CHAPTER 18

Revenue Recognition

ASSIGNMENT CLASSIFICATION TABLE (BY TOPIC)

Topics	Questions	Brief Exercises	Exercises	Problems	Concepts for Analysis
1. Realization and recognition; sales transactions; high rates of return.	1, 2, 3, 4, 5, 6, 22	1	1, 2, 3	1	1, 2, 3, 4, 5, 7, 8, 9
2. Long-term contracts.	7, 8, 9, 10, 11, 12, 22	2, 3, 4, 5, 6	4, 5, 6, 7, 8, 9, 10	1, 2, 3, 4, 5, 6, 7, 15, 16, 17	1, 2, 3, 6
3. Installment sales.	13, 14, 16, 17, 18, 19, 20, 21, 22	7, 8, 9	11, 12, 13, 14, 15, 16	1, 8, 9, 10, 11, 12, 14	1, 2, 3
4. Repossessions on installment sales.		8	13, 17, 18	10, 11, 12, 13, 14	
5. Cost-recovery method; deposit method.	13, 14, 15, 23, 24	10	15, 16		8, 9
*6. Franchising.	22, 28, 29, 30, 31	11	19, 20		10
*7. Consignments.	22, 32	12	21		

*This material is dealt with in an Appendix to the chapter.

ASSIGNMENT CLASSIFICATION TABLE (BY LEARNING OBJECTIVE)

	Learning Objectives	Brief Exercises	Exercises	Problems
1.	Apply the revenue recognition principle.	1	1, 2, 3	
2.	Describe accounting issues for revenue recognition at point of sale.	1	1, 2, 3	1
3.	Apply the percentage-of-completion method for long-term contracts.	2, 3	4, 5, 6, 7, 8, 9	1, 2, 3, 4, 5, 6, 7, 16, 17
4.	Apply the completed-contract method for long-term contracts.	4, 5	4, 8, 9, 10	1, 2, 3, 5, 6, 7, 15, 16, 17
5.	Identify the proper accounting for losses on long-term contracts.	6	10	5, 6, 7, 15
6.	Describe the installment-sales method of accounting.	7, 8, 9	11, 12, 13, 14, 15, 16, 17, 18	1, 8, 9, 10, 11, 12, 13, 14
7.	Explain the cost-recovery method of accounting.	10	15, 16	
*8.	Explain revenue recognition for franchises and consignment sales.	11, 12	19, 20, 21	

ASSIGNMENT CHARACTERISTICS TABLE

Item	Description	Level of Difficulty	Time (minutes)
E18-1	Revenue recognition on book sales with high returns.	Moderate	15–20
E18-2	Sales recorded both gross and net.	Simple	15–20
E18-3	Revenue recognition on marina sales with discounts.	Moderate	10–15
E18-4	Recognition of profit on long-term contracts.	Moderate	20–25
E18-5	Analysis of percentage-of-completion financial statements.	Moderate	10–15
E18-6	Gross profit on uncompleted contract.	Simple	10–12
E18-7	Recognition of profit, percentage-of-completion.	Moderate	25–30
E18-8	Recognition of revenue on long-term contract and entries.	Moderate	15–20
E18-9	Recognition of profit and balance sheet amounts for long-term contracts.	Simple	15–25
E18-10	Long-term contract reporting.	Simple	15–25
E18-11	Installment-sales method calculations, entries.	Simple	15–20
E18-12	Analysis of installment-sales accounts.	Moderate	15–20
E18-13	Gross profit calculations and repossessed merchandise.	Moderate	15–20
E18-14	Interest revenue from installment sale.	Simple	10–15
E18-15	Installment-sales method and cost-recovery method.	Simple	10–15
E18-16	Installment-sales method and cost-recovery method.	Simple	15–20
E18-17	Installment-sales—default and repossession.	Simple	10–15
E18-18	Installment-sales—default and repossession.	Simple	15–20
*E18-19	Franchise entries.	Simple	14–18
*E18-20	Franchise fee, initial down payment.	Simple	12–16
*E18-21	Consignment computations.	Simple	15–20
P18-1	Comprehensive three-part revenue recognition.	Moderate	30–45
P18-2	Recognition of profit on long-term contract.	Simple	20–25
P18-3	Recognition of profit and entries on long-term contract.	Moderate	25–35
P18-4	Recognition of profit and balance sheet presentation, percentage-of-completion.	Moderate	20–30
P18-5	Completed contract and percentage-of-completion with interim loss.	Moderate	25–30
P18-6	Long-term contract with interim loss.	Moderate	20–25
P18-7	Long-term contract with an overall loss.	Moderate	20–25
P18-8	Installment-sales computations and entries.	Moderate	25–30
P18-9	Installment-sales income statements.	Moderate	30–35
P18-10	Installment-sales computations and entries.	Complex	30–40
P18-11	Installment-sales entries.	Simple	20–25
P18-12	Installment-sales computations and entries—periodic inventory.	Complex	40–50
P18-13	Installment repossession entries.	Moderate	20–25
P18-14	Installment-sales computations and schedules.	Complex	50–60
P18-15	Completed-contract method.	Moderate	20–30

ASSIGNMENT CHARACTERISTICS TABLE (Continued)

Item	Description	Level of Difficulty	Time (minutes)
P18-16	Revenue recognition methods—comparison.	Complex	40–50
P18-17	Comprehensive problem—long-term contracts.	Complex	50–60
CA18-1	Revenue recognition—alternative methods.	Moderate	20–30
CA18-2	Recognition of revenue—theory.	Moderate	35–45
CA18-3	Recognition of revenue—theory.	Moderate	25–30
CA18-4	Recognition of revenue—bonus dollars.	Moderate	30–35
CA18-5	Recognition of revenue from subscriptions.	Complex	35–45
CA18-6	Long-term contract—percentage-of-completion.	Moderate	20–25
CA18-7	Revenue recognition—real estate development.	Moderate	30–40
CA18-8	Revenue recognition, ethics	Moderate	25–30
CA18-9	Revenue recognition—membership fees, ethics	Moderate	20–25
*CA18-10	Franchise revenue.	Moderate	35–45

SOLUTIONS TO CODIFICATION EXERCISES

CE18-1

Master Glossary

(a) Under the cost-recovery method, no profit is recognized until cash payments by the buyer, including principal and interest on debt due to the seller and on existing debt assumed by the buyer, exceed the seller's cost of the property sold.

(b) A method of recognizing profit for time-sharing transactions under which the amount of revenue recognized (based on the sales value) at the time a sale is recognized is measured by the relationship of costs already incurred to the total of costs already incurred and future costs expected to be incurred.

(c) Under the deposit method, the seller does not recognize any profit, does not record notes receivable, continues to report in its financial statements the property and the related existing debt even if it has been assumed by the buyer, and discloses that those items are subject to a sales contract.

(d) The installment-sales method apportions each cash receipt and principal payment by the buyer on debt assumed between cost recovered and profit. The apportionment is in the same ratio as total cost and total profit bear to the sales value.

CE18-2

According to FASB ASC 605-10-25-3 (Revenue Recognition—Recognition):

Revenue should ordinarily be accounted for at the time a transaction is completed, with appropriate provision for uncollectible accounts. Revenue and gains generally are not recognized until being realized or realizable and until earned. Accordingly, unless the circumstances are such that the collection of the sale price is not reasonably assured, the installment-sales method of recognizing revenue is not acceptable.

CE18-3

According to FASB ASC 910-605-50-2 (Contractors—Revenue Recognition—Disclosure):

If the completed-contract method is used, the reason for selecting that method shall be indicated, for example, either of the following:

(a) Numerous short-term contracts for which financial position and results of operations reported on the completed-contract basis would not vary materially from those resulting from use of the percentage-of-completion method.

(b) Inherent hazards or undependable estimates that cause forecasts to be doubtful.

CE18-4

According to FASB ASC 605-10-25-4 (Revenue Recognition—Recognition):

There may be exceptional cases where receivables are collectible over an extended period of time and, because of the terms of the transactions or other conditions, there is no reasonable basis for estimating the degree of collectibility. When such circumstances exist, and as long as they exist, either the installment-sales method or the cost recovery method of accounting may be used. As defined in paragraph 360-20-55-7 through 55-9, the installment-sales method apportions collections received between cost recovered and profit. The apportionment is in the same ratio as total cost and total profit bear to the sales value. Under the cost recovery method, equal amounts of revenue and expense are recognized as collections are made until all costs have been recovered, postponing any recognition of profit until that time.

ANSWERS TO QUESTIONS

1. A series of highly publicized cases of companies recognizing revenue prematurely has caused the SEC to increase its enforcement actions in this area. In some of these cases, significant adjustments to previously issued financial statements were made. Some of these cases involved contingent sales where side agreements were in place or high rates of return occurred. In addition, in some cases, unfinished product was shipped to customers and counted as revenues or unauthorized product was shipped to customers and counted as revenues.

2. Revenue is conventionally recognized at the date of sale. For revenue to be recognized at the date of sale, (1) the amount of the revenue should be reasonably measurable—that is, the collectibility of the sales price is reasonably assured or the amount uncollectible can be estimated reasonably (realized or realizable)—and (2) the earnings process is complete or virtually complete—that is, the seller is not obligated to perform significant activities after the sale to earn the revenue.

3. Revenues are recognized generally as follows:
   (a) Revenue from selling products—date of delivery to customers.
   (b) Revenue from services rendered—when the services have been performed and are billable.
   (c) Revenue from permitting others to use enterprise assets—as time passes or as the assets are used.
   (d) Revenue from disposing of assets other than products—at the date of sale.

4. Types of sales transactions: (1) Cash sale. (2) Credit sale. (3) C.O.D. sale. (4) Will-call or layaway sale. (5) Sale in advance of delivery (long-term construction). (6) Branch sale. (7) Intercompany sale. (8) Franchise sale. (9) Installment sale.

   The student should identify for each type of sale a form of business which typically engages in that type of sale. Many of these sales transactions are not mentioned in this chapter, so the student will probably not identify all these transactions.

5. The three alternatives available to a seller that is exposed to risks of ownership due to a return of the product are:
   (1) Not recording the sale until all return privileges have expired.
   (2) Recording the sale, but reducing sales by an estimate of future returns.
   (3) Recording the sale and accounting for the returns as they occur in the future.

