
Less dividends received from Sirsi	(30,000)
	$ 1,798,000

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OLP 4-4

On January 2, 2006, Pacific Corporation (a private corporation) acquired 100% of the outstanding shares of SeaPass Limited for $500,000 cash. At the date of acquisition, the book value of SeaPass's common shares was $170,000 and retained earnings had accumulated to $220,000. The fair values of SeaPass's assets and liabilities were equal to their book values except for Equipment; the fair value of equipment was $40,000 higher than its book value.

It now is the end of 2007, two years after Pacific's acquisition of SeaPass. The separate-entity balance sheets of the two companies are shown in Exhibit A. The income statements are in Exhibit B.

Additional information:

1. SeaPass's equipment had a remaining useful life of 8 years at the date of acquisition.
2. Impairment tests at the end of 2006 and 2007 indicated no goodwill impairment.
3. During 2006, SeaPass acquired $20,000 finished goods inventory from Pacific. At December 31, 2006, SeaPass had 50% of those items in its ending inventory. Pacific's gross margin on these sales was 40%. At the end of 2006, SeaPass still owed Pacific $15,000 for these purchases.
4. Intercompany transactions for 2007 were as follows:
    a. SeaPass bought inventory of $25,000 from Pacific. At year-end 2007, 60% was still in SeaPass's ending inventory. Pacific's gross margin on these sales was 40%.
    b. Pacific bought raw materials from SeaPass for $40,000. At the end of 2007, one-fourth was in Pacific's inventory. SeaPass's gross margin was 30%.
    c. At December 31, 2007, Pacific owed $17,000 to SeaPass for inventory purchases. This was the only intercompany monetary balance.
5. Pacific Corporation's shareholders have elected to use differential reporting and thereby not recognize *future income taxes* (that is, not use comprehensive tax allocation).

Required:

Prepare the consolidated balance sheet and income statement for Pacific Corporation for the year ending December 31, 2007.

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EXHIBIT A
Balance Sheets
December 31, 2007

	December 31, 2007	
	Pacific	**SeaPass**
Assets		
Cash	$ 230,000	$ 120,000
Accounts receivable	300,000	130,000
Inventories	190,000	215,000
Total current assets	720,000	465,000
Equipment (net)	840,000	300,000
Investment in SeaPass Limited	500,000	–
Total assets	$ 2,060,000	$ 765,000
Liabilities and shareholders' equity		
Accounts payable	90,000	$ 100,000
Long-term debt payable	150,000	220,000
Total liabilities	240,000	320,000
Common shares	750,000	170,000
Retained earnings	1,070,000	275,000
Total shareholders' equity	1,820,000	445,000
Total liabilities and shareholders' equity	$ 2,060,000	$ 765,000

EXHIBIT B
Statements of Earnings and Retained Earnings
Year Ended December 31, 2007

	Pacific	**SeaPass**
Sales revenue	$ 3,800,000	$ 1,200,000
Other income	20,000	–
Total revenue	3,820,000	1,200,000
Operating expenses:		
Cost of goods sold	2,280,000	840,000
Selling, general, and administrative expenses	1,050,000	305,000
Total operating expenses	3,330,000	1,145,000
Earnings before income taxes	490,000	55,000
Income tax expense	130,000	12,000
Net earnings	360,000	43,000
Retained earnings, December 31, 2006	710,000	252,000
Dividends declared	–	(20,000)
Retained earnings, December 31, 2007	$ 1,070,000	$ 275,000

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OLP 4-4 Solution

Goodwill calculation:

Purchase price			$ 500,000
Book value of net assets ($170,000 + $220,000)	$ 390,000		
Fair value increment on Equipment	40,000		
Total fair value of net assets acquired	430,000		
Ownership share acquired	× 100%	=	430,000
Goodwill			$ 70,000

Consolidation, Direct Method

Pacific Corporation
Consolidated Statement of Income and Retained Earnings
Year ended December 31, 2007
(000 omitted)

Revenue	
Sales revenue (3,800 + 1,200 – **25** – **40**)	$ 4,935
Other income (20 + 0 – **20**)	–
Total revenue	4,935
Operating expenses	
Cost of goods sold (2,280 + 840 – **25** – **40** – **4** + **6** + **3**)	3,060
Selling, general and admin. expenses (1,050 + 305 + **5**)	1,360
Total operating expenses	4,420
Earnings before income taxes	515
Income tax expense (130 + 12)	(142)
Net earnings	373
Retained earnings, December 31, 2006 (710 + 252 – **4** – **220** – **5**)	733
Less dividends declared (0 + 20 – **20**)	–
Retained earnings, December 31, 2007	$ 1,106

Notes:

- Intercompany sales of $25 (downstream) and $40 (upstream) are eliminated from sales and cost of goods sold.
- Intercompany dividends of $20 are eliminated from other income and dividends declared.
- The now-realized profit on the *opening* downstream inventory is recognized by reducing CGS and the opening SeaPass retained earnings: $20 × 50% × 40% = $4.
- Unrealized profit in ending inventories are eliminated by increasing cost of goods sold, as follows:
  - Downstream: $25 × 60% × 40% = $6.
  - Upstream: $40 × 25% × 30% = $3.
- Amortization of the fair value increment on equipment is added: $40 ÷ 8 = $5
- SeaPass's date-of-acquisition retained earnings of $220 is eliminated.
- Prior years' FVI amortization is deducted from opening retained earnings.

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Pacific Corporation
Consolidated Balance Sheet
December 31, 2007
(000 omitted)

Assets	
Cash (230 + 120)	$ 350
Accounts receivable (300 + 130 – **17**)	413
Inventories (190 + 215 – **6** – **3**)	396
Total current assets	1,159
Equipment (net) [840 + 300 + **40** – (**5 × 2**)]	1,170
Investment in SeaPass Limited (500 – **500**)	–
Goodwill (+ **70)**	70
Total assets	$ 2,399
Liabilities and shareholders' equity	
Accounts payable (90 + 100 – **17**)	$ 173
Long-term debt payable (150 + 220)	370
Total liabilities	543
Common shares (Pacific *only*)	750
Retained earnings [1,070 + 275 – **220** – **6** – **3** – (**5** × **2**)]	1,106
Total shareholders' equity	1,856
Total liabilities and shareholders' equity	$ 2,399

Notes:

- Accounts receivable and accounts payable are reduced by the year-end 2007 outstanding intercompany balance of $17,000. No adjustment is necessary for the unpaid balance at the end of the previous year, 2006.
- The unrealized profit in opening inventory needs no recognition on the balance sheet; the amount is already in SeaPass's retained earnings and is permitted to flow through to the 2007 balance sheet.
- FVI of $40 is added to equipment.
- Amortization of FVI is subtracted from equipment (i.e., added to accumulated amortization): $40 ÷ 8 × 2 years = $5 × 2 = $10
- Investment in SeaPass is eliminated.
- Year-end 2007 retained earnings is adjusted as follows:
  - SeaPass's date-of-acquisition retained earnings of $220 is eliminated.
  - Unrealized profits on inventory ($6 and $3) are eliminated.
  - Amortization of FVI equipment ($5 × 2 years) is deducted.

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Consolidation Worksheet

	Trial balances Dr/(Cr)		Adjustments		Consolidated	Consolidated	
	Pacific	SeaPass	Dr/(Cr)	key	trial balance	Income statement	Balance Sheet
Cash	230	120			350		350
Accounts receivable	300	130			430		430
Inventories	190	215	(6)	d1			
			(3)	d2	396		396
Equipment (net)	840	300	40	a			
			(10)	f	1,170		1,170
Investment in SeaPass	500	-	(500)	a	-		
Goodwill			70	a	70		70
Accounts payable	(90)	(100)			(190)		(190)
Long-term debt payable	(150)	(220)			(370)		(370)
Common shares	(750)	(170)	170	a	(750)		(750)
Ret. earn., Dec 31, 2006	(710)	(252)	220	a			-
			4	c			
			5	f	(733)		(733)
Sales revenue	(3,800)	(1,200)	65	b	(4,935)	(4,935)	
Other income	(20)	-	20	e	-		
Cost of goods sold	2,280	840	(65)	b			
			(4)	c			
			6	d1			
			3	d2	3,060	3,060	
SG&A expenses	1,050	305	5	f	1,360	1,360	
Income tax expense	130	12			142	142	
[Net earnings]						(373)	
Dividends declared	-	20	(20)	e	-	-	
[Change in ret. earnings]						(373)	(373)
Totals	-	-	-		-		-

Notes:

a. Acquisition transaction – FVIs and goodwill

b. Eliminate intercompany sales: 25 + 40 = 65

c. Eliminate unrealized profit in SeaPass's *opening* inventory: \$20 × 50% × 40% = \$4

d. Eliminate unrealized profits in *ending* inventories:

1. Downstream: 25 × 60% × 40% = 6
2. Upstream: 40 × 25% × 30% = 3

e. Eliminate dividends paid by SeaPass to Pacific

f. Amortize FVI on equipment: 40/8 years = 5;

Current year added to expense

Prior years' debited to opening retained earnings

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OLP 5-1

On December 31, 2005, Parental acquired 60% of the outstanding shares of Subservient for $1,800,000. At the date of acquisition, Subservient's common share account was $400,000 and the retained earnings was $1,500,000. The fair values of Subservient's assets and liabilities differed from book values as follows:

	Book value	Fair value
Land	$ 500,000	$ 700,000
Equipment	1,800,000	2,040,000

Two years later, on December 31, 2007, the separate-entity balance sheets of the two companies appear as shown below.

SEPARATE ENTITY BALANCE SHEETS
December 31, 2007

	Parental	Subservient
Assets		
Cash	$ 550,000	$ 280,000
Accounts receivable	750,000	380,000
Inventories	1,000,000	420,000
Total current assets	2,300,000	1,080,000
Land	348,000	500,000
Equipment (net)	2,600,000	1,800,000
Investment in Subservient	1,800,000	–
Total assets	$ 7,048,000	$ 3,380,000
Liabilities and shareholders' equity		
Accounts payable	$ 600,000	$ 400,000
Long-term debt payable	1,200,000	800,000
Total liabilities	1,800,000	1,200,000
Common shares	1,000,000	400,000
Retained earnings	4,248,000	1,780,000
Total shareholders' equity	5,248,000	2,180,000
Total liabilities and shareholders' equity	$ 7,048,000	$ 3,380,000

Additional information:

1. Subservient's January 1, 2007 inventory included $120,000 acquired from Parental. The year-end 2007 inventory included $50,000 inventory acquired from Parental. Parental's gross margin is 50%.
2. At the beginning of 2007, Parental's inventory included $150,000 of merchandise purchased from Subservient. At the end of 2007, Parental's inventory included $200,000 of merchandise acquired from Subservient. Subservient's gross margin is 40%.
3. Subservient declared dividends of $100,000 on September 30, 2006; the dividends were paid on November 15, 2006.
4. Subservient uses straight line amortization. Equipment is amortized over 8 years.
5. A year-end impairment test indicated that there was no impairment of goodwill.

Required:

Prepare Parental's consolidated balance sheet at December 31, 2007.