6. **FASB Statement No. 48** requires that such sales transactions not be recognized as current revenue unless **all** of the following six conditions are met:
   (1) The seller's price to the buyer is substantially fixed or determinable at the date of sale.
   (2) The buyer has paid the seller, or the buyer is obligated to pay the seller and the obligation is not contingent on resale of the product.
   (3) The buyer's obligation to the seller would not be changed in the event of theft, or physical destruction, or damage of the product.
   (4) The buyer acquiring the product has economic substance apart from that provided by the seller.
   (5) The seller does not have a significant obligation for future performance to directly bring about resale of the product by the buyer.
   (6) The amount of future returns can be reasonably estimated.

7. The two basic methods of accounting for long-term construction contracts are: (1) the percentage-of-completion method and (2) the completed-contract method.

The percentage-of-completion method is preferable when estimates of costs to complete and extent of progress toward completion of long-term contracts are reasonably dependable. The percentage-of-completion method should be used in circumstances when **reasonably dependable estimates can be made and:**

(1) The contract clearly specifies the enforceable rights regarding goods or services to be provided and received by the parties, the consideration to be exchanged, and the manner and terms of settlement.
(2) The buyer can be expected to satisfy all obligations under the contract.
(3) The contractor can be expected to perform the contractual obligation.

The completed-contract method is preferable when the lack of dependable estimates or inherent hazards cause forecasts to be doubtful.

8. $$\frac{\text{Costs Incurred}}{\text{Total Estimated Cost}} \text{ X Total Revenue = Revenue Recognized}$$

$$\frac{\$9 \text{ million}}{\$50 \text{ million}} \text{ X } \$60{,}000{,}000 = \underline{\underline{\$10{,}800{,}000}}$$

Revenue Recognized – Actual Cost Incurred = Gross Profit Recognized
$10,800,000 – $9,000,000 = $1,800,000

9. Under the percentage-of-completion method, income is reported to reflect more accurately the production effort. Income is recognized periodically on the basis of the percentage of the job completed rather than only when the entire job is completed. The principal disadvantage of the completed-contract method is that it may lead to distortion of earnings because no attempt is made to reflect current performance when the period of the contract extends into more than one accounting period.

10. The methods used to determine the extent of progress toward completion are the cost-to-cost method and units-of-delivery method. Costs incurred and labor hours worked are examples of **input measures,** while tons produced, stories of a building completed, and miles of highway completed are examples of **output measures.**

11. The two types of losses that can become evident in accounting for long-term contracts are:
(1) A current period loss involved in a contract that, upon completion, is expected to produce a profit.
(2) A loss related to an unprofitable contract.

The first type of loss is actually an adjustment in the current period of gross profit recognized on the contract in prior periods. It arises when, during construction, there is a significant increase in the estimated total contract costs but the increase does not eliminate all profit on the contract. Under the percentage-of-completion method, the estimated cost increase necessitates a current period adjustment of previously recognized gross profit; the adjustment results in recording a current period loss. No adjustment is necessary under the completed-contract method because gross profit is only recognized upon completion of the contract.

Cost estimates at the end of the current period may indicate that a loss will result upon completion of the entire contract. Under both methods, the entire loss must be recognized in the current period.

12. The dollar amount of difference between the Construction in Process and the Billings on Construction in Process accounts is reported in the balance sheet as a current asset if a debit and as a current liability if a credit. When the balance in Construction in Process exceeds the billings, this excess is reported as a current asset, "Costs and Recognized Profit in Excess of Billings." When the billings exceed the Construction in Process balance, the excess is reported as a current liability, "Billings in Excess of Costs and Recognized Profit."

13. Under the installment-sales method, income recognition is deferred until the period of cash collection. At the end of each year, the appropriate gross profit rate is applied to the cash collections from each year's sales to determine the realized gross profit. Under the cost-recovery method, no income is recognized until cash payments by the buyer exceed the seller's cost of the inventory sold. After all costs have been recovered, all additional cash collections are included in income.

14. The two methods generally employed to account for cash received when cash collection of the sale price is not reasonably assured are: (1) the cost-recovery method and (2) the installment-sales method.

    The **cost-recovery method** is used when the seller has performed on the contract, but cash collection is highly uncertain. Equal amounts of revenue and expense are recognized as collections are made until all costs have been recovered; thereafter, any cash received is included in income.

    The **installment-sales method** is used when there is no reasonable basis for estimating the degree of collectibility. Revenue is recognized only as cash is collected. Unlike the cost-recovery method, a percentage of each cash collection is recorded as realized income.

15. The deposit method postpones recognizing a sale by treating the cash received from a buyer as a deposit. The deposit method is applied when the seller receives cash but has not performed under the contract and has no claim against the purchaser.

16. An installment sale is a special type of credit arrangement which provides for payment in periodic installments over a predetermined period of time and results from the sale of real estate, merchandise, or other personal property. In the ordinary credit sale, the collection interval is short (30–90 days) and title passes unconditionally to the buyer concurrently with the completion of the sale (delivery). In contrast, in an installment sale the cash down payment at the date of sale is followed by payments over a longer period of time (six months to several years), and in many states the transfer of title remains conditional until the debt is fully discharged.

17. Under the installment-sales method of accounting, emphasis is placed on collection rather than sale. Because of the unique characteristics of installment sales, particularly the longer collection period and higher risk of loss through bad debts, gross profit is considered to be realized in proportion to the collections on the installment accounts. Thus, under the installment-sales method, each collection on an installment account is regarded as a partial recovery of cost and a partial realization of gross profit (margin) in the same proportion that these two elements are present in the original selling price. Under the installment-sales method, accounts receivable, sales, and cost of sales are accounted for separately for regular and installment sales. Installment receivables are identified by year of sale so that the gross profit can be recognized in each period in proportion to the original year of sales' gross profit rate applied to current collections on installment accounts receivable.

18. In the application of the installment-sales method, most companies record operating expenses without regard to the fact that some portion of the year's gross profit is to be deferred revenue. This is often justified on the basis that: (1) these expenses do not follow sales as closely as does the cost of goods sold, and (2) accurate apportionment among periods would be so difficult as not to be justified by the benefits gained.

19.

Year	Cash Collected	X	*Gross Profit Percentage	=	Gross Profit Recognized
2006	$ 80,000		38%		$ 30,400
2007	320,000		38%		121,600
2008	100,000		38%		38,000
	$500,000				$190,000

*[($500,000 – $310,000) ÷ $500,000]

20. When interest is involved in installment sales, it should be separately accounted for as interest revenue distinct from the gross profit recognized on the installment sales collections during the period. The amount of interest recognized each period is dependent upon the installment payment schedule.

21. With respect to the income statement, the degree of detail to be reported frequently will vary, depending upon the magnitude of installment sales revenues in relation to total sales. If installment sales are relatively insignificant in amount, they may be merged with regular sales with no separate designation. In this case the realized gross profit on installment sales normally is
reported on the income statement as a separate item immediately below gross profit.

Alternatively, should installment sales represent a material amount of the total revenue of the business enterprise, additional detail may be required for a full and informative disclosure. In such cases it might be desirable to report on the income statement three columns as follows: (1) Total, (2) Regular Sales, and (3) Installment Sales. Obviously, many variations are possible and should be used to meet the necessities of information and full disclosure.

22. (a) Income (gross profit) on certain installment sales may be recognized on a basis of:

$$\frac{\text{Gross Profit}}{\text{Selling Price}} \text{ X Collections.}$$

In some cases where collection is uncertain, the cost-recovery method might be employed.

(b) The income on sales for future delivery is not recognized until title has passed to the buyer.

(c) When the consignee returns an “account sales” reporting the sale of the merchandise.

(d) Under the percentage of completion method:

$$\left(\frac{\text{Cost to Date}}{\text{Estimated Total Cost}} \text{ X Estimated Gross Profit}\right),$$

or when the contract is completed.

(e) During the periods in which the publications are issued.

23. Under the cost-recovery method, revenue is recognized (along with the relevant cost of goods sold) in the period of the sale. However, the gross profit is deferred and is not recognized in the income statement until cash payments received from the buyer exceed the cost of the merchandise sold.

In those periods in which the cash payments exceed the costs, the excess receipts (representing gross profits deferred) are reported as a separate item of revenue.

24. Under the deposit method, revenue is not recognized. The deposit method treats cash advances and other payments received as refundable deposits. The sales transaction is not considered complete and recognizable. Only after sufficient risks and rewards of ownership have been transferred and the sale is considered complete is one of the other revenue recognition methods discussed in the chapter applied to the sale transaction.

    The major difference is that in the installment-sales and cost-recovery methods, it is assumed that the seller has performed on the contract but cash collection is highly uncertain. Under the deposit method, the seller has not performed and no legitimate claim exists.

*25. It is improper to recognize the entire franchise fee as revenue at the date of sale when many of the services of the franchisor are yet to be performed and/or uncertainty exists regarding collection of the entire fee.

*26. In a franchise sale, the franchisor may record initial franchise fees as revenue only when the franchisor makes "substantial performance" of the services it is obligated to perform. Substantial performance occurs when the franchisor has no remaining obligation to refund any cash received or excuse any nonpayment of a note and has performed all the initial services required under the contract.

*27. Continuing franchise fees should be reported as revenue when they are earned and receivable from the franchisee, unless a portion of them have been designated for a particular purpose. In that case, the designated amount should be recorded as revenue, with the costs charged to an expense account. Continuing product sales would be accounted for in the same manner as would any other product sales.

*28. (a) If it is likely that the franchisor will exercise an option to purchase the franchised outlet, the initial franchise fee should not be recorded as a revenue but as a deferred credit. When the option is exercised, the deferred amount would reduce the franchisor's investment in the outlet.
    (b) When the franchise agreement allows the franchisee to purchase equipment and supplies at bargain prices from the franchisor, a portion of the initial franchise fee should be deferred. The deferred portion would be accounted for as an adjustment of the selling price when the franchisee subsequently purchases the equipment and supplies.

*29. A sale on consignment is the shipment of merchandise from a manufacturer (or wholesaler) to a dealer (or retailer) with title to the goods and the risk of sale being retained by the manufacturer who becomes the consignor. The consignee (dealer) is expected to exercise due diligence in caring for the merchandise and the dealer has full right to return the merchandise. The consignee receives a commission upon the sale and remits the balance of the cash collected to the consignor.

    The consignor recognizes a sale and the related revenue upon notification of sale from the consignee and receipt of the cash. The consigned goods are carried in the consignor's inventory, not the consignee's, until sold.

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 18-1

(a)	Sales Returns and Allowances	78,000	
	Accounts Receivable		78,000
(b)	Sales Returns and Allowances	27,000	
	Allowance for Estimated Sales Returns and Allowances		27,000
	[(15% X $700,000) – $78,000]		

BRIEF EXERCISE 18-2

Construction in Process	1,700,000	
Materials, Cash, Payables, etc.		1,700,000
Accounts Receivable	1,200,000	
Billings on Construction in Process		1,200,000
Cash	960,000	
Accounts Receivable		960,000
Construction in Process	680,000	
[($1,700,000 ÷ 5,000,000) X $2,000,000]		
Construction Expenses	1,700,000	
Revenue from Long-Term Contracts		2,380,000
($7,000,000,000 X 34%)		

BRIEF EXERCISE 18-3

Current Assets		
Accounts Receivable		$ 240,000
Inventories		
Construction in process	$2,450,000	
Less: Billings	1,400,000	
Costs and recognized profit in excess of billings		1,050,000

BRIEF EXERCISE 18-4

Construction in Process	1,700,000	
Materials, Cash, Payables, etc.		1,700,000
Accounts Receivable	1,200,000	
Billings on Construction in Process		1,200,000
Cash	960,000	
Accounts Receivable		960,000

BRIEF EXERCISE 18-5

Current Assets		
Accounts Receivable		$240,000
Inventories		
Construction in process	$1,715,000	
Less: Billings	1,000,000	
Costs and recognized profit in excess of billings		715,000

BRIEF EXERCISE 18-6

(a) Construction Expenses	278,000	
Construction in Process (Loss)		20,000*
Revenue from Long-Term Contracts		258,000
(b) Loss from Long-Term Contracts	20,000*	
Construction in Process (Loss)		20,000

*[$420,000 – ($278,000 + $162,000)]

BRIEF EXERCISE 18-7

Installment Accounts Receivable, 2010	150,000	
Installment Sales		150,000
Cash	54,000	
Installment Accounts Receivable, 2010		54,000
Cost of Installment Sales	102,000	
Inventory		102,000

BRIEF EXERCISE 18-7 (Continued)

Installment Sales	150,000	
Cost of Installment Sales		102,000
Deferred Gross Profit, 2010		48,000
Deferred Gross Profit, 2010	17,280	
Realized Gross Profit on Installment Sales (32% X $54,000)		17,280

BRIEF EXERCISE 18-8

Repossessed Merchandise	275	
Loss on Repossession	37*	
Deferred Gross Profit ($520 X 40%)	208	
Installment Accounts Receivable		520

*[$275 – ($520 – $208)]

BRIEF EXERCISE 18-9

Current Assets	
Installment accounts receivable due in 2011	$ 65,000
Installment accounts receivable due in 2012	110,000
	$175,000
Current Liabilities	
Deferred gross profit ($23,400 + $41,800)	$ 65,200

BRIEF EXERCISE 18-10

2010	$0
2011	$2,000 ($15,000 – $13,000)
2012	$5,000

*BRIEF EXERCISE 18-11

Cash	25,000	
Notes Receivable	50,000	
Discount on Notes Receivable		8,598
Unearned Franchise Fees ($25,000 + $41,402)		66,402

*BRIEF EXERCISE 18-12

Cash	18,850*	
Advertising Expense	500	
Commission Expense	2,150	
Revenue from Consignment Sales		21,500

*[$21,500 – $500 – ($21,500 X 10%)]

Cost of Goods Sold	13,200	
Inventory on Consignment		13,200
[60% X ($20,000 + $2,000)]		

SOLUTIONS TO EXERCISES

EXERCISE 18-1 (15–20 minutes)

(a) **Uddin could recognize revenue at the point of sale based upon the time of shipment because the books are sold f.o.b. shipping point. Because of the return policy one might argue in favor of the cash collection basis. Because the returns can be estimated, one could argue for shipping point less estimated returns.**

(b) **Based on the available information and lack of any information indicating that any of the criteria in GAAP were not met, the correct treatment is to report revenue at the time of shipment as the gross amount less the 12% normal return factor. This is supported by the legal test of transfer of title and the criteria in GAAP. One could be very conservative and use the 30% maximum return allowance.**

(c)	**Accounts Receivable**	**15,000,000**	
	Sales Revenue—Texts		**15,000,000**
	Sales Returns* ($15,000,000 X 12%)	**1,800,000**	
	Allowance for Sales Returns		**1,800,000**
(d)	**Sales Returns***	**200,000**	
	Allowance for Sales Returns	**1,800,000**	
	Accounts Receivable		**2,000,000**
	Cash	**13,000,000**	
	Accounts Receivable		**13,000,000**

***A debit to Sales Revenue—Texts or Sales Returns could be made here.**

EXERCISE 18-2 (15–20 minutes)

(a)	**1. 6/3 Accounts Receivable—Ann Mount**	**8,000**	
	Sales		**8,000**

EXERCISE 18-2 (Continued)

	6/5	Sales Returns and Allowances	600	
		Accounts Receivable—Ann Mount		600
	6/7	Transportation-Out	24	
		Cash		24
	6/12	Cash	7,252	
		Sales Discounts (2% X $7,400)	148	
		Accounts Receivable—Ann Mount		7,400
2.	6/3	Accounts Receivable—Ann Mount	7,840	
		Sales [$8,000 – (2% X $8,000)]		7,840
	6/5	Sales Returns and Allowances	588	
		Accounts Receivable—Ann Mount [$600 – (2% x $600)]		588
	6/7	Transportation-Out	24	
		Cash		24
	6/12	Cash	7,252	
		Accounts Receivable—Ann Mount		7,252
(b)	8/5	Cash	7,400	
		Accounts Receivable—Ann Mount		7,252
		Sales Discounts Forfeited (2% X $7,400)		148

EXERCISE 18-3 (10–15 minutes)

(a)	Cash (2010 slips) (300 X $800)	240,000	
	Dock Rent Revenue		240,000
	Cash (2011 slips) [200 X $800 X (1.00 – .05)]	152,000	
	Unearned Revenue (current)		152,000
	Cash (2012 slips) [60 X $800 X (1.00 – .20)]	38,400	
	Unearned Revenue (noncurrent)		38,400

EXERCISE 18-3 (Continued)

(b) The marina operator should recognize that advance rentals generated $190,400 ($152,000 + $38,400) of cash in exchange for the marina's promise to deliver future services. In effect, this has reduced future cash flow by accelerating payments from boat owners. Also, the price of rental services has effectively been reduced. The current cash bonanza does not reflect current earned income. The future costs of operation must be covered, in part, from this accelerated cash inflow. On a present value basis, the granting of these discounts seems ill-advised unless interest rates were to skyrocket so that the interest earned would offset the discounts provided.

EXERCISE 18-4 (20–25 minutes)

(a) Gross profit recognized in:

	2010		2011		2012	
Contract price		$1,600,000		$1,600,000		$1,600,000
Costs:						
Costs to date	$400,000		$825,000		$1,070,000	
Estimated costs to complete	600,000	1,000,000	275,000	1,100,000	0	1,070,000
Total estimated profit		600,000		500,000		530,000
Percentage completed to date		40%*		75%**		100%
Total gross profit recognized		240,000		375,000		530,000
Less: Gross profit recognized in previous years		0		240,000		375,000
Gross profit recognized in current year		$ 240,000		$ 135,000		$ 155,000

*$400,000 ÷ $1,000,000

**$825,000 ÷ $1,100,000

EXERCISE 18-4 (Continued)

(b)

Construction in Process ($825,000 – $400,000)....	425,000	
Materials, Cash, Payables, etc.		425,000
Accounts Receivable ($900,000 – $300,000)	600,000	
Billings on Construction in Process		600,000
Cash ($810,000 – $270,000)...................................	540,000	
Accounts Receivable		540,000
Construction Expenses...	425,000	
Construction in Process	135,000	
Revenue from Long-Term Contracts..............		560,000*

*$1,600,000 X (75% – 40%)

(c) Gross profit recognized in:

	2010	2011	2012
Gross profit	$–0–	$–0–	$530,000*

*$1,600,000 – $1,070,000

EXERCISE 18-5 (10–15 minutes)

(a)

Contract billings to date...	$61,500
Less: Accounts receivable 12/31/10	18,000
Portion of contract billings collected.....................	$43,500

(b) $\frac{\$19,500}{\$65,000} = 30\%$

(The ratio of gross profit to revenue recognized in 2010.)

$1,000,000 X .30 = $300,000

(The initial estimated total gross profit before tax on the contract.)

EXERCISE 18-6 (10–12 minutes)

DOUGHERTY INC.
Computation of Gross Profit to be Recognized on Uncompleted Contract
Year Ended December 31, 2010

Total contract price	
Estimated contract cost at completion	
($800,000 + $1,200,000)	$2,000,000
Fixed fee	450,000
Total	2,450,000
Total estimated cost	2,000,000
Gross profit	450,000
Percentage of completion ($800,000 ÷ $2,000,000)	40%
Gross profit to be recognized ($450,000 X 40%)	$ 180,000

EXERCISE 18-7 (25–30 minutes)

(a) 1.

Gross profit recognized in 2010:		
Contract price		$1,200,000
Costs:		
Costs to date	$280,000	
Estimated additional costs	520,000	800,000
Total estimated profit		400,000
Percentage completion to date		
($280,000/$800,000)		35%
Gross profit recognized in 2010		$ 140,000
Gross profit recognized in 2011:		
Contract price		$1,200,000
Costs:		
Costs to date	$600,000	
Estimated additional costs	200,000	800,000
Total estimated profit		400,000
Percentage completion to date		
($600,000/$800,000)		75%
Total gross profit recognized		300,000
Less: Gross profit recognized in 2010		140,000
Gross profit recognized in 2011		$ 160,000

EXERCISE 18-7 (Continued)

2.