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OLP 5-1 Solution

Goodwill calculation:

Purchase price			$ 1,800,000
Book value of net assets (i.e., Subservient's shareholders' equity)	$ 1,900,000		
Fair value increments (FV – BV):			
Land ($700,000 – $500,000)	200,000		
Equipment ($2,040,000 – $1,800,000)	240,000		
Total fair value of net assets acquired	2,340,000		
	× 60%	=	1,404,000
Goodwill			$ 396,000

Consolidation, Direct Method

Parental Corporation
Consolidated Balance Sheet
December 31, 2007
(000 omitted)

Assets	
Cash (550 + 280)	$ 830
Accounts receivable (750 + 380)	1,130
Inventories (1,000 + 420 – **25** – **80**)	1,315
Total current assets	3,275
Land (348 + 500 + **120**)	968
Equipment (net) (2,600 + 1,800 + **144** – **36**)	4,508
Investment in Subservient (1,800 – **1,800**)	–
Goodwill (+ **396**)	396
Total assets	$ 9,147
Liabilities and shareholders' equity	
Accounts payable (600 + 400)	$ 1,000
Long-term debt payable (1,200 + 800)	2,000
Total liabilities	3,000
Non-controlling interest in Subservient [(**2,180 × 40%**) – **32**)]	840
Common shares (Parental *only*)	1,000
Retained earnings (4,248 + 1,780 – **1,500** – **112** – **25** – **48** – **36**)	4,307
Total shareholders' equity	5,307
Total liabilities and shareholders' equity	$ 9,147

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Notes:

- Each capital asset is increased by 60% of the fair value increment:
  - Land: \$200 × 60% = \$120
  - Equipment: \$240 × 60% = \$144
- The FVI for equipment is amortized over 8 years: \$144 ÷ 8 = \$18. At the end of 2007, there has been 2 years' amortization: \$18 × 2 = \$36.
- Goodwill is recognized.
- Investment account is eliminated.
- Inventory is reduced by the unrealized profit in ending inventory:
  - Downstream: \$50 × 50% = \$25
  - Upstream: \$200 × 40% = \$80
- Non-controlling interest is recognized, reduced by unrealized ending upstream profit:
  - Unadjusted share: \$2,180 × 40% = \$872
  - N/C interest share of upstream profit: \$80 × 40% = \$32
- Ending retained earnings adjustments are as follows:
  - Subservient's date-of-acquisition retained earnings (\$1,500) is subtracted.
  - Parental's shares of unrealized year-end inventory profits (\$25 and \$48) are removed.
  - Two years' FVI amortization (\$18 × 2 = \$36) is deducted.

Note: Since this is a year-end balance sheet with no comparative figures and no income statement, adjustments are not necessary for the unrealized profit in the opening inventory.

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Consolidation Worksheet (000 omitted)

	Trial balances Dr/(Cr)		Adjustments		Consolidated
	Parental	Subservient	Dr/(Cr)	key	trial balance
Cash	550	280			830
Accounts receivable	750	380			1,130
Inventories	1,000	420	(25)	d	
			(80)	e	1,315
Land	348	500	120	a	968
Equipment (net)	2,600	1,800	144	a	
			(36)	c	4,508
Investment in Subservient	1,800		(1,800)	a	-
Goodwill			396	a	396
Accounts payable	(600)	(400)			(1,000)
Long-term debt payable	(1,200)	(800)			(2,000)
Non-controllling interest			(760)	a	
			(112)	b	
			32	e	(840)
Common shares	(1,000)	(400)	400	a	(1,000)
Retained earnings	(4,248)	(1,780)	1,500	a	
			112	b	
			36	c	
			25	d	
			48	e	(4,307)
	-	-	-		-

Notes:

a. Acquisition adjustment

b. 40% non-controlling interest of accumulated subsidiary earnings since acquisition

c. Cumulative amortization of FVI on equipment: 18 × 2 years = 36

d. Unrealized profit on downstream profits in ending inventory

e. Unrealized profit on upstream unrealized profits in ending inventory,
with 40% to non-controlling interest

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OLP 5-2

On January 1, 2006, Pasha Corporation acquired 80% of the shares of Sirsi Limited by an exchange of Pasha shares for shares held by Sirsi shareholders. The value of the newly issued Pasha shares was estimated at $680,000. At the date of acquisition, the balance sheets for Pasha and Sirsi were as follows:

PRE-ACQUISITION BALANCE SHEETS

	January 1, 2006	
	Pasha Corp.	**Sirsi Ltd.**
Assets		
Cash	$ 80,000	$ 55,000
Accounts receivable	220,000	135,000
Inventories	100,000	90,000
Total current assets	400,000	280,000
Land	800,000	180,000
Buildings (net)	1,100,000	430,000
Equipment (net)	720,000	120,000
Total assets	$ 3,020,000	$ 1,010,000
Liabilities and shareholders' equity		
Accounts payable	120,000	$ 140,000
Long-term debt payable	400,000	420,000
Total liabilities	520,000	560,000
Common shares	1,000,000	200,000
Retained earnings	1,500,000	250,000
Total shareholders' equity	2,500,000	450,000
Total liabilities and shareholders' equity	$ 3,020,000	$ 1,010,000

At the date of acquisition, the fair values of Sirsi's assets and liabilities differed from book values as follows:

	Book value	Fair value
Land	$ 180,000	$ 300,000
Buildings	430,000	450,000
Equipment	120,000	180,000

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Prior to the acquisition (that is, before June 1, 2006), Pasha had bought goods from Sirsi at a selling price of $50,000. The goods had cost Sirsi $30,000 to produce. The goods were still in Sirsi's inventory at January 1, 2006.

The fiscal year-end for both Pasha and Sirsi is December 31. Additional information is as follows:

1. On November 15, 2006, Sirsi purchased inventory from Pasha for $100,000. Of that amount, $40,000 was still in Sirsi's inventory at December 31, 2006. Sirsi paid in full prior to December 31, 2006. Pasha's gross profit on the sale was 60%.
2. In February 2006, Sirsi sold 40% of its land to Pasha for $140,000 cash.
3. Sirsi declared dividends of $30,000 on September 30, 2006; the dividends were paid on November 15, 2006.
4. Sirsi's policy is to use straight line amortization. On the date of acquisition, the estimated remaining life of the buildings is 20 years and equipment is 6 years.
5. A year-end impairment test indicated that there was no impairment of goodwill.

The separate-entity financial statements for the year ending December 31, 2006, are shown in **Exhibit A** and **Exhibit B**.

Required:

Prepare Pasha's consolidated balance sheet at December 31, 2006 and the consolidated income statement for the year ended December 31, 2006, using the purchase method.

EXHIBIT A
Statements of Earnings and Retained Earnings
Year Ended December 31, 2006

	Pasha Corp.	Sirsi Ltd.
Sales revenue	$ 3,643,000	$ 2,400,000
Other income	24,000	60,000
Total revenue	3,667,000	2,460,000
Operating expenses:		
Cost of goods sold	1,825,000	1,440,000
Selling expenses	542,000	390,000
General and administrative expenses	685,000	514,000
Interest and other expenses	20,000	26,000
Total operating expenses	3,072,000	2,370,000
Earnings before income taxes	595,000	90,000
Income tax expense	171,000	27,000
Net earnings	424,000	63,000
Retained earnings, December 31, 2005	1,500,000	250,000
Dividends declared	(110,000)	(30,000)
Retained earnings, December 31, 2006	$ 1,814,000	$ 283,000

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EXHIBIT B
Balance Sheets
December 31, 2006

	December 31, 2006	
	Pasha Corp.	**Sirsi Ltd.**
Assets		
Cash	$ 94,000	$ 150,000
Accounts receivable	300,000	85,000
Inventories	190,000	80,000
Total current assets	584,000	315,000
Land	1,050,000	90,000
Buildings (net)	1,300,000	420,000
Equipment (net)	880,000	110,000
Investment in Sirsi Limited	680,000	–
	$ 4,494,000	$ 935,000
Liabilities and shareholders' equity		
Accounts payable	600,000	$ 132,000
Long-term debt payable	400,000	320,000
Total liabilities	1,000,000	452,000
Common shares	1,680,000	200,000
Retained earnings	1,814,000	283,000
Total shareholders' equity	3,494,000	483,000
	$ 4,494,000	$ 935,000

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OLP 5-2 Solution

Goodwill calculation:

The acquisition is the similar to the one described in **OLP 4-2**, but is for 80% ownership instead of 100%. The goodwill calculation is as follows:

Purchase price										**$ 680,000**
	Book value	**Fair value**	**FV increment**		**% share**		**FVI acquired**			
Cash	$ 55,000	$ 55,000	-							
Accts. receivable	135,000	135,000	-							
Inventories	90,000	90,000								
Land	180,000	300,000	$120,000		80%		$96,000			
Buildings (net)	430,000	450,000	20,000		80%		16,000			
Equipment (net)	120,000	180,000	60,000		80%		48,000			
Accounts payable	(140,000)	(140,000)	–				–			
L-T debt payable	(420,000)	(420,000)	–				–			
Net asset FV		$650,000	$200,000	×	80%	=	$160,000	=		160,000
Net asset BV	$450,000			×	80%			=		360,000
										520,000
Goodwill										$ 160,000

Alternative goodwill calculation:

Purchase price			$ 680,000
Book value of net assets (i.e., Sirsi's shareholders' equity)	$ 450,000		
Fair value increments (FV – BV):			
Land ($300,000 – $180,000)	120,000		
Buildings ($450,000 – $430,000)	20,000		
Equipment ($180,000 – $120,000)	60,000		
Total fair value of net assets acquired	650,000		
	× 80%	=	520,000
Goodwill			$ 160,000

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Consolidation, Direct Method

Pasha Corporation
Consolidated Statement of Income and Retained Earnings
Year ended December 31, 2006
(000 omitted)

Revenue	
Sales revenue (3,643 + 2,400 – **100**)	$ 5,943.0
Other income (24 + 60 – **24** – **20**)	40.0
Total revenue	5,983.0
Operating expenses	
Cost of goods sold (1,825 + 1,440 – **100** + **24**)	3,189.0
Selling expenses (542 + 390)	932.0
General and administrative expenses (685 + 514 + **0.8** + **8**)	1,207.8
Interest and other expenses (20 + 26)	46.0
Total operating expenses	5,374.8
Earnings before income taxes	608.2
Income tax expense (171 + 27)	(198.0)
Non-controlling interest in earnings [**(63 – 20) × 20%**]	(8.6)
Net earnings	401.6
Retained earnings, December 31, 2005	1,500.0
Less Dividends declared (110 + 30 – **30**)	(110.0)
Retained earnings, December 31, 2006	1,791.6

Notes:

- Intercompany sales of $100 is removed from both sales and cost of sales
- Unrealized inventory profit = $40 × 60% = $24, subtracted from inventory and added to cost of sales
- Other income is reduced by $24 dividends Pasha received from Sirsi
- Other income is reduced by the unrealized profit on the intercompany sale of land. The land profit must be calculated on the difference between the intercompany selling price ($140) and the fair value of the land at the date of acquisition: profit = $140 – ($300 × 40% portion sold) = $140 – $120 = $20 unrealized profit. The unrealized profit also is deducted from Sirsi separate-entity earnings when calculating the non-controlling interest in earnings.
- Amortization of the FVIs on depreciable capital assets must be added to GS&A expense:
  - Buildings: $16 ÷ 20 = $0.8
  - Equipment: $48 ÷ 6 = $8

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Pasha Corporation
Consolidated Balance Sheet
December 31, 2006
(000 omitted)

Assets	
Cash (94 + 150)	$ 244.0
Accounts receivable (300 + 85)	385.0
Inventories (190 + 80 – **24**)	246.0
Total current assets	875.0
Land (1,050 + 90 + **96** – **20**)	1,216.0
Buildings (net) (1,300 + 420 + **16** – **0.8**)	1,735.2
Equipment (net) (880 + 110 + **48** – **8**)	1,030.0
Investment in Sirsi Limited (680 – **680**)	–
Goodwill (+ **160)**	160.0
Total assets	$ 5,016.2

Liabilities and shareholders' equity	
Accounts payable (600 + 132)	$ 732.0
Long-term debt payable (400 + 320)	720.0
Total liabilities	1,452.0
Non-controlling interest in Sirsi [(**483 × 20%**) – (**20 × 20%**)]	92.6
Common shares (1,680 + 200 – **200**)	1,680.0
Retained earnings {1,814 + [(**283 – 250**) **× .8**] – **24** – **16** – **0.8** – **8**}	1,791.6
Total shareholders' equity	3,471.6
Total liabilities and shareholders' equity	$ 5,016.2

Notes:

- No adjustment for pre-acquisition inter-company inventory sale. Prior to the acquisition, the two companies are presumed to be operating at arm's length.
- Unrealized profit of $24 subtracted from inventory
- FVI of $96 added to Land
- Unrealized profit of $20 on intercompany land sale subtracted from Land
- FVI of $16 added to Buildings
- Amortization of FVI, $16 ÷ 20 = $0.8, subtracted from Buildings (i.e., added to accumulated amortization)
- FVI of $48 added to Equipment
- Amortization of FVI, $48 ÷ 6 = $8, subtracted from Equipment (i.e., added to accumulated amortization)
- Investment in Sirsi is eliminated
- Retained earnings is adjusted as follows:
  - Sirsi's date-of-acquisition retained earnings of $250 is eliminated
  - Unrealized profits on inventory ($24 downstream) and land ($20 upstream × 80%) are eliminated
  - Amortization of FVIs on buildings ($0.8) and equipment ($8) is deducted

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Consolidation Worksheet (000 omitted)

	Trial balances Dr/(Cr)		Adjustments		Consolidated	Consolidated	
	Pasha	Sirsi	Dr/(Cr)	key	trial balance	Income statement	Balance sheet
Cash	94	150			244.0		244.0
Accounts receivable	300	85			385.0		385.0
Inventories	190	80	(24.0)	d	246.0		246.0
Land	1,050	90	96.0	a			
			(20.0)	e1	1,216.0		1,216.0
Buildings (net)	1,300	420	16.0	a			
			(0.8)	g	1,735.2		1,735.2
Equipment (net)	880	110	48.0	a			
			(8.0)	h	1,030.0		1,030.0
Investment in Sirsi	680	-	(680.0)	a	-		
Goodwill			160.0	a	160.0		160.0
Accounts payable	(600)	(132)			(732.0)		(732.0)
Long-term debt payable	(400)	(320)			(720.0)		(720.0)
Non-controlling int. in Sirsi			(90.0)	a			
			(12.6)	b			
			4.0	e2			
			6.0	f	(92.6)		(92.6)
Common shares	(1,680)	(200)	200.0	a	(1,680.0)		(1,680.0)
Ret. earn., Dec 31, 2005	(1,500)	(250)	250.0	a	(1,500.0)		(1,500.0)
Sales revenue	(3,643)	(2,400)	100.0	c	(5,943.0)	(5,943.0)	
Other income	(24)	(60)	20.0	e1			
			24.0	f	(40.0)	(40.0)	
Cost of goods sold	1,825	1,440	24.0	d			
			(100.0)	c	3,189.0	3,189.0	
Selling expenses	542	390			932.0	932.0	
G & A expenses	685	514	0.8	g			
			8.0	h	1,207.8	1,207.8	
Interest and other expenses	20	26			46.0	46.0	
Non-control. int. in earnings			12.6	b			
			(4.0)	e2	8.6	8.6	
Income tax expense	171	27			198.0	198.0	
[Net earnings]						(401.6)	
Dividends declared	110	30	(30.0)	f	110.0	110.0	
[Change in ret. earnings]						(291.6)	(291.6)
Totals	-	-	-		0.0		-

Notes:

a. Acquisition transaction—FVIs and goodwill
b. Allocate 20% of Sirsi's 2006 earnings to non-controlling interest: $63 × 20% = $12.6
c. Eliminate intercompany sales
d. Eliminate unrealized profit (downstream) in Sirsi's inventory: $40 × 60% = $24
e1. Eliminate unrealized upstream profit from Sirsi' land sale to Joshi: $140 – ($300 × 40%) = $140 – $120 = $20;
e2. Allocate 20% of upstream land profit to non-controlling interest
f. Eliminate dividends paid by Sirsi
g. Amortize FVI on buildings: $16/20 years = $0.8
h. Amortize FVI on equipment: $ 48/6 years = $8

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OLP 5-3

On December 31, 2006, Puffy acquired 70% of the outstanding shares of Scrawny for $1,800,000. At the date of acquisition, Scrawny's common share account was $500,000 and the retained earnings was $1,500,000. The fair values of Scrawny's assets and liabilities differed from book values as follows:

	Book value	Fair value
Marketable securities	$ 300,000	$ 400,000
Equipment	1,100,000	900,000

In 2007, the marketable securities were sold (in an arms-length transaction) for $550,000. The equipment was still on Scrawny's books at the end of 2008.

Scrawny's separate-entity net income for 2008 was $180,000. At the end of 2008, Scrawny's separate-entity balance sheet showed the following amounts in shareholders' equity:

	Scrawny
Common shares	$ 500,000
Retained earnings	$ 1,800,000

Additional information:

1. Scrawny's equipment had an estimated remaining useful life of 8 years at the date of Puffy's acquisition of Scrawny.
2. Puffy's January 1, 2008 inventory included $80,000 acquired from Scrawny. Puffy's December 31, 2008 inventory included $50,000 inventory acquired from Scrawny. Scrawny's gross margin is 40%.
3. Scrawny's December 31, 2008 inventory included $60,000 inventory acquired from Puffy. Puffy's gross margin is 45%.
4. Scrawny declared and paid dividends of $60,000 in 2007 and $50,000 in 2008.
5. A year-end impairment test indicated that there was no impairment of goodwill.

Required:

Determine the amounts for the following items that will be shown on Puffy's consolidation financial statements for the year ending December 31, 2008:

1. Goodwill
2. Non-controlling interest in the earnings of Scrawny (on the consolidated income statement).
3. Non-controlling interest in Scrawny (on the consolidated balance sheet)

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OLP 5-3 Solution

1. Goodwill calculation:

Purchase price			$ 1,800,000
Book value of net assets (i.e., Scrawny's shareholders' equity)	$ 2,000,000		
Fair value increments (decrements): FV – BV			
Marketable securities ($400,000 – $300,000)	100,000		
Equipment ($900,000 – $1,100,000)	(200,000)		
Total fair value of net assets acquired	1,900,000		
	× 70%	=	1,330,000
Goodwill			$ 470,000

2. Non-controlling interest in earnings of Scrawny for 2008:

	100%	**30%**
Scrawny separate-entity net income for 2008	$ 180,000	$ 54,000
Adjustments for Scrawny's upstream intercompany profits:		
January 1, 2008 (realized in 2008): $80,000 × 40%	32,000	9,600
December 31, 2008 (not realized in 2008): $50,000 × 40%	(20,000)	(6,000)
Non-controlling interest in earnings of Scrawny, year ended December 31, 2008		$ 57,600

The information about equipment life and about downstream sales (Puffy to Scrawny) is irrelevant, as is goodwill.

3. Non-controlling interest in Scrawny, December 31, 2008:

N/C share of Scrawny's net assets at Dec. 31, 2008: $2,300,000 × 30%	$ 690,000
Less unrealized profit at Dec. 31, 2008: $50,000 × 40% × 30%	(6,000)
Non-controlling interest in Scrawny, December 31, 2008	$ 684,000

Dividend payment information is not needed, because the dividend outflow is already reflected in the year-end retained earnings amount.

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OLP 5-4

On January 2, 2006, Powerful Corporation (a private corporation) acquired 60% of the outstanding shares of Simple Limited for $300,000 cash. At the date of acquisition, the book value of Simple's common shares was $170,000 and retained earnings had accumulated to $220,000. The fair values of Simple's assets and liabilities were equal to their book values except for Equipment; the fair value of equipment was $40,000 higher than its book value.

It now is the end of 2007, two years after Powerful's acquisition of Simple. The separate-entity balance sheets of the two companies are shown in Exhibit A. The income statements are in Exhibit B.

Additional information:

1. Simple's equipment had a remaining useful life of 8 years at the date of acquisition.
2. Impairment tests at the end of 2006 and 2007 indicated no goodwill impairment.
3. During 2006, Simple acquired $20,000 finished goods inventory from Powerful. At December 31, 2006, Simple had 50% of those items in its ending inventory. Powerful's gross margin on these sales was 40%. At the end of 2006, Simple still owed Powerful $15,000 for these purchases.
4. Intercompany transactions for 2007 were as follows:
   a. Simple bought inventory of $25,000 from Powerful. At year-end 2007, 60% was still in Simple's ending inventory. Powerful's gross margin on these sales was 40%.
   b. Powerful bought raw materials from Simple for $40,000. At the end of 2007, one-fourth was in Powerful's inventory. Simple's gross margin was 30%.
   c. At December 31, 2007, Powerful owed $17,000 to Simple for inventory purchases. This was the only intercompany monetary balance.
5. Powerful Corporation's shareholders have elected to use differential reporting and thereby not recognize *future income taxes* (that is, not use comprehensive tax allocation).

Required:

Prepare the consolidated balance sheet and income statement for Powerful Corporation for the year ending December 31, 2007.

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EXHIBIT A
Balance Sheets
December 31, 2007

	December 31, 2007	
	Powerful	**Simple**
Assets		
Cash	$ 422,000	$ 120,000
Accounts receivable	300,000	130,000
Inventories	190,000	215,000
Total current assets	912,000	465,000
Equipment (net)	840,000	300,000
Investment in Simple Limited	300,000	–
Total assets	$ 2,052,000	$ 765,000
Liabilities and shareholders' equity		
Accounts payable	90,000	$ 100,000
Long-term debt payable	150,000	220,000
Total liabilities	240,000	320,000
Common shares	750,000	170,000
Retained earnings	1,062,000	275,000
Total shareholders' equity	1,812,000	445,000
Total liabilities and shareholders' equity	$ 2,052,000	$ 765,000

EXHIBIT B
Statements of Earnings and Retained Earnings
Year Ended December 31, 2007

	Powerful	**Simple**
Sales revenue	$ 3,800,000	$ 1,200,000
Other income	12,000	–
Total revenue	3,812,000	1,200,000
Operating expenses:		
Cost of goods sold	2,280,000	840,000
Selling, general, and administrative expenses	1,050,000	305,000
Total operating expenses	3,330,000	1,145,000
Earnings before income taxes	482,000	55,000
Income tax expense	130,000	12,000
Net earnings	352,000	43,000
Retained earnings, December 31, 2006	710,000	252,000
Dividends declared	–	(20,000)
Retained earnings, December 31, 2007	$ 1,062,000	$ 275,000

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OLP 5-4 Solution

Goodwill calculation

Purchase price			$ 300,000
Book value of net assets ($170,000 + $220,000)	$ 390,000		
Fair value increment on Equipment	40,000		
Total fair value of net assets acquired	430,000		
Ownership share acquired	× 60%	=	258,000
Goodwill			$ 42,000

Consolidation, Direct Method

Powerful Corporation
Consolidated Statement of Income and Retained Earnings
Year ended December 31, 2007
(000 omitted)

Revenue	
Sales revenue (3,800 + 1,200 – **25** – **40**)	$ 4,935.0
Other income (12 + 0 – **12**)	–
Total revenue	4,935.0
Operating expenses	
Cost of goods sold (2,280 + 840 – **25** – **40** – **4** + **6** + **3**)	3,060.0
Selling, general and admin. expenses (1,050 + 305 + **3**)	1,358.0
Total operating expenses	4,418.0
Earnings before income taxes	517.0
Income tax expense (130 + 12)	(142.0)
Non-controlling interest in earnings of Simple [**(43 – 3) × 40%**]	(16.0)
Net earnings	359.0
Retained earnings, December 31, 2006 {710 + [(252 – **220) × 60%] – 4** – **3**}	722.2
Less dividends declared (0 + 20 – **20**)	–
Retained earnings, December 31, 2007	$ 1,081.2

Notes:

- Intercompany sales of $25 (downstream) and $40 (upstream) are eliminated from sales and cost of goods sold.
- Intercompany dividends of $12 are eliminated from other income; Simple's $20 dividends declared are eliminated.
- The now-realized profit on the *opening* downstream inventory is recognized by reducing CGS and the opening Simple retained earnings: $20 × 50% × 40% = $4.
- Unrealized profits in ending inventories are eliminated by increasing cost of goods sold, as follows:
  - Downstream: $25 × 60% × 40% = $6.
  - Upstream: $40 × 25% × 30% = $3, of which 40% accrues to non-controlling interest.
- Amortization of the fair value increment on equipment is added: $40 × 60% ÷ 8 = $3
- Powerful's share of Simple's earnings for 2006 is calculated.
- Prior years' FVI amortization is deducted from opening retained earnings.

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Powerful Corporation
Consolidated Balance Sheet
December 31, 2007
(000 omitted)

Assets	
Cash (422 + 120)	$ 542.0
Accounts receivable (300 + 130 – **17**)	413.0
Inventories (190 + 215 – **6** – **3**)	396.0
Total current assets	1,351.0
Equipment (net) [840 + 300 + **24** – (**3 × 2**)]	1,158.0
Investment in Simple Limited (300 – **300**)	–
Goodwill (+ **42**)	42.0
Total assets	$ 2,551.0

Liabilities and shareholders' equity	
Accounts payable (90 + 100 – **17**)	$ 173.0
Long-term debt payable (150 + 220)	370.0
Total liabilities	543.0
Non-controlling interest in Simple (445 – 3) × 40%)	176.8
Common shares (Powerful *only*)	750.0
Retained earnings (1,062 + 275 – **220** – **[(275 – 220) × 40%]** – **6** – **1.8** – **6**)	1,081.2
Total shareholders' equity	1,831.2
Total liabilities and shareholders' equity	$ 2,551.0

Notes:

- Accounts receivable and accounts payable are reduced by the year-end 2007 outstanding intercompany balance of $17,000. No adjustment is necessary for the unpaid balance at the end of the previous year, 2006.
- The unrealized profit in opening inventory needs no recognition on the balance sheet; the amount is already in Simple's retained earnings and is permitted to flow through to the 2007 balance sheet. However, if a comparative balance sheet is prepared (with 2006 amounts), the opening inventory must be adjusted for unrealized profit at the *beginning* of 2007.
- FVI of $24 is added to equipment
- Amortization of FVI is subtracted from equipment (i.e., added to accumulated amortization): $24 ÷ 8 × 2 years = $3 × 2 = $6
- Investment in Simple is eliminated
- Year-end 2007 retained earnings is adjusted as follows:
  - Simple's date-of-acquisition retained earnings of $220 is eliminated
  - Unrealized profits on inventory ($6 and $3) are eliminated
  - Two years' amortization of FVI equipment ($3 × 2) is deducted

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Consolidation Worksheet – three adjustment columns (000 omitted)

	Trial balances Dr/(Cr)		Adjustments - Dr(Cr)						Consolidated trial balance
					Operations				
	Powerful	Simple	Acquisition		Cumulative		Current		
Cash	422.0	120.0							542.0
Accounts receivable	300.0	130.0					(17.0)	c5	413.0
Inventories	190.0	215.0					(6.0)	c3	
							(3.0)	c4	396.0
Equipment (net)	840.0	300.0	24.0	a	(3.0)	b3	(3.0)	c1	1,158.0
Investment in Simple	300.0	-	(300.0)	a					-
Goodwill			42.0	a					42.0
									-
Accounts payable	(90.0)	(100.0)					17.0	c5	(173.0)
Long-term debt payable	(150.0)	(220.0)							(370.0)
Non-contr. interest in Simple			(156.0)	a	(12.8)	b1	(16.0)	c6	
							8.0	c7	(176.8)
Common shares	(750.0)	(170.0)	170.0	a					(750.0)
Ret. earnings, Dec 31, 2006	(710.0)	(252.0)	220.0	a	12.8	b1			
					4.0	b2			
					3.0	b3			(722.2)
									-
Sales revenue	(3,800.0)	(1,200.0)					65.0	c2	(4,935.0)
Other income	(12.0)	-					12.0	c7	-
Cost of goods sold	2,280.0	840.0			(4.0)	b2	(65.0)	c2	
							6.0	c3	
							3.0	c4	3,060.0
SG&A expenses	1,050.0	305.0					3.0	c1	1,358.0
Non-contr. int. in earnings							16.0	c6	16.0
Income tax expense	130.0	12.0							142.0
Dividends declared	-	20.0					(20.0)	c7	-
Totals	-	-	-		-		-		-

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Adjustments and Eliminations – three adjustment columns (000 omitted)

a. *Acquisition adjustment:*

Common shares (of Simple)	170.0	
Retained earnings (Simple)	220.0	
Equipment	24.0	
Goodwill	42.0	
Investment in Simple		300.0
Non-controlling interest in Simple		156.0

b1. *Non-controlling interest in earnings of Simple for previous year (2006):*

Retained earnings, December 31, 2006	12.8	
Non-controlling interest [(B/S) (252.0 – 220.0) × 40%]		12.8

b2. *Unrealized profit in opening inventory:*

Retained earnings, December 31, 2006	4.0	
Cost of goods sold (20.0 × 50% × 40%)		4.0

b3. *Amortization of FVI for previous year (2006):*

Retained earnings, December 31, 2006	3.0	
Equipment (24.0 ÷ 8 × 1 year)		3.0

c1. *FVI amortization for current year (2007):*

SG&A expenses	3.0	
Equipment		3.0

c2. *Eliminate intercompany sales:*

Sales revenue (25.0 + 40.0)	65.0	
Cost of goods sold		65.0

c3. *Unrealized profit in downstream ending inventory:*

Cost of goods sold	6.0	
Inventory (25.0 × 60% × 40%)		6.0

c4. *Unrealized profit in upstream ending inventory:*

Cost of goods sold	3.0	
Inventory (40.0 × 25% × 30%)		3.0

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c5. *Eliminate intercompany receivable and payable at year-end 2007:*

Accounts payable	17.0	
Accounts receivable		17.0

c6. *Allocate adjusted non-controlling interest's earnings in Simple for 2007:*

Non-controlling interest in earnings of Simple (I/S)	16.0	
Non-controlling interest in Simple (B/S)		16.0
[(43.0 – 3.0) × 40%]		

c7. *Eliminate Simple's dividends:*

Other income (20.0 × 60%)	12.0	
Non-controlling interest in Simple (20.0 × 40%)	8.0	
Dividends declared		20.0

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Consolidation Worksheet – one adjustment column (000 omitted)

	Trial balances Dr/(Cr)		Adjustments		Consolidated	Income	Balance
	Powerful	Simple	Dr/(Cr)	key	trial balance	statement	Sheet
Cash	422	120			542.0		542.0
Accounts receivable	300	130	(17.0)	i	413.0		413.0
Inventories	190	215	(6.0)	f1			
			(3.0)	f2	396.0		396.0
Equipment (net)	840	300	24.0	a			
			(6.0)	h	1,158.0		1,158.0
Investment in Simple	300	-	(300.0)	a	-		
Goodwill			42.0	a	42.0		42.0
Accounts payable	(90)	(100)	17.0	i	(173.0)		(173.0)
Long-term debt payable	(150)	(220)			(370.0)		(370.0)
Non-contr. interest in Simple			(156.0)	a			
			(12.8)	b			
			(17.2)	c			
			1.2	f2			
			8.0	g	(176.8)		(176.8)
Common shares	(750)	(170)	170.0	a	(750.0)		(750.0)
Ret. earn., Dec 31, 2006	(710)	(252)	220.0	a			-
			12.8	b			
			4.0	e			
			3.0	h	(722.2)		(722.2)
Sales revenue	(3,800)	(1,200)	65.0	d	(4,935.0)	(4,935.0)	
Other income	(12)	-	12.0	g	-		
Cost of goods sold	2,280	840	(65.0)	d			
			(4.0)	e			
			6.0	f1			
			3.0	f2	3,060.0	3,060.0	
SG&A expenses	1,050	305	3.0	h	1,358.0	1,358.0	
Non-contr. int. in earnings			17.2	c			
			(1.2)	f2	16.0	16.0	
Income tax expense	130	12			142.0	142.0	
[Net earnings]						(359.0)	
Dividends declared	-	20	(20.0)	g	-	-	
[Change in ret. earnings]						(359.0)	(359.0)
Totals	-	-	-		-		-

Notes:

a. Acquisition transaction – FVIs and goodwill, and N/C interest in date-of-acquisition S/H equity

b. Allocate 40% of increase in Simple's retained earnings for 2006 to N/C interest:

($252 – $220) × 40% = $12.8

c. Allocate 40% of Simple's 2007 earnings to N/C interest: $43 × 40% = $17.2

d. Eliminate intercompany sales: 25 + 40 = 65

e. Eliminate unrealized profit in Simple's *opening* inventory: $20 × 50% × 40% = $4

f. Eliminate unrealized profits in *ending* inventories:

1. Downstream: 25 × 60% × 40% = 6
2. Upstream: 40 × 25% × 30% = 3; 40% allocated to N/C interest

g. Eliminate dividends paid by Simple to Powerful

h. Amortize FVI on equipment: (40 × 60%)/8 years = 3;

Current year added to expense

Prior years' debited to opening retained earnings

i. Eliminate year-end 2007 intercompany receivable and payable

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OLP 6-1

On February 4, 2006, Primus Limited purchased cable subscription lists of its 80%-owned subsidiary, Secondus Limited, for $1,000,000. Secondus had no recorded book value for the customer lists; they had been built up over time through normal operations. Secondus will recognize the full amount as *other revenue* in 2006. Primus will use the lists to sell additional internet services to its own customers.

Primus management estimates that the subscription lists will have a limited useful life, and plans to amortize the cost over 3 years:

- 45% in 2006,
- 35% in 2007, and
- 20% in 2008.

Primus will deduct amortization directly from the asset account.

Required:

Explain what adjustments and/or eliminations are necessary when Primus prepares its consolidated annual financial statements for each of 2006, 2007, and 2008.

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OLP 6-1 Solution

2006:

The full $1 million price of the subscriptions lists is a profit to Secondus, but is unrealized intercompany earnings to the consolidated enterprise. This profit must initially be eliminated, offset against the asset on Primus's books:

Gain on sale of subscription list	1,000,000	
Subscription list		1,000,000

The non-controlling interest (B/S) is reduced by 20% of the unrealized profit:

Non-controlling interest (B/S)	200,000	
Non-controlling interest in earnings (I/S)		200,000

The excess amortization is eliminated:

Accumulated amortization	450,000	
Amortization expense		450,000

In the year-end consolidated statements, the non-controlling shareholders share of the now-realized profit must be recognized: $450,000 × 20% = $90,000

Non-controlling interest in earnings (I/S)	90,000	
Non-controlling interest (B/S)		90,000

2007:

Non-controlling interest (B/S)	110,000	
Retained earnings (opening)	440,000	
Subscription list		550,000
Accumulated amortization	350,000	
Amortization expense		350,000
Non-controlling interest in earnings (I/S) ($350,000 × 20%)	70,000	
Non-controlling interest (B/S)		70,000

2008:

Non-controlling interest (B/S)	40,000	
Retained earnings (opening)	160,000	
Subscription list		200,000
Accumulated amortization	200,000	
Amortization expense		200,000
Non-controlling interest in earnings (I/S) ($200,000 × 20%)	40,000	
Non-controlling interest (B/S)		40,000

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OLP 6-2

During 2005, Subsidiary Limited purchased equipment from Parent Inc. The equipment cost Parent $480,000 to produce and was sold to Subsidiary for $800,000. Subsidiary amortizes the equipment on a straight-line basis over 8 years, assuming zero residual value. Subsidiary Limited's accounting policy is to take no amortization in the year of acquisition and a full year's amortization in the year of disposal. Subsidiary Limited is a wholly-owned subsidiary of Parent Inc.