Construction in Process ($600,000 – $280,000) ...	320,000	
Materials, Cash, Payables, etc.		320,000
Accounts Receivable ($500,000 – $150,000)........	350,000	
Billings on Construction in Process............		350,000
Cash ($320,000 – $120,000)	200,000	
Accounts Receivable		200,000
Construction in Process..	160,000	
Construction Expenses	320,000	
Revenues from Long-Term Contracts		480,000*

*$1,200,000 X [($600,000 – $280,000) ÷ $800,000]

(b) Income Statement (2011)—

Gross profit on long-term construction contract..........	$160,000

Balance Sheet (12/31/11)—

Current assets:

Receivables—construction in process	$180,000*
Inventories—construction in process totaling $900,000** less billings of $500,000....................	$400,000

*$180,000 = $500,000 – $320,000

**Total cost to date	$600,000
2010 Gross profit	140,000
2011 Gross profit	160,000
	$900,000

EXERCISE 18-8 (15–20 minutes)

(a) 2010—$\frac{\$640,000}{\$1,600,000}$ X $2,200,000 = $880,000

2011—$2,200,000 (contract price) minus $880,000 (revenue recognized in 2010) = $1,320,000 (revenue recognized in 2011).

EXERCISE 18-8 (Continued)

(b) All $2,200,000 of the contract price is recognized as revenue in 2011.

(c) Using the percentage-of-completion method, the following entries would be made:

Construction in Process..	640,000	
Materials, Cash, Payables, etc.		640,000
Accounts Receivable	420,000	
Billings on Construction in Process.............		420,000
Cash	350,000	
Accounts Receivable		350,000
Construction in Process..	240,000*	
Construction Expenses	640,000	
Revenue from Long-Term Contracts [from (a)]..		880,000

*[$2,200,000 – ($640,000 + $960,000)] X ($640,000 ÷ $1,600,000)

(Using the completed-contract method, all the same entries are made except for the last entry. No income is recognized until the contract is completed.)

EXERCISE 18-9 (15–25 minutes)

(a) Computation of Gross Profit to Be Recognized under Completed-Contract Method.

No computation necessary. No gross profit to be recognized prior to completion of contract.

Computation of Billings on Uncompleted Contract in Excess of Related Costs under Completed-Contract Method.

Construction costs incurred during the year	$ 1,185,800
Partial billings on contract (25% X $6,000,000)	(1,500,000)
	$ (314,200)

EXERCISE 18-9 (Continued)

(b) <u>Computation of Gross Profit to Be Recognized under Percentage-of-Completion Method</u>.

Total contract price	$6,000,000
Total estimated cost ($1,185,800 + $4,204,200)	5,390,000
Estimated total gross profit from contract	610,000
Percentage-of-completion ($1,185,800/$5,390,000)	22%
Gross profit to be recognized during the year ($610,000 X 22%)	$ 134,200

<u>Computation of Billings on Uncompleted Contract in Excess of Related Costs and Recognized Profit under Percentage-of-Completion Method</u>.

Construction costs incurred during the year	$ 1,185,800
Gross profit to be recognized during the year (above)	134,200
Total charged to construction-in-process	1,320,000
Partial billings on contract (25% X $6,000,000)	(1,500,000)
	$ (180,000)

EXERCISE 18-10 (15–25 minutes)

BERSTLER CONSTRUCTION COMPANY
Partial Income Statement
Year Ended December 31, 2010

Revenue from long-term contracts (Project 3)	$520,000
Costs of construction (Project 3)	330,000
Gross profit	190,000
Loss on long-term contract (Project 1)*	(20,000)

*Computation of loss (Project 1)

Contract costs through 12/31/10	$450,000
Estimated costs to complete	130,000
Total estimated costs	580,000
Total contract price	560,000
Loss recognized in 2010	$ (20,000)

EXERCISE 18-10 (Continued)

BERSTLER CONSTRUCTION COMPANY
Partial Balance Sheet
December 31, 2010

Current assets:		
Accounts receivable ($1,080,000 – $990,000)		$90,000
Inventories		
Construction in process		
($450,000 – $20,000)	$430,000*	
Less: Billings	360,000	
Unbilled contract costs (Project 1)		70,000
Current liabilities:		
Billings ($220,000) in excess of contract		
costs ($126,000) (Project 2)		94,000

*The loss of $20,000 was subtracted from the construction in process account.

EXERCISE 18-11 (15–20 minutes)

(a) Computation of gross profit recognized:

	2010	2011
$370,000 X 34%*	$125,800	
$350,000 X 34%*		$119,000
$450,000 X 32%**		144,000
	$125,800	$263,000

*($900,000 – $594,000) ÷ $900,000
**($1,000,000 – $680,000) ÷ $1,000,000

(b)

Installment Accounts Receivable—2011	1,000,000	
Installment Sales		1,000,000
Cost of Installment Sales.....................................	680,000	
Inventory		680,000

EXERCISE 18-11 (Continued)

Cash	800,000	
Installment Accounts Receivable, 2010		350,000
Installment Accounts Receivable, 2011		450,000
Installment Sales	1,000,000	
Cost of Installment Sales		680,000
Deferred Gross Profit on Installment Sales, 2011		320,000
Deferred Gross Profit on Installment Sales, 2010	119,000	
Deferred Gross Profit on Installment Sales, 2011	144,000	
Realized Gross Profit on Installment Sales		263,000
Realized Gross Profit on Installment Sales	263,000	
Income Summary		263,000

EXERCISE 18-12 (15–20 minutes)

(a)

Deferred Gross Profit, 2010	2,800*	
Deferred Gross Profit, 2011	12,800**	
Deferred Gross Profit, 2012	69,400***	
Realized Gross Profit		85,000
(To recognize gross profit on installment sales)		

*Adjustment for deferred gross profit—2010:

Balance in deferred gross profit account prior to adjustment	$ 7,000
Balance after adjustment ($12,000 X 35%)	4,200
Adjustment	$ 2,800

**Adjustment for deferred gross profit—2011:

Balance in deferred gross profit account prior to adjustment	$26,000
Balance after adjustment ($40,000 X 33%)	13,200
Adjustment	$12,800

***Adjustment for deferred gross profit—2012:

Balance in deferred gross profit account prior to adjustment	$95,000
Balance after adjustment ($80,000 X 32%)	25,600
Adjustment	$69,400

EXERCISE 18-12 (Continued)

(b) Cash collected in 2012 on accounts receivable of 2010:
$2,800/35% = $8,000.
Cash collected in 2012 on accounts receivable of 2011:
$12,800/33% = $38,787.88.
Cash collected in 2012 on accounts receivable of 2012:
$69,400/32% = $216,875.

EXERCISE 18-13 (15–20 minutes)

Gross Profit Rate—2010: ($750,000 – $510,000) ÷ $750,000 = 32%

Gross Profit Rate—2011: ($840,000 – $588,000) ÷ $840,000 = 30%

(a) Balance, December 31, 2010:

Deferred Gross Profit Account—2010 Installment Sales	
Gross profit on installment sales—2010 ($750,000 – $510,000)	$240,000
Less: Gross profit realized in 2010 ($310,000 X 32%)	(99,200)
Balance at 12/31/10	$140,800

Balance, December 31, 2011:

Deferred Gross Profit Account—2010 Installment Sales	
Balance at 12/31/10	$140,800
Less: Gross profit realized in 2011 on 2010 sales ($300,000 X 32%)	(96,000)
Balance at 12/31/11	$ 44,800

Deferred Gross Profit Account—2011 Installment Sales	
Gross profit on installment sales—2011 ($840,000 – $588,000)	$252,000
Less: Gross profit realized in 2011 on 2011 sales ($400,000 X 30%)	(120,000)
Balance at 12/31/11	$132,000

EXERCISE 18-13 (Continued)

(b)	Repossessed Merchandise	8,000	
	Deferred Gross Profit ($12,000 X 32%)	3,840	
	Loss on Repossession	160*	
	Installment Accounts Receivable		12,000
	(To record the default and the repossession of the merchandise)		

*[$8,000 – ($12,000 – $3,840)]

EXERCISE 18-14 (10–15 minutes)

BECKER CORPORATION
Income before Income Taxes on Installment-Sale Contract
For the Year Ended December 31, 2010

Sales	$586,842
Cost of sales	425,000
Gross profit	161,842
Interest revenue (Schedule 1)	24,342
Income before income taxes	$186,184

Schedule 1
Computation of Interest Revenue on Installment-Sale Contract

Cash selling price	$586,842
Deduct payment made July 1, 2010	100,000
	486,842
Interest rate	X 10%
Annual interest	$ 48,684
Interest July 1, 2010 to December 31, 2010 ($48,684 X 1/2)	$ 24,342

EXERCISE 18-15 (10–15 minutes)

(a) Realized gross profit recognized in 2011 under the installment-sales method of accounting is $83,000. When gross profit is expressed as a percentage of cost, it must be converted to percentage of sales to compute the realized gross profit under the installment-sales method of accounting. Thus, 2010 and 2011 gross profits as a percentage of sales are 20% and 21.875% respectively.

EXERCISE 18-15 (Continued)

Sale Year	Gross Profit Percentage	2011 Collections	2011 Realized Profit
2010	.25/(1.00 + .25) = 20%	$240,000	$48,000
2011	.28/(1.00 + .28) = 21.875%	160,000	35,000
		TOTAL	$83,000

(**Note to instructor**: The problem provides gross profit as a percent of cost.)

(b) The balance of "Deferred Gross Profit" could be reported on the balance sheet for 2011:

1. As a current liability on the theory that it is related to Installment Accounts Receivables that are normally treated as current assets;

2. As a deferred credit between liabilities and stockholders' equity. This treatment is criticized because there is no obligation to outsiders; or

3. As an adjustment or offset to the related Installment Accounts Receivable. This is because the deferred gross profit is a part of revenue from installment sales not yet realized. The related receivable will be overstated unless the deferred gross profit is deducted. On the other hand, the amount of deferred gross profit has no direct relationship with the estimated collectibility of the accounts receivable.

It is not a settled matter as to the proper classification of "deferred gross profit" on the balance sheet when the installment-sales method of accounting is used to measure income. As indicated in the text, the FASB in Statement of Financial Accounting Concepts No. 6 indicates that it conceptually is an asset valuation. We support the FASB position.

(c) Gross profit as a percent of sales in 2010 is 20% (as computed in (a) above); gross profit therefore is $96,000 ($480,000 X .20) and the cost of 2010 sales is $384,000 ($480,000 – $96,000). Because the amounts collected in 2010 ($130,000) and 2011 ($240,000) do not exceed the total cost of $384,000, no profit is recognized in 2010 or 2011 on 2010 sales. Also, no profit is recognized on 2011 sales since the collections of $160,000 do not exceed the total cost of $484,375 [$620,000 X (1 – .21875)].