Required:

1. Explain what adjustments or eliminations are necessary when Parent Inc. prepares its consolidated annual financial statements for each of the following year-ends:
    a. December 31, 2005
    b. December 31, 2006
    c. December 31, 2010
    d. December 31, 2015

2. How would your answers differ if Parent Inc. owned 60% of Subsidiary Limited instead of 100%?

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OLP 6-2 Solution

1. Adjustments for a wholly-owned subsidiary:

a. December 31, 2005

In the first year, Subsidiary Limited recognizes no amortization. Therefore, the entire intercompany profit of $320,000 is eliminated by reducing the equipment account and eliminating Parent Inc.'s gain on disposal. In general journal form, the adjustment would be:

	Dr.	Cr.
Gain on sale of equipment	320,000	
Equipment		320,000

However, the problem states that Parent Inc. produced the equipment. If we assume that Parent is an equipment manufacturer and that producing equipment is its normal business activity, then the intercompany sale must be eliminated. Instead of the entry shown above, we would make two eliminations, as follows:

	Dr.	Cr.
Sales revenue	800,000	
Cost of goods sold		800,000
Cost of goods sold	320,000	
Equipment		320,000

These can be combined into a single compound elimination:

	Dr.	Cr.
Sales revenue	800,000	
Cost of goods sold		480,000
Equipment		320,000

b. December 31, 2006

From 2006 through 2013, Subsidiary Limited will recognize amortization of $100,000 per year (until retired or sold): $800,000 ÷ 8 years. Through each year's amortization, one-eighth of the unrealized intercompany profit is being realized. The gross profit percentage is 40% (i.e., $320,000 ÷ $800,000). Of each year's amortization of $100,000, $40,000 represents realization of part of the initial unrealized profit.

To adjust the 2006 amounts for consolidation,

- the cost of equipment is reduced by $320,000;
- *opening* retained earnings is reduced by the unrealized profit of $320,000;
- amortization expense is reduced by $40,000; and
- accumulated amortization is reduced by $40,000.

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In general journal form:

Retained earnings (opening)	320,000	
Accumulated amortization – equipment	40,000	
Equipment		320,000
Amortization expense		40,000

c. December 31, 2010

To adjust the 2010 amounts for consolidation,

- the cost of equipment is reduced by $320,000;
- opening retained earnings is reduced by the remaining unrealized profit of $160,000 (i.e., $40,000 × 4 years remaining, including the current year);
- amortization expense is reduced by $40,000; and
- accumulated amortization is reduced by $200,000 (that is, $40,000 × 5 years).

In general journal form:

Retained earnings (opening)	160,000	
Accumulated amortization – equipment	200,000	
Equipment		320,000
Amortization expense		40,000

The reduction in amortization expense flows through to increase consolidated net income and closing retained earnings.

d. December 31, 2015

By the end of 2013, all of the previously unrealized intercompany profit will have been realized and recognized.

If the equipment has been retired or scrapped, it will have been removed from the books and no adjustment will be necessary.

If the equipment is still on the books, then both the equipment and the related accumulated amortization must be reduced by $320,000 for consolidation:

Accumulated amortization – equipment	320,000	
Equipment		320,000

2. Adjustments for a non-wholly-owned subsidiary:

The equipment sale is downstream. All of the unrealized profit is in the parent company. Therefore, it makes no difference whether the subsidiary is wholly-owned or not.

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OLP 6-3

Early in 2005, SSS Limited sold some surplus equipment to PPP Corporation for $480,000. At the time of the sale, the book value of the equipment on SSS's books was $336,000. The equipment had an estimated remaining useful life of 6 years with no expected residual value at the end of that time. PPP will amortize the equipment on a straight-line basis starting with a full-year amortization in 2005. PPP Corporation owns 75% of the voting shares of SSS Limited.

Required:

Explain what adjustments or eliminations are necessary when PPP Corporation prepares its consolidated annual financial statements for each of the following year-ends:

a. December 31, 2005
b. December 31, 2006
c. December 31, 2010

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OLP 6-3 Solution

This is an *upstream* transaction. The unrealized profit is in the subsidiary's accounts. Therefore, 25% of the earnings adjustments must be allocated to the non-controlling interest. Basic calculations:

> Total unrealized profit = \$480,000 – \$336,000 = \$144,000
> Annual amortization by PPP: \$480,000 ÷ 6 = \$80,000
> Profit component of PPP's annual amortization realized each year: \$144,000 ÷ 6 = \$24,000
> Non-controlling interest's share of annual realized profit: \$24,000 × 25% = \$6,000.

a. December 31, 2005

- Eliminate the entire \$144,000 unrealized profit in the equipment account, offset against gain on sale (and, on the balance sheet, against closing retained earnings).
- Reduce non-controlling interest (B/S) by 25% of \$144,000 = \$36,000. This has the effect of removing the unrealized profit from SSS's separate-entity retained earnings.
- Reduce consolidated amortization and accumulated amortization by \$24,000.
- Increase non-controlling interest (B/S) and non-controlling interest in earnings (I/S) by \$6,000, to recognize the now-realized portion of the intercompany profit.

In general journal format:

Account	Debit	Credit
Gain on sale of equipment	144,000	
Equipment		144,000
Non-controlling interest (B/S)	36,000	
Non-controlling interest in earnings (I/S)		36,000
Accumulated amortization – equipment	24,000	
Amortization expense		24,000
Non-controlling interest in earnings (I/S)	6,000	
Non-controlling interest (B/S)		6,000

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b. December 31, 2006

- Eliminate the entire \$144,000 unrealized profit in the equipment account, offset first against prior year's excess amortization (\$24,000 per year), with the remaining unrealized profit divided between opening retained earnings (75%), opening non-controlling interest (25%).
- Reduce consolidated amortization and accumulated amortization by \$24,000 for the 2006 amortization.
- Increase non-controlling interest (B/S) and non-controlling interest in earnings (I/S) by \$6,000.

In general journal format:

Accumulated amortization (beginning balance)	24,000	
Retained earnings (opening) (\$144,000 × 5/6 × 75%)	90,000	
Non-controlling interest (B/S) (\$144,000 × 5/6 × 25%)	30,000	
Equipment		144,000
Accumulated amortization – equipment	24,000	
Amortization expense		24,000
Non-controlling interest in earnings (I/S)	6,000	
Non-controlling interest (B/S)		6,000

c. December 31, 2010

- Eliminate the entire \$144,000 unrealized profit in the equipment account, offset against prior years' excess amortization (\$24,000 × 5 = \$120,000), with the residual unrealized profit divided between opening retained earnings (75%), non-controlling interest (25%).
- Reduce consolidated amortization and accumulated amortization by \$24,000 for the 2010 amortization.
- Increase non-controlling interest (B/S) and non-controlling interest in earnings (I/S) by \$6,000.

In general journal format:

Accumulated amortization (beginning balance) (\$24,000 × 5)	120,000	
Retained earnings (opening) (\$144,000 × 1/6 × 75%)	18,000	
Non-controlling interest (B/S) (\$144,000 × 1/6 × 25%)	6,000	
Equipment		144,000
Accumulated amortization – equipment	24,000	
Amortization expense		24,000
Non-controlling interest in earnings (I/S)	6,000	
Non-controlling interest (B/S)		6,000

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OLP 6-4

On December 31, 2000, Padua Limited purchased 80% of Sorrento Corporation for $780,000 cash. At the date of acquisition, Sorrento's shareholders' equity consisted of $500,000 in the common share account and $300,000 in retained earnings. The book values of Sorrento's assets and liabilities approximated their fair values. The excess of purchase price over book value was considered to be goodwill.

On December 31, 2008, the condensed separate-entity balance sheets of the two companies were as follows:

	Padua	Sorrento
Cash	$ 600,000	$ 250,000
Accounts receivable	900,000	450,000
Inventories	820,000	600,000
Total current assets	2,320,000	1,300,000
Property, plant and equipment (net)	1,900,000	1,000,000
Investment in Sorrento	780,000	–
Total assets	$ 5,000,000	$ 2,300,000
Accounts payable	$ 700,000	$ 250,000
Long-term liabilities	300,000	350,000
Total liabilities	1,000,000	600,000
Common shares	1,400,000	500,000
Retained earnings	2,600,000	1,200,000
Total shareholders' equity	4,000,000	1,700,000
Total liabilities and shareholders' equity	$ 5,000,000	$ 2,300,000

Additional information:

1. Padua accounts for its investment in Sorrento on the cost basis.
2. For the year ended December 31, 2008, Padua had separate-entity net income of $530,000 and Sorrento had separate-entity net income of $215,000.
3. Dividends declared and paid during 2008 amounted to $235,000 for Padua and $100,000 for Sorrento.
4. In early 2006, Padua sold equipment to Sorrento for $330,000. At the date of the sale, the equipment had a net book value of $180,000. The remaining useful life of the equipment was 5 years. Sorrento amortizes on a straight-line basis with a full year depreciation in the year of acquisition.
5. Sorrento regularly sells inventory to Padua. On December 31, 2007, Padua held inventory of $200,000 that had been purchased from Sorrento. During 2008, Padua purchased $1,300,000 from Sorrento. At December 31, 2008, Padua's inventory included $80,000 that had been purchased from Sorrento. Sorrento's gross margin is 35% of selling price.
6. There has been no impairment of goodwill.

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Required:

1. Determine the *non-controlling interest in earnings of Sorrento* for the year ending December 31, 2008.
2. Prepare the consolidated balance sheet for Padua as of December 31, 2008

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OLP 6-4 Solution

1. Non-controlling interest in the earnings of Sorrento:

Sorrento's separate-entity reported net income	$ 215,000
Plus beginning unrealized intercompany profit ($200,000 × 35%)	70,000
Less ending unrealized intercompany profit ($80,000 × 35%)	(28,000)
Sorrento's adjusted earnings	257,000
Non-controlling interest proportion	× 20%
	$ 51,400

2. Consolidated balance sheet, direct method:

Cash (600 + 250)	$ 850,000
Accounts receivable (900 + 450)	1,350,000
Inventories (820 + 600 – **28**)	1,392,000
Total current assets	3,592,000
Property, plant and equipment (net) {1,900 + 1,000 – **[150 – (30 × 3)]**}	2,840,000
Investment in Sorrento (780 – **780**)	–
Goodwill*	140,000
Total assets	$ 6,572,000
Accounts payable (700 + 250)	$ 950,000
Long-term liabilities (300 + 350)	650,000
Total liabilities	1,600,000
Non-controlling interest in Sorrento [**(1,700 – 28) × 20%**]	334,400
Common shares	1,400,000
Retained earnings {(2,600 + 1,200) – **300** – [**(1,200 – 300) × 20%**] – **(28 × 80%)** – **[150 – (30 × 3)]**}	3,237,600
Total shareholders' equity	4,637,600
Total liabilities and shareholders' equity	$ 6,572,000

Goodwill calculation:

Purchase price	$ 780,000
Net book value acquired: ($500,000 + $300,000) × 80%	(640,000)
Goodwill	$ 140,000

Notes:

- Unrealized upstream profit removed from inventory: $80 × 35% = $28
- Non-controlling interest is the year-end Sorrento shareholders' equity × 20%
- Retained earnings is Padua + Sorrento RE, $2,600 + $1,200,
  - minus Sorrento's retained earnings at date of acquisition, $300,
  - less non-controlling 20% share of Sorrento's earnings since the date of acquisition, ($1,200 – $300) × 20% ,
  - minus 80% of the unrealized upstream inventory profit of $28, and
  - minus the remaining unrealized profit on the downstream sale of equipment; three years' amortization of $30 per year has already been recognized, leaving only 2 remaining years (2009 and 2010) as unrealized.