EXERCISE 18-16 (15–20 minutes)

(a) Computation of gross profit realized—cost-recovery method:

Year	Cash Received	Original Cost Recovered	Balance of Unrecovered Cost	Gross Profit Realized
Beginning balance	—	—	$150,000	—
2010	$120,000	$120,000	30,000	$0
2011	90,000	30,000	0	60,000
2012	40,000	0	0	40,000

(b) Computation of gross profit realized—installment-sales method:

Gross profit rate: ($250,000 – $150,000) ÷ $250,000 = 40%

2010 Gross profit realized: $120,000 X 40% = $48,000
2011 Gross profit realized: $ 90,000 X 40% = $36,000
2012 Gross profit realized: $ 40,000 X 40% = $16,000

EXERCISE 18-17 (10–15 minutes)

1.	Repossessed Merchandise	800	
	Deferred Gross Profit (30% X $1,080*)	324	
	Installment Accounts Receivable		1,080*
	Gain on Repossession [$800 – ($1,080 – $324)]		44

*Computation of installment accounts receivable balance.

Selling price	$1,800
Down payment (20% X $1,800)	(360)
	1,440
Installment payments (4/16 X $1,440)	(360)
Installment accounts receivable balance	$1,080

2.	Repossessed Merchandise	750	
	Deferred Gross Profit (20% X $780*)	156	
	Installment Accounts Receivable		780*
	Gain on Repossession [$750 – ($780 – $156)]		126

*Computation of installment accounts receivable balance.

Selling price	$1,500
Down payment	(240)
	1,260
Monthly payments ($80 X 6)	(480)
Installment accounts receivable balance	$ 780

EXERCISE 18-18 (15–20 minutes)

Cash	500	
Installment Accounts Receivable		500
Deferred Gross Profit (30% X $500)	150	
Realized Gross Profit		150
Repossessed Merchandise	590	
Deferred Gross Profit (30% X $1,300)	390	
Loss on Repossession	320*	
Installment Accounts Receivable ($1,800 – $500)		1,300
Repossessed Merchandise	60	
Cash		60

*[$590 – ($1,300 – $390)]

*EXERCISE 18-19 (14–18 minutes)

(a)	Cash	28,000	
	Notes Receivable	42,000	
	Discount on Notes Receivable [$42,000 – (2.48685 X $14,000)]		7,184
	Revenue from Franchise Fees		62,816
(b)	Cash	28,000	
	Unearned Franchise Fees		28,000
(c)	Cash	28,000	
	Notes Receivable	42,000	
	Discount on Notes Receivable		7,184
	Revenue from Franchise Fees		28,000
	Unearned Franchise Fees ($14,000 X 2.48685)		34,816

(Calculations rounded)

***EXERCISE 18-20 (12–16 minutes)**

(a)	Down payment made on 1/1/10		$10,000.00
	Present value of an ordinary annuity ($8,000 X 3.69590)		29,567.20
	Total revenue recorded by Campbell and total acquisition cost recorded by Lesley Benjamin		$39,567.20
(b)	Cash	10,000.00	
	Notes Receivable	40,000.00	
	Discount on Notes Receivable		10,432.80
	Unearned Franchise Fees		$39,567.20

(c) 1. $10,000 cash received from down payment. ($29,567.20 is recorded as unearned revenue from franchise fees.)
2. $10,000 cash received from down payment.
3. None. ($10,000 is recorded as unearned revenue from franchise fees.)

***EXERCISE 18-21 (15–20 minutes)**

(a)	Inventoriable costs:		
	80 units shipped at cost of $500 each		$40,000
	Freight		840
	Total inventoriable cost		$40,840
	40 units on hand (40/80 X $40,840)		$20,420
(b)	Computation of consignment profit:		
	Consignment sales (40 X $750)		$30,000
	Cost of units sold (40/80 X $40,840)		(20,420)
	Commission charged by consignee (6% X $30,000)		(1,800)
	Advertising cost		(200)
	Installation costs		(320)
	Profit on consignment sales		$ 7,260
(c)	Remittance of consignee:		
	Consignment sales		$30,000
	Less: Commissions	$1,800	
	Advertising	200	
	Installation	320	2,320
	Remittance from consignee		$27,680

TIME AND PURPOSE OF PROBLEMS

Problem 18-1 (Time 30–45 minutes)
Purpose—the student defines and describes the point of sale, completion of production, percentage-of-completion, and installment-sales methods of revenue recognition. Then the student computes revenue to be recognized in situations using a percentage-of-completion method, when the right of return exists, and using the point of sale method.

Problem 18-2 (Time 20–25 minutes)
Purpose—to provide the student with an understanding of both the percentage-of-completion and completed-contract methods of accounting for long-term construction contracts. The student is required to compute the estimated gross profit that would be recognized during each year of the construction period under each of the two methods.

Problem 18-3 (Time 25–35 minutes)
Purpose—to provide the student with an understanding of the percentage-of-completion method of accounting for long-term construction contracts. The student is required to compute the estimated gross profit during the three-year period using the percentage-of-completion method, and to prepare the necessary journal entries to record the events which occurred during the last year.

Problem 18-4 (Time 20–30 minutes)
Purpose—to provide the student with an understanding of both the accounting procedures involved under the percentage-of-completion method and the respective balance sheet presentation for long-term construction contracts. The student is required to compute the estimated gross profit realized during the construction periods, plus prepare a partial balance sheet showing the balances in the receivable and inventory accounts.

Problem 18-5 (Time 25–30 minutes)
Purpose—to provide the student with a multiple-year long-term project problem (with an interim loss) applying the percentage-of-completion method. The student is also required to prepare the income statement and balance sheet presentations for this uncompleted project.

Problem 18-6 (Time 20–25 minutes)
Purpose—to provide the student with a long-term construction contract problem that requires the recognition of a loss during an interim year on a contract that is profitable overall. This problem requires application of both the percentage-of-completion method and the completed-contract method to an interim loss situation.

Problem 18-7 (Time 20–25 minutes)
Purpose—to provide the student with a long-term construction contract problem that requires the recognition of a loss during an interim year on an unprofitable contract overall. This problem requires application of both the percentage-of-completion method and the completed-contract method to this unprofitable contract.

Problem 18-8 (Time 25–30 minutes)
Purpose—to provide the student with an understanding of the proper accounting under the installment-sales method. The student is required to compute the realized gross profit for each of the years, plus prepare the necessary journal entries to record the transactions applying the installment-sales method of accounting.

Problem 18-9 (Time 30–35 minutes)
Purpose—to provide the student with an understanding of the installment-sales method of accounting for sales transactions. The student is required to determine the net income for each of three years, utilizing the installment-sales method.

Time and Purpose of Problems (Continued)

Problem 18-10 (Time 30–40 minutes)
Purpose—to provide the student with an understanding of the applications of the installment-sales method of accounting for sales transactions. The student is required to analyze the trial balance and accompanying information of a company, and to compute the rate of gross profit on the company's installment sales. The student is also asked to prepare both the closing entries under the installment-sales method of accounting and an income statement for the year, including only the realized gross profit in the statement.

Problem 18-11 (Time 20–25 minutes)
Purpose—to provide the student with an understanding of the proper accounting on the installment-sales basis. The student is required to prepare the respective journal entries to reflect the sales transactions, including the entry to record the gross profit realized during the year.

Problem 18-12 (Time 40–50 minutes)
Purpose—to provide the student with an understanding of the applications of the installment-sales method of accounting. The student is required to analyze the company's trial balance and accompanying information, and to prepare the adjusting and closing entries for the year. The student is also asked to prepare an income statement for the year, including only the realized gross profit in the statement.

Problem 18-13 (Time 20–25 minutes)
Purpose—to provide the student with an understanding of the proper entries under the installment-sales method of accounting. The student is required to prepare the necessary journal entries to reflect the respective sales transactions, including that of a merchandise repossession.

Problem 18-14 (Time 50–60 minutes)
Purpose—to provide the student with an understanding of the installment-sales method of accounting for sales. The student is required to prepare schedules for the cost of goods sold on installments, the gross profit percentage on the sales, the gain or loss on repossession, and the net income from installment sales.

Problem 18-15 (Time 20–30 minutes)
Purpose—to provide the student with a problem requiring the computation of "cost of uncompleted contract in excess of related billings" or "billings on uncompleted contract in excess of related costs" and "profit or loss." Each of these computations is required for each year of the three-year contract applying the completed-contract method.

Problem 18-16 (Time 40–50 minutes)
Purpose—to provide the student with an understanding of how to write a letter comparing the percentage-of-completion method to the completed-contract method.

Problem 18-17 (Time 50–60 minutes)
Purpose—to provide the student with an understanding of how to compute gross profit on five different long-term contracts (using both percentage-of-completion and completed contract methods). In addition, partial balance sheet and income statement data must be prepared.

SOLUTIONS TO PROBLEMS

PROBLEM 18-1

(a) 1. The point of sale method recognizes revenue when the earnings process is complete and an exchange transaction has taken place. This can be the date goods are delivered, when title passes, when services are rendered and billable, or as time passes (e.g., rent or royalty income). This method most closely follows the accrual accounting method and is in accordance with generally accepted accounting principles (GAAP).

2. The completion-of-production method recognizes revenue only when the project is complete and the contract is completed. This is used primarily with short-term contracts, or with long-term contracts when there is considerable difficulty in estimating the costs remaining to complete a project. The advantage of this method is that income is recognized on final results, not estimates. The disadvantage is that when the contract extends over more than one accounting period, current performance on the project is not recognized and earnings are distorted. It is acceptable according to GAAP only in the extraordinary circumstances when forecasting the amount of work completed to date is not possible.

3. The percentage-of-completion method of revenue recognition is used on long-term projects, usually construction. To apply it, the following conditions must exist:

(i) A firm contract price with a high probability of collection.

(ii) A reasonably accurate estimate of costs (and, therefore, of gross profit).

(iii) A way to reasonably estimate the extent of progress to completion of the project.