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2. Consolidated balance sheet, worksheet method:

	Trial balances Dr/(Cr) Padua	Trial balances Dr/(Cr) Sorrento	Adjustments Dr/(Cr)	key	Consolidated trial balance
Cash	600,000	250,000			850,000
Accounts receivable	900,000	450,000			1,350,000
Inventories	820,000	600,000	(28,000)	c	1,392,000
PP&E	1,900,000	1,000,000	(60,000)	d	2,840,000
Investment in Sorrento	780,000		(780,000)	a	-
Goodwill			140,000	a	140,000
Accounts payable	(700,000)	(250,000)			(950,000)
Long-term liabilities	(300,000)	(350,000)			(650,000)
Non-controlling interest			(160,000)	a	
			(180,000)	b	
			5,600	c	(334,400)
Common shares	(1,400,000)	(500,000)	500,000	a	(1,400,000)
Ret. earn., Dec 31, 2008	(2,600,000)	(1,200,000)	300,000	a	
			180,000	b	
			22,400	c	
			60,000	d	(3,237,600)
Totals	-	-	-		-

Notes:

a. Acquisition elimination

b. Non-controlling interest in Sorrento's earnings since acquisition: ($1,200,000 – $300,000) × 20% = $180,000

c. Unrealized profit in ending inventory: $80,000 × 35%; 20% allocated to non-controlling interest = $5,600

d. Unrealized profit in PP&E: ($330,000 – $180,000) ÷ 5 × 2 years remaining = $60,000

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OLP 6-5

On November 30, 2002, Perth Inc. issued a tender offer to acquire at least 51% of the outstanding common shares of Sydney Corporation by a share-for-share exchange. One new Perth share would be issued in exchange for each Sydney share offered by the Sydney shareholders. During December 2002, Sydney shareholders tendered 30,000 shares, which amounted to 75% of the Perth shares. The share exchange took place on December 31, 2002. At the exchange date, the Perth shares had a market value of $40 per share, which was typical of the Perth's share price for the previous 6 weeks. At the date of acquisition, Sydney's shareholders' equity consisted of $700,000 in the common share account and $580,000 in retained earnings. The book values of Sydney's assets and liabilities approximated their fair values except for buildings, the fair value of which was $120,000 in excess of book value. The excess of purchase price over book value was considered to be goodwill.

On December 31, 2007, the condensed separate-entity balance sheets of the two companies were as shown in Exhibit A. The income statements are shown in Exhibit B.

Additional information:

1. Perth accounts for its investment in Sydney on the cost basis.
2. At the date of acquisition, the remaining useful life of the buildings was 10 years.
3. In 2003, Sydney sold land to Perth at a price that was $100,000 higher than its carrying value on Sydney's books.
4. In early 2005, Perth sold equipment to Sydney for $280,000. At the date of the sale, the equipment had a net book value of $200,000. The remaining useful life of the equipment was 5 years. Sydney amortizes on a straight-line basis with a full year depreciation in the year of acquisition.
5. Sydney regularly sells inventory to Perth. On December 31, 2006, Perth held inventory of $120,000 that had been purchased from Sydney. During 2007, Perth purchased $900,000 from Sydney. At December 31, 2007, Perth's inventory included $200,000 that had been purchased from Sydney. Sydney's gross margin is 30% of selling price.
6. During 2007, Sydney paid $57,000 in management fees to Perth.
7. There has been no impairment of goodwill.

Required:

Prepare the consolidated income statement, statement of retained earnings, and balance sheet for Perth Inc. as of December 31, 2007.

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EXHIBIT A
Separate-entity Balance Sheets
December 31, 2007

	Perth	Sydney
Cash	$ 800,000	$ 350,000
Accounts receivable	1,100,000	450,000
Inventories	900,000	600,000
Total current assets	2,800,000	1,400,000
Land	600,000	300,000
Buildings and equipment (net)	1,900,000	900,000
Investment in Sydney	1,200,000	–
Total assets	$ 6,500,000	$ 2,600,000
Accounts payable	$ 950,000	$ 250,000
Long-term liabilities	1,550,000	550,000
Total liabilities	2,500,000	800,000
Common shares	2,400,000	700,000
Retained earnings	1,600,000	1,100,000
Total shareholders' equity	4,000,000	1,800,000
Total liabilities and shareholders' equity	$ 6,500,000	$ 2,600,000

EXHIBIT B
Separate-entity Income Statements
Year Ended December 31, 2007

	Perth	Sydney
Sales revenue	$ 9,450,000	$ 4,400,000
Other income	350,000	100,000
	9,800,000	4,500,000
Expenses:		
Cost of goods sold	5,670,000	3,080,000
General, selling and administrative expenses	3,150,000	925,000
Interest expense	90,000	35,000
	8,910,000	4,040,000
Net income	890,000	460,000
Retained earnings, December 31, 2006	1,410,000	940,000
	2,300,000	1,400,000
Less dividends declared	(700,000)	(300,000)
Retained earnings, December 31, 2007	$ 1,600,000	$ 1,100,000

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OLP 6-5 Solution

Goodwill calculation:

Purchase price			$ 1,200,000
Book value of net assets ($700,000 + $580,000)	$ 1,280,000		
Fair value increment on buildings	120,000		
Total fair value of net assets acquired	1,400,000		
	× 75%	=	1,050,000
Goodwill			$ 150,000

Consolidation, Direct Method

Perth Corporation
Consolidated Statement of Income and Retained Earnings
Year ended December 31, 2006
(000 omitted)

Revenue	
Sales revenue (9,450 + 4,400 – **900**)	$ 12,950
Other income (350 + 100 – **225** – **57**)	168
Total revenue	13,118
Operating expenses	
Cost of goods sold (5,670 + 3,080 – **900** – **36** + **60**)	7,874
SG&A expenses (3,150 + 925 – **57** + **9** – **16**)	4,011
Interest expense (90 + 35)	125
Total operating expenses	12,010
Earnings before non-controlling interest	1,108
Non-controlling interest in earnings [**(460 + 36 – 60) × 25%**]	(109)
Net earnings	999
Retained earnings, December 31, 2006 {1,410 + **[(940 – 580) × 75%] – (90 × 4/10) – (36 × 75%) – (100 × 75%) – (80 × 3/5)**]	1,494
Less Dividends declared (700 + 300 – **300**)	(700)
Retained earnings, December 31, 2006	1,793

Notes:

- Intercompany sales of $900 is removed from both sales and cost of sales.
- Unrealized inventory profit in beginning inventory = $120 × 30% = $36, subtracted from cost of sales and subtracted from beginning retained earnings (75%) and minority interest (25%).
- Unrealized ending inventory profit ($200 × 30% = $60) is added to cost of sales (and subtracted from inventory on the balance sheet).
- Other income is reduced by $225 intercompany dividends (i.e., $300 × 75%).
- Other income and SG&A expense is reduced by the $57 management fees paid by Sydney to Perth.

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- GS&A expense is increased by amortization of the FVI on equipment: $90,000 ÷ 10 = $9,000.
- SG&A expense is reduced by the excess equipment amortization on the equipment sold in 2005 by Perth to Sydney: $80 ÷ 5 = 16.
- Non-controlling interest is 25% of Sydney's separate entity net income, after increasing the net income for 2006 year-end unrealized inventory profit ($36) and reducing for unrealized 2007 year-end unrealized inventory profit ($60).
- Perth's opening retained earnings is
    - increased by 75% of the increase in Sydney's separate entity retained earnings between the date of acquisition and the beginning of 2007 [($940 – $580) × 75% = $270],
    - reduced by amortization on the FVI: $90 ÷ 10 × 4 years = $36,
    - reduced by 75% of the beginning unrealized upstream inventory profit ($36),
    - reduced by 75% of the unrealized profit in the upstream land sale ($100), and
    - reduced by the remaining unrealized profit on the downstream equipment sale; the initial $80 intercompany profit on the equipment has been 2/5 amortized, and so 3/5 of the profit remains unrealized.

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Perth Corporation
Consolidated Balance Sheet
December 31, 2006
(000 omitted)

Assets	
Cash (800 + 350)	$ 1,150
Accounts receivable (1,100 + 450)	1,550
Inventories (900 + 600 – **60**)	1,440
Total current assets	4,140
Land (600 + 300 – **100**)	800
Buildings and equipment (net) [1,900 + 900 + **(90 × 5/10)** – **(80 × 2/5)**]	2,813
Investment in Sydney Limited (1,200 – **1,200**)	–
Goodwill (+ **150)**	150
Total assets	$ 7,903
Liabilities and shareholders' equity	
Accounts payable (950 + 250)	$ 1,200
Long-term debt payable (1,550 + 550)	2,100
Total liabilities	3,300
Non-controlling interest in Sydney [**(700 + 1,100 – 60 – 100) × 25%)**]	410
Common shares	2,400
Retained earnings {1,600 + [**(1,100–580–60–100) × .75**] – **(90 × 5/10)** – **(80 × 2/5)**}	1,793
Total shareholders' equity	4,193
Total liabilities and shareholders' equity	$ 7,903

Notes:

- Unrealized profit of $60 subtracted from inventory
- Unrealized profit of $100 on intercompany land sale subtracted from Land
- Unamortized FVI added to buildings: $90 × 5/10 = $45
- Remaining unrealized profit on downstream sale of equipment is subtracted from equipment. Three-fifths of the intercompany profit has been amortized and thereby realized, leaving two years unrealized: $80 × 2/5 = $32
- Investment in Sydney is eliminated
- Non-controlling interest starts with Sydney's year-end 2007 shareholders' equity reduced by
  - $60 in upstream unrealized inventory profit, and
  - $100 in upstream unrealized profit from intercompany land sale.

  The net amount is multiplied by the non-controlling interest of 25%.
- Retained earnings is adjusted as follows:
  - Sydney's date-of-acquisition retained earnings of $580 is eliminated
  - Unrealized upstream profits on inventory ($60 upstream) and land ($100 upstream) are eliminated
  - Five years' amortization of the $90 FVI on buildings is subtracted: $90 ÷ 10 × 5= $45
  - Remaining two years' unrealized profit on downstream intercompany equipment sale is deducted: $80 × 2/5 = $32.

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Consolidated Balance Sheet – worksheet format for direct method (000 omitted)

	Trial balances Dr/(Cr)		Adjustments		Consolidated
	Perth	Sydney	Dr/(Cr)	key	accounts
Cash	800	350			1,150
Accounts receivable	1,100	450			1,550
Inventories	900	600	(60)	d	1,440
Land	600	300	(100)	e	800
Equipment	1,900	900	90	a	
			(45)	c	
			(32)	f	2,813
Investment in Sydney	1,200	-	(1,200)	a	-
Goodwill			150	a	150
Accounts payable	(950)	(250)			(1,200)
Long-term liabilities	(1,550)	(550)			(2,100)
Non-controlling interest			(320)	a	
			(130)	b	
			15	d	
			25	e	
					(410)
Common shares	(2,400)	(700)	700	a	(2,400)
Ret. earn., Dec 31, 2007	(1,600)	(1,100)	580	a	
			130	b	
			45	c	
			45	d	
			75	e	
			32	f	(1,793)
Totals	-	-	-		-

Notes:

a. Acquisition elimination

b. Non-controlling interest in Sydney's earnings since acquisition: ($1,100,000 – $580,000) × 25% = $130,000

c. Amortization of FVI at $9,000 per year × 5 years

d. Eliminate unrealized profit in ending inventory (upstream); 25% allocated to non-controlling interest

e. Eliminate unrealized profit in intercompany land sale (upstream); 25% to non-controlling interest

f. Eliminate unrealized profit in intercompany equipment sale (downstream); 3/5 amortized, and therefore 2/5 remains unrealized: $80,000 × 2/5 = $36,000

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Consolidation Worksheet – three adjustment columns **(000 omitted)**

	Trial balances Dr/(Cr)		Adjustments - Dr/(Cr)						Perth consoli-dated
					Operations				
	Perth	Sydney	Acquisition		Cumulative		Current		
Cash	800	350							1,150
Accounts receivable	1,100	450							1,550
Inventories	900	600					(60)	c3	1,440
Land	600	300			(100)	b5			800
Equipment	1,900	900	90	a	(36)	b1	(9)	c1	
					(48)	b4	16	c4	2,813
Investment in Sydney	1,200	-	(1,200)	a					-
Goodwill			150	a					150
Accounts payable	(950)	(250)							(1,200)
Long-term liabilities	(1,550)	(550)							(2,100)
Non-controlling interest			(320)	a	(90)	b2			
					9	b3	75	c6	
					25	b5	(109)	c7	(410)
Common shares	(2,400)	(700)	700	a					(2,400)
Ret. earn., Dec 31, 2006	(1,410)	(940)	580	a	36	b1			
					90	b2			
					27	b3			
					48	b4			
					75	b5			(1,494)
Sales	(9,450)	(4,400)					900	c2	(12,950)
Other income	(350)	(100)					57	c5	
							225	c6	(168)
Cost of sales	5,670	3,080			(36)	b3	(900)	c2	
							60	c3	7,874
SG&A expense	3,150	925					9	c1	
							(16)	c4	
							(57)	c5	4,011
Interest expense	90	35							125
Non-contr interest in earn.							109	c7	109
Dividends	700	300					(300)	c6	700
Totals	-	-	-		-		-		-