Gross profit is recognized in proportion to the work completed. The progress toward contract completion is the revenue-generating event. Normally, progress is measured as the percentage of actual costs to date to estimated total costs. This percentage is applied to estimated gross profit to indicate the total profit which should be recognized to that date. That total less the income that was recognized in previous periods is the amount recognized in the current period. In the final period, the actual total profit is known and the difference between this amount and profit previously recognized is shown as profit of the period.

This method is in accordance with generally accepted accounting principles for long-term projects when estimates are dependable.

4. The installment-sales method may be applicable when the sales price is received over an extended period of time. The installment-sales method recognizes revenue as the cash is collected and is used when the collection of the sales price is not reasonably assured. This method is commonly used for tax purposes, but it is not in accordance with GAAP, except in certain situations, because it violates accrual basis accounting. The installment-sales method can be used in special circumstances when collectibility is very unsure.

(b) Depp Construction

A change of cost estimates calls for a revision of revenue and profit to be recognized in the period in which the change was made (in this case, the first period).

Contract price		$30,000,000
Costs:		
Actual costs to 11/30/10	$ 7,200,000	
Estimated costs to complete	16,800,000	
Total cost		24,000,000
Estimated profit		$ 6,000,000
Percentage of contract completed ($7,200,000 ÷ $24,000,000)		30%
Revenue to be recognized in 2010 ($30,000,000 X 30%)		$ 9,000,000

PROBLEM 18-1 (Continued)

Dement Publishing Division

Sales—fiscal 2010	$7,000,000
Less: Sales returns and allowances (20%)	1,400,000
Net sales—revenue to be recognized in fiscal 2010	$5,600,000

Although distributors can return up to 30 percent of sales, prior experience indicates that 20 percent of sales is the expected average amount of returns. The collection of 2009 sales has no impact on fiscal 2010 revenue. The 21 percent of returns on the initial $5,500,000 of 2010 sales confirms that 20 percent of sales will provide a reasonable estimate.

Ankiel Securities Division

Revenue for fiscal 2010 = $5,200,000.

The revenue is the amount of goods actually billed and shipped when revenue is recognized at point of sale (terms of F.O.B. factory). Orders for goods do not constitute sales. Down payments are not sales. The actual freight costs are expenses made by the seller that the buyer will reimburse at the time s/he pays for the goods.

Commissions and warranty returns are also selling expenses. Both of these expenses will be accrued and will appear in the operating expenses section of the income statement.

PROBLEM 18-2

(a)

	2010	2011	2012
Contract price	$900,000	$900,000	$900,000
Less estimated cost:			
Costs to date	270,000	450,000	610,000
Estimated cost to complete	330,000	150,000	—
Estimated total cost	600,000	600,000	610,000
Estimated total gross profit	$300,000	$300,000	$290,000
Gross profit recognized in—			
2010: $\frac{\$270,000}{\$600,000}$ X $300,000 =	$135,000		
2011: $\frac{\$450,000}{\$600,000}$ X $300,000 =		$225,000	
Less 2010 recognized gross profit		135,000	
Gross profit in 2011		$ 90,000	
2012: Less 2010–2011 recognized gross profit			225,000
Gross profit in 2012			$ 65,000

(b) In 2010 and 2011, no gross profit would be recognized.

Total billings	$900,000
Total cost	610,000
Gross profit recognized in 2012	$290,000

PROBLEM 18-3

(a) Gross profit recognized in:

	2010		2011		2012	
Contract price		$3,000,000		$3,000,000		$3,000,000
Costs:						
Costs to date	$ 600,000		$1,560,000		$2,100,000	
Estimated costs to complete	1,400,000	2,000,000	520,000	2,080,000	0	2,100,000
Total estimated profit		1,000,000		920,000		900,000
Percentage completed to date		30%*		75%**		100%
Total gross profit recognized		300,000		690,000		900,000
Less: Gross profit recognized in previous years		0		300,000		690,000
Gross profit recognized in current year		$ 300,000		$ 390,000		$ 210,000

*$600,000 ÷ $2,000,000
**$1,560,000 ÷ $2,080,000

(b)

Construction in Process ($2,100,000 – $1,560,000) ...	540,000	
Materials, Cash, Payables, etc.		540,000
Accounts Receivable ($3,000,000 – $2,000,000).....	1,000,000	
Billings on Construction in Process................		1,000,000
Cash ($2,850,000 – $1,950,000)	900,000	
Accounts Receivable		900,000
Construction Expenses	540,000	
Construction in Process...	210,000	
Revenue from Long-Term Contracts		750,000*

*$3,000,000 X (100% – 75%)

Billings on Construction in Process	3,000,000	
Construction in Process		3,000,000

PROBLEM 18-3 (Continued)

(c)

CHANCE COMPANY
Balance Sheet (Partial)
December 31, 2011

Current assets:		
Accounts receivable		
($2,000,000 – $1,950,000)		**$ 50,000**
Inventories		
Construction in process		
($1,560,000 + $690,000)	**$2,250,000**	
Less: Billings	**2,000,000**	
Costs and recognized profit		
in excess of billings		**250,000**

PROBLEM 18-4

(a)

	2010	2011	2012
Contract price	$6,600,000	$6,600,000	$6,510,000
Less estimated cost:			
Costs to date	1,620,000	3,850,000	5,500,000
Estimated cost to complete	3,780,000	1,650,000	—
Estimated total cost	5,400,000	5,500,000	5,500,000
Estimated total gross profit	$1,200,000	$1,100,000	$1,010,000

Gross profit recognized in—

2010: $\frac{\$1{,}620{,}000}{\$5{,}400{,}000}$ X $1,200,000 = $360,000

2011: $\frac{\$3{,}850{,}000}{\$5{,}500{,}000}$ X $1,100,000 = $770,000

	2011	2012
2011: $\frac{\$3{,}850{,}000}{\$5{,}500{,}000}$ X $1,100,000 =	$770,000	
Less 2010 recognized gross profit	360,000	
Gross profit in 2011	$410,000	
2012: Less 2010–2011 recognized gross profit		770,000
Gross profit in 2012		$240,000

(b)

HEWITT CONSTRUCTION COMPANY
Balance Sheet
December 31, 2011

Current assets:		
Accounts receivable ($3,300,000 – $2,800,000)		$ 500,000
Inventories		
Construction in process	$4,620,000*	
Less: Billings	3,300,000	
Costs and recognized profit in excess of billings		1,320,000

*$6,600,000 X ($3,850,000 ÷ $5,500,000)

PROBLEM 18-5

(a) The completed-contract method of revenue recognition recognizes income only upon completion of a project or shipment of a product. All associated costs are expensed at the point of sale, and there are no interim charges or credits to income. Completed-contract revenue recognition is used for long-term projects when estimates of revenue and costs are not reliable.

The percentage-of-completion method of revenue recognition recognizes income and associated costs in each accounting period based upon progress. This method is preferred for long-term projects when estimates of revenues and costs are reasonably dependable. Under the percentage-of-completion method, the current status of uncompleted contracts is reflected on the financial statements.

(b) Using the data provided for the Bluestem Tractor Plant, and on the assumption that the percentage-of-completion method of revenue recognition is used, the calculations of RCB's revenue and gross profit for 2010, 2011, and 2012 under three sets of circumstances are presented below.

1. Assuming that all costs are incurred, all billings to customers are made, and all collections from customers are received within 30 days of billing, the RCB's revenue, cost of sales, and gross profit for 2010, 2011, and 2012, are calculated as follows:

<u>Percentage-of-Completion</u>
($000 omitted)

Year	Contract Price	Costs to Date	Estimated Total Costs	Estimated Gross Profit (Col. 2–Col. 4)	Percent Complete (Col. 3/Col. 4)
(1)	(2)	(3)	(4)	(5)	(6)
2010	$8,000	$1,600	$6,400*	$1,600	25%
2011	8,000	4,480	6,400	1,600	70%
2012	8,000	6,400	6,400	1,600	100%

*($1,600 + $2,880 + $1,920)

PROBLEM 18-5 (Continued)

Revenue recognition

Year	Contract Price	Percent Complete	Revenue Recognizable	Less Prior Year(s)	Current Year
2010	$8,000	25%	$2,000	—	$2,000
2011	8,000	70%	5,600	$2,000	3,600
2012	8,000	100%	8,000	5,600	2,400

Profit recognition

Year	Estimated Profit	Percent Complete	Profit Recognizable	Less Prior Year(s)	Current Year
2010	$1,600	25%	$ 400	—	$400
2011	1,600	70%	1,120	$ 400	720
2012	1,600	100%	1,600	1,120	480

2. Assuming the same facts as in Instruction (b)1., but that cost overruns of $800,000 were experienced in 2010, RCB's revenue, costs of sales, and gross profit for 2010, 2011, and 2012 were calculated as follows:

Percentage-of-Completion
($000 omitted)

Year	Contract Price	Costs to Date	Estimated Total Costs	Estimated Gross Profit (Col. 2–Col. 4)	Percent Complete (Col. 3/Col. 4)
(1)	(2)	(3)	(4)	(5)	(6)
2010	$8,000	$2,400	$7,200*	$800	33.33%
2011	8,000	5,280	7,200	800	73.33%
2012	8,000	7,200	7,200	800	100%

*($2,400 + $2,880 + $1,920)

Revenue recognition

Year	Contract Price	Percent Complete	Revenue Recognizable	Less Prior Year(s)	Current Year
2010	$8,000	33.33%	$2,666.4	—	$2,666.4
2011	8,000	73.33%	5,866.4	$2,666.4	3,200.0
2012	8,000	100%	8,000	5,866.4	2,133.6

PROBLEM 18-5 (Continued)

Profit recognition

Year	Estimated Profit	Percent Complete	Profit Recognizable	Less Prior Year(s)	Current Year
2010	$800	33.33%	$266.6	—	$266.6
2011	800	73.33%	586.7	$266.6	320.1
2012	800	100%	800	586.7	213.3

3. Assuming the same facts as in Instructions (b)1. and (b)2., but that additional cost overruns of $850,000 are experienced in 2011, RCB's revenue, cost of sales, and gross profit for 2010, 2011, and 2012 are calculated as follows:

Percentage-of-Completion
($000 omitted)

Year	Contract Price	Costs to Date	Estimated Total Costs	Estimated Gross Profit (Col. 2–Col. 4)	Percent Complete (Col. 3/Col. 4)
(1)	(2)	(3)	(4)	(5)	(6)
2010	$8,000	$2,400	$7,200	$800	33.33%
2011	8,000	6,130*	8,050	(50)	76.15%
2012	8,000	8,050	8,050	(50)	100%

*($5,280 + $850)

Revenue recognition

Year	Contract Price	Percent Complete	Revenue Recognizable	Less Prior Year(s)	Current Year
2010	$8,000	33.33%	$2,666.4	—	$2,666.4
2011	8,000	76.15%	6,092.0	$2,666.4	3,425.6
2012	8,000	100%	8,000.0	6,092.0	1,908.0

Profit recognition

Year	Estimated Profit	Percent Complete	Profit Recognizable	Less Prior Year(s)	Current Year
2010	$800	33.33%	$266.6	—	$266.6
2011	(50)	100%[a]	(50)	$266.6	(316.6)
2012	(50)	100%	(50)	(50)	—

[a]When there is a projected loss at any time, it must be recognized in full in the period in which a loss on the contract appears probable.

PROBLEM 18-6

(a) **Computation of Recognizable Profit/Loss**
Percentage-of-Completion Method

2010

Costs to date (12/31/10)	$2,880,000
Estimated costs to complete	3,520,000
Estimated total costs	$6,400,000
Percent complete ($2,880,000 ÷ $6,400,000)	45%
Revenue recognized ($8,400,000 X 45%)	$3,780,000
Costs incurred	2,880,000
Profit recognized in 2010	$ 900,000

2011

Costs to date (12/31/11) ($2,880,000 + $2,230,000)	$5,110,000
Estimated costs to complete	2,190,000
Estimated total costs	$7,300,000
Percent complete ($5,110,000 ÷ $7,300,000)	70%
Revenue recognized in 2011 ($8,400,000 X 70%) – $3,780,000	$2,100,000
Costs incurred in 2011	2,230,000
Loss recognized in 2011	$ (130,000)

2012

Total revenue recognized	$8,400,000
Total costs incurred	7,300,000
Total profit on contract	1,100,000
Deduct profit previously recognized ($900,000 – $130,000)	770,000
Profit recognized in 2012	$ 330,000*

PROBLEM 18-6 (Continued)

*Alternative

Revenue recognized in 2012	
($8,400,000 X 30%)	$2,520,000
Costs incurred in 2012	2,190,000
Profit recognized in 2012	$ 330,000

(b) **Computation of Recognizable Profit/Loss**
Completed-Contract Method

2010—NONE
2011—NONE

2012

Total revenue recognized	$8,400,000
Total costs incurred	7,300,000
Profit recognized in 2012	$1,100,000

PROBLEM 18-7

(a) **Computation of Recognizable Profit/Loss**
Percentage-of-Completion Method

2010

Costs to date (12/31/10)	$ 300,000
Estimated costs to complete	1,200,000
Estimated total costs	$1,500,000
Percent complete ($300,000 ÷ $1,500,000)	20%
Revenue recognized ($1,900,000 X 20%)	$ 380,000
Costs incurred	300,000
Profit recognized in 2010	$ 80,000

2011

Costs to date (12/31/11)	$1,200,000
Estimated costs to complete	800,000
Estimated total costs	2,000,000
Contract price	1,900,000
Total loss	$ 100,000
Total loss	$ 100,000
Plus gross profit recognized in 2010	80,000
Loss recognized in 2011	$ 180,000

OR

Percent complete ($1,200,000 ÷ $2,000,000)	60%
Revenue recognized in 2011 [($1,900,000 X 60%) – $380,000]	$ 760,000
Costs incurred in 2011 ($1,200,000 – $300,000)	900,000
Loss to date	140,000
Loss attributable to 2012*	40,000
Loss recognized in 2011	$ 180,000

*2012 revenue	
($1,900,000 – $380,000 – $760,000) ..	$760,000
2012 estimated costs	800,000
2012 loss	$ (40,000)

2012

Costs to date (12/31/12)..		$2,100,000
Estimated costs to complete		0
		2,100,000
Contract price		1,900,000
Total loss		$ (200,000)
Total loss		$ (200,000)
Less: Loss recognized in 2011	$180,000	
Gross profit recognized in 2010	(80,000)	(100,000)
Loss recognized in 2012		$ (100,000)

(b) **Computation of Recognizable Profit/Loss**
Completed-Contract Method

2010—NONE

2011

Costs to date (12/31/11)	$1,200,000
Estimated costs to complete..................................	800,000
Estimated total costs	2,000,000
Deduct contract price	1,900,000
Loss recognized in 2011	$ (100,000)

2012

Total costs incurred	$2,100,000
Total revenue recognized	1,900,000
Total loss on contract	(200,000)
Deduct loss recognized in 2011	(100,000)
Loss recognized in 2012	$ (100,000)

PROBLEM 18-8

(a)

	2010	2011	2012
Rate of gross profit $\left(\frac{\text{Gross profit}}{\text{Sales}}\right)$	38%	37%	35%
Gross profit realized:			
38% of $ 75,000	$28,500		
38% of $100,000		$38,000	
37% of $100,000		37,000	
38% of $ 50,000			$19,000
37% of $120,000			44,400
35% of $100,000			35,000
	$28,500	$75,000	$98,400

(b)

Installment Accounts Receivable—2012	280,000	
Installment Sales		280,000
Cash	270,000	
Installment Accounts Receivable—2010		50,000
Installment Accounts Receivable—2011		120,000
Installment Accounts Receivable—2012		100,000
Cost of Installment Sales	182,000	
Inventory		182,000
Installment Sales	280,000	
Cost of Installment Sales		182,000
Deferred Gross Profit on Installment Sales—2012		98,000
Deferred Gross Profit on Installment Sales—2010	19,000	
Deferred Gross Profit on Installment Sales—2011	44,400	
Deferred Gross Profit on Installment Sales—2012	35,000	
Realized Gross Profit on Installment Sales		98,400
Realized Gross Profit on Installment Sales	98,400	
Income Summary		98,400

PROBLEM 18-9

	2010	2011	2012
Sales	$385,000	$426,000	$525,000
Cost of sales	270,000	277,000	341,000
Gross profit	115,000	149,000	184,000
Gross profit realized on installment sales (See calculation below)	33,000	69,300	113,600
Total gross profit	148,000	218,300	297,600
Selling expenses	77,000	87,000	92,000
Administrative expenses	50,000	51,000	52,000
Total selling and administrative expenses	127,000	138,000	144,000
Net income	$ 21,000	$ 80,300	$153,600

Calculation of gross profit realized on installment sales:

	2010	2011	2012
Rate of gross profit	33%*	36%**	40%***
Gross profit realized:			
33% of $100,000	$33,000		
33% of $ 90,000		$29,700	
36% of $110,000		39,600	
33% of $ 40,000			$ 13,200
36% of $140,000			50,400
40% of $125,000			50,000
	$33,000	$69,300	$113,600

$$^{*}\frac{\$320{,}000 - \$214{,}400}{\$320{,}000} = 33\%$$

$$^{**}\frac{\$275{,}000 - \$176{,}000}{\$275{,}000} = 36\%$$

$$^{***}\frac{\$380{,}000 - \$228{,}000}{\$380{,}000} = 40\%$$

PROBLEM 18-10

(a) Rate of gross profit on 2010 installment sales:

Deferred gross profit on repossessions
$8,000 – $800 – $4,800 = $2,400
$2,400 ÷ $8,000 = 30%

It may also be computed as follows:

Accounts receivable at beginning of year
$56,000 + $96,000 + $8,000 = $160,000
Deferred gross profit at beginning of year
$45,600 + $2,400 = $48,000
$48,000 ÷ $160,000 = 30%

Rate of gross profit on 2011 installment sales:

$$\frac{\$200,000 - \$120,000}{\$200,000} = 40\%$$

(b)

Installment Sales	**200,000**	
Cost of Installment Sales		**120,000**
Deferred Gross Profit, 2011		**80,000**
Deferred Gross Profit, 2010	**28,800**	
Deferred Gross Profit, 2011	**43,600**	
Realized Gross Profit on Installment Sales		**72,400**
(30% X $96,000 = $28,800 40% X $109,000 = $43,600)		
Realized Gross Profit on Installment Sales	**72,400**	
Sales	**343,000**	
Income Summary		**31,600**
Cost of Sales		**255,000**
Loss on Repossessions		**800**
Selling and Administrative Expenses		**128,000**
Income Summary	**31,600**	
Retained Earnings		**31,600**

PROBLEM 18-10 (Continued)

(c)

PAUL DOBSON STORES
Income Statement
For the Year Ended December 31, 2011

Sales		$343,000
Cost of sales		255,000
Gross profit		88,000
Gross profit realized on installment sales		72,400
Total gross profit		160,400
Selling and administrative expenses	$128,000	
Loss on repossession	800	128,800
Net income		$ 31,600

PROBLEM 18-11

(a)	Installment Accounts Receivable	500,000	
	Installment Sales		500,000
	Cash	180,000	
	Installment Accounts Receivable		180,000
	Cost of Installment Sales.......................................	350,000	
	Inventory		350,000
	Repossessed Merchandise	11,200	
	Deferred Gross Profit..	7,200*	
	Loss on Repossession	5,600**	
	Installment Accounts Receivable		24,000

*Rate of gross profit = $\frac{\$150,000}{\$500,000}$ = 30%

30% X $24,000 = $7,200

**[$11,200 – ($24,000 – $7,200)]

	Installment Sales	500,000	
	Cost of Installment Sales................................		350,000
	Deferred Gross Profit on Installment Sales		150,000
(b)	Deferred Gross Profit on Installment Sales	54,000	
	Realized Gross Profit on Installment Sales (30% of $180,000)		54,000

PROBLEM 18-12

(a) Rate of gross profit—2010:

Deferred gross profit beginning of year
$64,000 + $7,200 = $71,200
Accounts receivable beginning of year
$80,000 + $18,000 + $80,000 = $178,000
Rate of gross profit
$71,200 ÷ $178,000 = 40%

(Inasmuch as the repossessions "were recorded correctly," the 2010 rate of gross profit also may be computed by dividing $7,200 by $18,000)

Rate of gross profit—2011:

Installment sales	$180,000
Cost of installment sales	111,600
Gross profit	$ 68,400

Rate of gross profit—2011 = $68,400 ÷ $180,000 = 38%

Cost of Goods Sold	376,400*	
Cost of Installment Sales	111,600	
Inventory 1/1/11		120,000
Purchases		360,000
Repossessed Merchandise		8,000