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Adjustments and Eliminations – three adjustment columns (000 omitted)

a. *Acquisition adjustment:*

Common shares	700	
Retained earnings	580	
Equipment	90	
Goodwill	150	
Investment in Sydney		1,200
Non-controlling interest [(700 + 580) × 25%]		320

b1. *FVI amortization:*

Retained earnings, December 31, 2006	36	
Equipment (90/10 × 4)		36

b2. *Non-controlling interest in earnings from acquisition to beginning of 2007:*

Retained earnings, December 31, 2006	90	
Non-controlling interest [(940 – 580) × 25%]		90

b3. *Unrealized profit, beginning inventory (upstream):*

Retained earnings, December 31, 2006	27	
Non-controlling interest [(120 × 30%) × 25%]	9	
Cost of sales		36

b4. *Unrealized profit in intercompany equipment sale (downstream):*

Retained earnings, December 31, 2006	48	
Equipment (80/5 × 3)		48

b5. *Unrealized profit in intercompany sale of land (upstream):*

Retained earnings, December 31, 2006	75	
Non-controlling interest (100 × 25%)	25	
Land		100

c1. *Amortization of FVI:*

SG&A expense	9	
Equipment		9

c2. *Eliminate intercompany sales:*

Sales	900	
Cost of sales		900

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c3. *Unrealized profit in ending inventory (upstream):*

Cost of sales	60	
Inventory (200 × 30%)		60

c4. *Realized profit (through amortization) on intercompany sale of equipment (downstream):*

Equipment	16	
SG&A expense		16

c5. *Eliminate intercompany management fees:*

Other income	57	
SG&A expense		57

c6. *Eliminate Sydney dividends:*

Other income	225	
Non-controlling interest	75	
Dividends paid		300

c7. *Non-controlling interest in earnings:*

Non-controlling interest in earnings (I/S)	109	
Non-controlling interest (B/S) [(460 + 36 – 60) × 25%]		109

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Consolidation Worksheet – one adjustment column (000 omitted)

	Perth	Sydney	Dr/(Cr)	key	dated	statement	sheet
Cash	800	350			1,150		1,150
Accounts receivable	1,100	450			1,550		1,550
Inventories	900	600	(60)	g	1,440		1,440
Land	600	300	(100)	h	800		800
Equipment	1,900	900	90	a			
			(45)	d			
			(32)	i	2,813		2,813
Investment in Sydney	1,200	-	(1,200)	a	-		-
Goodwill			150	a	150		150
Accounts payable	(950)	(250)			(1,200)		(1,200)
Long-term liabilities	(1,550)	(550)			(2,100)		(2,100)
Non-controlling interest			(320)	a			
			(90)	b			
			(115)	c			
			15	g			
			25	h			
			75	j	(410)		(410)
Common shares	(2,400)	(700)	700	a	(2,400)		(2,400)
Ret. earn., Dec 31, 2006	(1,410)	(940)	580	a			
			90	b			
			36	d			
			27	f			
			75	h			
			48	i	(1,494)		(1,494)
Sales	(9,450)	(4,400)	900	e	(12,950)	(12,950)	
Other income	(350)	(100)	225	j			
			57	k	(168)	(168)	
Cost of sales	5,670	3,080	(900)	e			
			(36)	f			
			60	g	7,874	7,874	
SG&A expense	3,150	925	9	d			
			(57)	k			
			(16)	i	4,011	4,011	
Interest expense	90	35			125	125	
Non-contr interest in earn.			115	c			
			9	f			
			(15)	g	109	109	
[Net earnings]						(999)	
Dividends	700	300	(300)	j	700	700	
[Change in Ret Earn]						(299)	(299)
Totals	-	-	-		-		-

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Notes:

a. Acquisition elimination
b. Non-controlling interest in Sydney's earnings from acquisition to beginning of 2007: ($940,000 – $580,000) × 25% = $90,000

c. Non-controlling interest in 2007 earnings of Sydney: $460 × 25% = $115

d. FVI amortization: 4 years @ $9 charged to retained earnings; one year to SG&A expense

e. Eliminate intercompany sales

f. Unrealized upstream profit ($36) in opening inventory; 25% credited to non-controlling interest

g. Eliminate $60 unrealized profit in ending inventory (upstream); 25% allocated to non-controlling interest

h. Eliminate unrealized profit in intercompany land sale (upstream); 25% to non-controlling interest

i. Eliminate unrealized profit in intercompany equipment sale (downstream); 2/5 realized by *beginning* of year;

plus 1/5 realized in 2007: $80 ÷ 5 = $16 per year

j. Eliminate Sydney's dividends; 25% to non-controlling interest

k. Eliminate $57 intercompany management fees

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OLP 8-1

On December 5, 2006, Import Corporation received shipment of 4,000 items of inventory from a supplier in France. The supplier's invoice was for €600,000. Import paid the invoice in two instalments:

€400,000 on January 4, 2007
€200,000 on February 3, 2007

Import Corporation reports in Canadian dollars. The Canadian dollar values of the euro were as follows:

December 5, 2006	\$2.32
December 31, 2006	\$2.50
January 4, 2007	\$2.53
February 3, 2007	\$2.41

Import Corporation's fiscal year ends on December 31.

Required:

1. Calculate how many euros each Canadian dollar was worth on December 31, 2006.
2. What amounts related to this purchase (both asset and liability) will appear on Import Corporation's financial statements at the end of 2006?
3. Prepare journal entries to record the two payments.

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OLP 8-1 Solution

Requirement 1

The euro value of the dollar is the inverse of the dollar value of the euro. If each euro is worth \$2.50, then each dollar is worth 1 ÷ 2.50 = €0.40.

Requirement 2

On the December 31, 2006, balance sheet:

Inventory (€600,000 × \$2.32)	\$ 1,392,000
Accounts payable (€600,000 × \$2.50)	\$ 1,500,000

On the income statement for the year ended December 31, 2006:

Exchange gains and losses [€600,000 × (\$2.32 – \$2.50)] – loss of	\$ 108,000

Requirement 3

Journal entries for the two payments:

January 4, 2007:

	Debit	Credit
Accounts payable (€400,000 × \$2.50)	1,000,000	
Exchange gains and losses	12,000	
Cash (€400,000 × \$2.53)		1,012,000

February 3, 2007:

	Debit	Credit
Accounts payable (€200,000 × \$2.50)	500,000	
Cash (€200,000 × \$2.41)		482,000
Exchange gains and losses		18,000

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OLP 8-2

Persaud Inc., a Canadian company, sold customized software to a major U.S. customer. The selling price was US$100,000. The sale was finalized and the software delivered on November 16, 2005. At the time of the sale, each U.S. dollar was worth C$1.22.

By Persaud's year-end, December 31, 2005, the value of the U.S. dollar had declined; US$1.00 = C$1.18 on that date.

The customer paid the amount due on the agreed-upon contractual payment date, February 15, 2006. The spot rate on the payment date was C$1.16.

Required:

1. Prepare journal entries to record the above events, assuming that Persaud did not hedge the receivable.
2. Assume instead that Persaud did hedge the receivable by entering into a 90-day forward contract for US$100,000. The forward rate was C$1.20 and the spot rate was C$1.22. Prepare journal entries to record the sale, the hedge, and the payment received.

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OLP 8-2 Solution

Requirement 1

November 16, 2005:

Accounts receivable (US$100,000 @ 1.22)	122,000	
Software sales revenue		122,000

December 31, 2005:

Exchange gains and losses	4,000	
Accounts receivable [US$100,000 × (1.18 – 1.22)]		4,000

February 14, 2006:

Cash (US$100,000 @ 1.16)	116,000	
Exchange gains and losses	2,000	
Accounts receivable		118,000

Requirement 2

Forward contract discount: US$100,000 × (1.22 – 1.20) = C$2,000. The following entries assume that the memorandum entry approach is used to account for the hedge (that is, that the forward contract is not explicitly recorded).

November 16, 2005:

Accounts receivable (US$100,000 @ 1.22)	122,000	
Software sales revenue		122,000

December 31, 2005:

OCI* – Exchange gains/losses	4,000	
Accounts receivable [US$100,000 × (1.18 – 1.22)]		4,000
[to reduce the receivable to the year-end rate of 1.18]		
Exchange gains/losses	1,000	
Unrealized forward discount		1,000
[to recognize 45/90ths of the forward contract discount]		

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February 14, 2006:

Cash (US$100,000 @ 1.16)	116,000	
Exchange gains/losses	6,000	
Accounts receivable		118,000
OCI – Exchange gains and losses		4,000
[to record the receipt of payment from the customer]		

Cash (US$100,000 @ 1.20)	120,000	
Unrealized forward discount	1,000	
Cash (US$100,000 @ 1.16)		116,000
Exchange gains and losses		5,000
[to record settlement of the forward contract]		

OCI = other comprehensive income

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OLP 8-3

On September 26, 2005, Kiyohito Enterprises Limited (KEL) agreed to purchase some advanced equipment from Mitsubishi Heavy Industries for ¥20,000,000. The equipment was to be delivered by December 19, with payment from KEL due no later than January 16, 2006 (i.e., four weeks after receipt of the equipment).

Due to the size of the purchase, KEL managers entered into a forward contract through KEL's bank at a forward rate of $0.0110 on September 26, 2005.

Canadian dollar spot rates for the Japanese yen were as follows:

September 26, 2005	$ 0.0108
December 19, 2005	0.0115
December 31, 2005	0.0116
January 16, 2006	0.0114

Required:

1. Prepare journal entries to record the above information.
2. Throughout this series of transactions, what is the net amount of exchange gain or loss that is recognized in net income?

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OLP 8-3 Solution

1. Transactions

September 26, 2005:

Memorandum:

a. Commitment to buy equipment; total value at commitment date is ¥20,000,000 × $0.0108 = $216,000

b. Forward contract entered into for ¥20,000,000 at $0.0110 = $220,000

December 19, 2005:

Account	Debit	Credit
Equipment (¥20,000,000 × 0.0110)	220,000	
OCI – Exchange gains and losses	10,000	
Accounts payable (¥20,000,000 × 0.0115)		230,000
[the forward contract establishes the cost of the equipment]		

December 31, 2005:

Account	Debit	Credit
OCI – Exchange gains and losses	2,000	
Accounts payable [¥20,000,000 × (0.0116 – 0.0115)]		2,000
[to adjust the liability to the year-end spot rate of $0.0116]		

January 16, 2006:

Account	Debit	Credit
Accounts payable (payment of ¥20,000,000 @ 0.0116)	232,000	
Cash (¥20,000,000 × 0.0114)		228,000
OCI – Exchange gains and losses		4,000
[to record payment of ¥20,000,000 to the supplier]		

Account	Debit	Credit
Cash (¥20,000,000 @ 0.0114)	228,000	
Cash [contract price: ¥20,000,000 × 0.0110)]		220,000
OCI – Exchange gains and losses		8,000
[to record settlement of the forward contract]		

2. Net exchange gain or loss

Throughout this series of transactions, exchange gains and losses are recorded in *other comprehensive income*, which is *not* a component of net income. At the end of 2005, OCI will have accumulated debits of $12,000 in exchange losses. In 2006, when payment is made and the forward contract is settled, OCI will be credited with a total of $12,000, thereby cancelling out the accumulated debits.

Notice that there is no premium or discount allocated to the two periods. When an anticipated transaction is hedged, the value of the hedge establishes the value of the transaction. In effect, the premium or discount is included in the cost of the asset and subsequently is amortized. The premium or discount thereby affects net income in the periods of the asset's use rather than the periods that the forward contract is outstanding [CICA 3865.56].

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OLP 9-1

International Corporation founded a subsidiary in Sweden on December 31, 2005. At December 31, 2006, the Swedish subsidiary's balance sheet appeared as follows (in thousands of Swedish Krona):

	Scandia Ltd.
Cash	SK 450
Temporary investments (carried at market value)	260
Accounts receivable (net)	1,250
Inventory (lower of cost or market)	3,500
	5,460
Property, plant and equipment (net)	12,650
Total assets	SK 18,110
Bank notes payable	SK 2,000
Accounts payable	860
	2,860
Long-term debt	8,600
	11,460
Common shares (wholly-owned by International Corporation)	1,000
Retained earnings	5,650
	6,650
Total liabilities and shareholders' equity	SK 18,110

At the balance sheet date, each Krona was worth C$0.155. Historical exchange rate information is as follows:

Event	**C$ per Krona**
Parent's investment in common shares	0.180
Long-term debt issued	0.175
Acquisition of PP&E	0.170
Acquisition of inventory	0.160
Bank loan obtained	0.165
Average rate for 2006	0.170
Average rate for 2006 net income (temporal)	0.168

Required:

1. Translate the Swedish subsidiary's balance sheet, assuming that the subsidiary is an *integrated* foreign operation.
2. Translate the Swedish subsidiary's balance sheet, assuming that the subsidiary is a *self-sustaining* foreign operation.
3. Under each assumption, what is the *net accounting exposure* to exchange rate changes?
4. What impact will each method have on International Corporation's net income? Explain.

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OLP 9-1 Solution

1. Translation as an integrated foreign operation

Temporal method:

	Krona	× rate	= C$
Cash	SK 450,000	0.155	$ 69,750
Temporary investments (carried at market value)	260,000	0.155	40,300
Accounts receivable (net)	1,250,000	0.155	193,750
Inventory (lower of cost or market)	3,500,000	0.160	560,000
	5,460,000		863,800
Property, plant and equipment (net)	12,650,000	0.170	2,150,500
Total assets	SK 18,110,000		$ 3,014,300
Bank notes payable	SK 2,000,000	0.155	$ 310,000
Accounts payable	860,000	0.155	133,300
	2,860,000		443,300
Long-term debt	8,600,000	0.155	1,333,000
	11,460,000		1,776,300
Common shares	1,000,000	0.180	180,000
Retained earnings	5,650,000	0.168	949,200
Translation gain (loss)	–	Plug	108,800
	6,650,000		1,238,000
Total liabilities and shareholders' equity	SK 18,110,000		$ 3,014,300

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2. Translation as a self-sustaining foreign operation

Current-rate method:

	Krona	× rate	= C$
Cash	SK 450,000	0.155	$ 69,750
Temporary investments (carried at market value)	260,000	0.155	40,300
Accounts receivable (net)	1,250,000	0.155	193,750
Inventory (lower of cost or market)	3,500,000	0.155	542,500
	5,460,000		846,300
Property, plant and equipment (net)	12,650,000	0.155	1,960,750
Total assets	SK 18,110,000		$ 2,807,050
Bank notes payable	SK 2,000,000	0.155	$ 310,000
Accounts payable	860,000	0.155	133,300
	2,860,000		443,300
Long-term debt	8,600,000	0.155	1,333,000
	11,460,000		1,776,300
Common shares	1,000,000	0.180	180,000
Retained earnings	5,650,000	0.170	960,500
Translation gain (loss)	–	plug	(109,750)
	6,650,000		1,030,500
Total liabilities and shareholders' equity	SK 18,110,000		$ 2,807,050

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3. Net accounting exposure to exchange rate changes

The net accounting exposure is the net amount of those balance sheet items that are *not* translated at the current rate:

a. Integrated – temporal method:

Inventory (lower of cost or market)	SK 3,500,000
Property, plant and equipment (net)	12,650,000
Common shares	(1,000,000)
Retained earnings	(5,650,000)
Net asset (liability) exposure	SK 9,500,000

b. Self-sustaining – current rate method:

Common shares	SK(1,000,000)
Retained earnings	(5,650,000)
Net asset (liability) exposure	SK(6,650,000)

4. Net income effects

a. Integrated – temporal method:

The exchange rate changes will have the same effect on net income as if the transactions had been carried out by the parent corporation directly from Canada and had been entered in its books on a transaction-by-transaction basis.

b. Self-sustaining – current rate method:

The changes in exchange rates would have no impact on the parent company's net income. Instead, the cumulative translation changes would be reported as a component of *other comprehensive income* in the shareholder's equity section of the parent's balance sheet.

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OLP 9-2

On December 31, 2004, Pearson Intercontinental Corporation (PIC), a Canadian company, established a new subsidiary in the U.K., Shetland Limited. Pearson invested C$375,000 to acquire £150,000 in Shetland common shares. At the time of the purchase, the British pound sterling (£) was worth C$2.50. The financial statements for the year ended December 31, 2006 are shown below:

Shetland Limited
Balance Sheet
December 31

	2006	**2005**
Cash	£ 90,000	£ 50,000
Accounts receivable (net)	120,000	100,000
Inventory	110,000	90,000
	320,000	240,000
Equipment (net)	220,000	250,000
Total assets	£ 540,000	£ 490,000
Accounts payable	£ 100,000	£ 80,000
Long-term debt	200,000	200,000
	300,000	280,000
Common shares	150,000	150,000
Retained earnings	90,000	60,000
	240,000	210,000
Total liabilities and shareholder's equity	£ 540,000	£ 490,000

Shetland Limited
Income Statement
Year ended December 31, 2006

Sales revenue	£ 900,000
Operating expenses:	
Cost of inventory sold	650,000
General, selling and administrative expenses	170,000
Amortization expense	30,000
	850,000
Net income	£ 50,000

Shetland Limited
Statement of Retained Earnings
Year ended December 31, 2006

Retained earnings, December 31, 2005	£ 60,000
Plus net income for 2006	50,000
Less dividends paid	(20,000)
Retained earnings, December 31, 2006	£ 90,000

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Additional information:

a. Shetland's equipment was purchased when the British pound sterling (£) was worth C$2.48. No equipment had been added to the equipment account in 2006.
b. The long-term debt was issued to a venture capital firm when the pound was worth C$2.45.
c. General, selling and administrative expenses were incurred evenly throughout 2006.
d. Shetland's dividends were paid at the end of 2006.
e. The year-end 2005 inventory had been acquired when £1.00 = C$2.38.
f. The year-end 2005 exchange rate was £1.00 = C$2.30.
g. Both sales and inventory purchases occurred evenly throughout 2006.
h. The year-end 2006 inventory was acquired when £1.00 = C$2.20.
i. The average exchange rate throughout 2006 was £1.00 = C$2.25.
j. On December 30, 2006, the exchange rate was C$2.15.

Assume that 2005 revenues and expenses had been translated at a variety of rates that averaged to $2.40 in the final retained earnings amount at December 31, 2005.

Required:

1. Assume that Shetland is a self-sustaining foreign operation. Compute the translation gain or loss for 2006.
2. Assume instead that Shetland is an integrated foreign operation. Prepare a translated income statement.

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OLP 9-2 Solution

1. Translation gain/loss as a self-sustaining foreign operation

The translation gain or loss will be measured by the change in those balance sheet items that are not translated at the closing rate. Under the current rate method, only the shareholders' equity items are stated at historical rates. Therefore, the translation gain or loss can be measured by looking only at shareholder's equity and retained earnings.

	Dr./(Cr.)
Common shares: £150,000 × (2.50 – 2.15)	(52,500)
Retained earnings: £30,000 × (2.25 – 2.15) + £60,000 × (2.40 – 2.15)	(18,000)
Translation gain (loss) at December 31, 2006	(70,500)

To verify (not required):

	£	**× rate**	**C$**
Cash	90,000	2.15	193,500
Accounts receivable (net)	120,000	2.15	258,000
Inventory	110,000	2.15	236,500
Equipment (net)	220,000	2.15	473,000
Total assets	540,000		1,161,000
Accounts payable	100,000	2.15	215,000
Long-term debt	200,000	2.15	430,000
Common shares	150,000	2.50	375,000
Retained earnings:			
from 2005	60,000	2.40	144,000
from 2006	30,000	2.25	67,500
Translation gain (loss)		Plug	(70,500)
Total liabilities and shareholder equity	540,000		1,161,000

2. Income statement translation – integrated foreign operation

		£	**× rate**	**C$**
Sales revenue		900,000	2.25	2,025,000
Operating expenses:				
Cost of inventory sold				
Beginning inventory	90,000		2.38	214,200
Purchases	670,000		2.25	1,507,500
Ending inventory	(110,000)		2.20	(242,000)
		650,000		1,479,700
GS&A expenses		170,000	2.25	382,500
Amortization		30,000	2.48	74,400
		850,000		1,936,600
Net income		50,000		88,400

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OLP 9-3

OLP 9-2 contains information on Pearson International Corporation's U.K. subsidiary, Shetland Limited. Use the information in that problem for this one. It is not necessary to solve **OLP 9-2** before you attempt this problem.

Required:

1. Assume that Shetland is an integrated foreign operation. Compute the translation gain or loss for 2006.
2. Calculate the net translation gain or loss on monetary items for 2006. (*Hint:* see pages 433 and 434 of the text.)

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OLP 9-3 Solution

1. Translation gain/loss as an integrated foreign operation

The translation gain or loss will be measured by the change in those balance sheet items that are not translated at the current rate. Therefore, the translation gain or loss can be measured by looking only at the items that are translated at historical rates. The gain or loss on each item is the difference between the historical rate and the current rate:

	Dr./(Cr.)
Inventory: £110,000 × (2.20 – 2.15)	5,500
Equipment: £220,000 × (2.48 – 2.15)	72,600
Common shares: £150,000 × (2.50 – 2.15)	(52,500)
Retained earnings: £30,000 × (2.25 – 2.15) + £60,000 × (2.40 – 2.15)	(18,000)
Translation gain (loss) at December 31, 2006	7,600

To verify (not required):

	£	× rate	C$
Cash	90,000	2.15	193,500
Accounts receivable (net)	120,000	2.15	258,000
Inventory	110,000	2.20	242,000
Equipment (net)	220,000	2.48	545,600
Total assets	540,000		1,239,100
Accounts payable	100,000	2.15	215,000
Long-term debt	200,000	2.15	430,000
Common shares	150,000	2.50	375,000
Retained earnings:			
from 2005	60,000	2.40	144,000
from 2006	30,000	2.25	67,500
Translation gain (loss)		Plug	7,600
Total liabilities and shareholder equity	540,000		1,239,100

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2. Net monetary translation gain or loss for 2006

		£	× rate	C$
Monetary items, January 1, 2006:				
Cash	50,000			
Accounts receivable	100,000			
Accounts payable	(80,000)			
Long-term debt	(200,000)			
Net monetary assets (liabilities)	(130,000)	(130,000)	2.30	(299,000)
Monetary changes during 2006:				
Sales revenue		900,000	2.25	2,025,000
Inventory purchases		(670,000)	2.25	(1,507,500)
Other expenses		(170,000)	2.25	(382,500)
Dividends paid		(20,000)	2.15	(43,000)
Derived net monetary balance, Dec. 31, 2006				(207,000)
Actual monetary items, December 31, 2006:				
Cash	90,000			
Accounts receivable	120,000			
Accounts payable	(100,000)			
Long-term debt	(200,000)			
Net monetary assets (liabilities)	(90,000)	(90,000)	2.15	(193,500)
Net exch. gain (loss) from monetary items				(13,500)

Note: the current and noncurrent monetary items are combined in this example. It is not necessary to segregate long-term from current.

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