*($120,000 + $360,000 + $8,000 – $111,600)

Inventory 12/31/11	127,400	
Repossessed Merchandise	4,000	
Cost of Goods Sold		131,400

Installment Sales	180,000	
Cost of Installment Sales		111,600
Deferred Gross Profit on Installment Sales, 2011		68,400

PROBLEM 18-12 (Continued)

Deferred Gross Profit on Installment Sales, 2010	32,000	
Deferred Gross Profit on Installment Sales, 2011	19,000	
Realized Gross Profit on Installment Sales.......		51,000
(40% X $80,000 = $32,000; 38% X $50,000 = $19,000)		
Realized Gross Profit on Installment Sales	51,000	
Income Summary..		51,000
Sales..	400,000	
Cost of Goods Sold ($376,400 – $131,400).....		245,000
Operating Expenses....................................		112,000
Loss on Repossession		2,800
Income Summary..		40,200
Income Summary ($51,000 + $40,200)....................	91,200	
Retained Earnings.......................................		91,200

(b)

MANTLE INC.
Income Statement
For the Year Ended December 31, 2011

Sales..			$400,000
Cost of goods sold:			
Inventory, January 1		$120,000	
Purchases		360,000	
Merchandise repossessed		8,000	
Available for sale........................		488,000	
Inventories December 31:			
New merchandise.......................	$127,400		
Repossessed merchandise........	4,000	131,400	
Cost of merchandise sold ...		356,600	
Less cost of installment sales		111,600	245,000
Gross profit on regular sales.....			155,000
Gross profit realized on installment sales			51,000
Total gross profit realized ...			206,000
Operating expenses..................................		112,000	
Loss on repossession		2,800	114,800
Net income for the year			$ 91,200

PROBLEM 18-13

-1-

November 1, 2010

Cash	300	
Installment Accounts Receivable ($900 – $300)	600	
Installment Sales		900

-2-

December 1, 2010

Cash	30	
Installment Accounts Receivable		30

-3-

December 31, 2010

Cost of Installment Sales	540	
Inventory		540
Installment Sales	900	
Cost of Installment Sales		540
Deferred Gross Profit on Installment Sales		360
Deferred Gross Profit on Installment Sales	132	
Realized Gross Profit on Installment Sales ($360 ÷ $900 = 40%; 40% of $330 = $132)		132
Realized Gross Profit on Installment Sales	132	
Income Summary		132

-4-

January 1 to July 1, 2011

Cash ($30 X 7)	210	
Installment Accounts Receivable		210

-5-

August, 2011

Repossessed Merchandise	100	
Deferred Gross Profit on Installment Sales	144	
Loss on Repossession	116	
Installment Accounts Receivable [$30 X (20 – 8)]		360

PROBLEM 18-13 (Continued)

Balance at repossession	$360*
Gross profit (40% X $360).............	(144)
Book value	216
Value of repossessed merchandise	100
Loss on repossession	$116

*$30 X (20 payments – 8 payments) = $360

PROBLEM 18-14

(a) 1.

SAPRANO COMPANY
Schedule to Compute Cost
of Goods Sold on Installments
For 2010, 2011, and 2012

	2010	2011	2012
Purchases:			
1,400 units at $130	$182,000		
1,200 units at $112		$134,400	
900 units at $136			$122,400
Repossessed:			
50 units at $60			3,000*
Inventory at December 31:			
2010 (1,400 – 1,100) X $130	(39,000)	39,000	
2012 (950 – 850) X $132**			(13,200)
Cost of goods sold	$143,000	$173,400	$112,200

*An alternative valuation of the repossessed merchandise would be at an amount to earn the normal gross profit for the period.

**($122,400 + $3,000) ÷ (900 + 50) = $132

2.

SAPRANO COMPANY
Schedule to Compute Average Unit Cost
of Goods Sold on Installments
For 2010, 2011, and 2012

	2010	2011	2012
2010 ($182,000 ÷ 1,400)	$130		
2011 ($173,400 ÷ 1,500)		$115.60	
2012 ($125,400* ÷ 950**)			$132

*($122,400 + $3,000)
**(900 + 50)

PROBLEM 18-14 (Continued)

(b)

SAPRANO COMPANY
Schedule to Compute Gross Profit Percentages
For 2010, 2011, and 2012

	2010	2011	2012
Sales:			
1,100 units at $200	$220,000		
1,500 units at $170		$255,000	
800 units at $205			$164,000
50 units at $120			6,000
	220,000	255,000	170,000
Cost of goods sold	143,000	173,400	112,200
Gross profit	$ 77,000	$ 81,600	$ 57,800
Gross profit percentages:			
$77,000 ÷ $220,000	35%		
$81,600 ÷ $255,000		32%	
$57,800 ÷ $170,000			34%

(c)

SAPRANO COMPANY
Schedule to Compute Loss on Repossessions
For 2012

Original sales amount (50 X $170)		$8,500
Collections prior to repossessions		2,000
Unpaid balance		6,500
Deduct:		
Unrealized gross profit ($6,500 X 32%)	$2,080	
Value of repossessed merchandise	3,000	5,080
Loss on repossessions		$1,420

PROBLEM 18-14 (Continued)

(d)

SAPRANO COMPANY
Schedule to Compute Net Income
From Installment Sales
For 2012

Gross profit realized on installment sales:	
2012 ($34,600 X 34%)	$11,764
2011 ($110,000 X 32%)	35,200
2010 ($80,000 X 35%)	28,000
Total gross profit realized	74,964
Loss on repossessions	1,420
Net gross profit realized	73,544
General and administrative expense	
[$60,000 + (1/3 X $7,200)]	62,400
Net income	$11,144

PROBLEM 18-15

(a)

MONAT CONSTRUCTION COMPANY, INC.
Computation of Billings on Uncompleted Contract
In Excess of Related Costs
December 31, 2010

Partial billings on contract during 2010	$1,400,000
Deduct construction costs incurred during 2010	1,140,000
Balance, December 31, 2010	$ 260,000

MONAT CONSTRUCTION COMPANY, INC.
Computation of Cost of Uncompleted Contract
In Excess of Related Billings
December 31, 2011

Balance, December 31, 2010—excess of billings over costs	$ (260,000)
Add construction costs incurred during 2011 ($3,290,000 – $1,140,000)	2,150,000
	1,890,000
Deduct provision for loss on contract recognized during 2011 ($3,290,000 + $1,410,000 – $4,400,000)	300,000
	1,590,000
Deduct partial billings during 2011 ($2,500,000 – $1,400,000)	1,100,000
Balance, December 31, 2011	$ 490,000

MONAT CONSTRUCTION COMPANY, INC.
Computation of Costs Relating to Substantially Completed Contract in Excess of Billings
December 31, 2012

Balance, December 31, 2011—excess of costs over billings	$ 490,000
Add construction costs incurred during 2012 ($4,800,000 – $3,290,000)	1,510,000
	2,000,000
Deduct loss on contract recognized during 2012 ($4,800,000 – $4,400,000 – $300,000)	100,000
	1,900,000
Deduct partial billings during 2012 ($4,300,000 – $2,500,000)	1,800,000
Balance, December 31, 2012	$ 100,000

(b)

MONAT CONSTRUCTION COMPANY, INC.
Computation of Profit or Loss to be Recognized On Uncompleted Contract
Year Ended December 31, 2010

Contract price		$4,400,000
Deduct contract costs:		
Incurred to December 31, 2010	$1,140,000	
Estimated costs to complete	2,660,000	
Total estimated contract cost		3,800,000
Estimated gross profit on contract at completion		$ 600,000
Profit to be recognized		$ 0

(The completed-contract method recognizes income only when the contract is completed, or substantially so.)

PROBLEM 18-15 (Continued)

MONAT CONSTRUCTION COMPANY, INC.
Computation of Loss to be Recognized
On Uncompleted Contract
Year Ended December 31, 2011

Contract price		$4,400,000
Deduct contract costs:		
Incurred to December 31, 2011	$3,290,000	
Estimated costs to complete	1,410,000	
Total estimated contract cost		4,700,000
Loss to be recognized		$ (300,000)

(The completed-contract method requires that provision should be made for an expected loss.)

MONAT CONSTRUCTION COMPANY, INC.
Computation of Loss to Be Recognized
On Substantially Completed Contract
Year Ended December 31, 2012

Contract price	$4,400,000
Deduct contract costs incurred	4,800,000
Loss on contract	(400,000)
Deduct provision for loss booked at December 31, 2011	300,000
Loss to be recognized	$ (100,000)

PROBLEM 18-16

Dear Sue:

This letter regards the revenue recognition matter which we discussed earlier. By using a recognition method called percentage-of-completion, you will show a profit in every year of the construction project, assuming, of course, that no unexpected losses occur.

The completed-contract method which you use presumes that revenue from the contract is not truly earned until the entire contract is finished. Although costs associated with the contract and billings to the customer are recorded, the actual gross profit is not recognized until the year of project completion.

The percentage-of-completion method, on the other hand, presumes that, as portions of the contract are completed, part of the gross profit is being earned as well. Therefore, it attempts to measure the degree of the project's completion at each year-end. (This method assumes that the contract will be completed.)

The most frequently used measure of this degree of completion is the cost-to-cost method, which determines the percentage of a project's completion as the ratio of costs that have already been incurred to the total estimated costs required in order to finish the project. This percentage is then applied to the total contract price or gross profit to arrive at the amount of revenue or gross profit recognized for the period.

In succeeding periods, the above ratio becomes larger as the project nears completion. (If the estimated costs to complete the contract have changed, the ratio's denominator as well as its numerator should be adjusted.) The new ratio will still be applied to the total contract price or gross profit, this time subtracting out the portion of revenue (or gross profit) already recognized in earlier periods.

To help you see the advantages of this method, I have computed the amount of gross profit you would have recognized on the building contract if you had used the percentage-of-completion method. Referring to the accompanying schedule, you will see that, in 2010, 2011, and 2012, you would have recognized gross profits of $90,000, $135,000, and $85,000, respectively. Although the amount recognized in 2012 is significantly lower than it would have been under the completed-contract method, the amounts recognized in

PROBLEM 18-16 (Continued)

2010 and 2011 actually allow you to show a profit before the project has been finished. In addition, where applicable, generally accepted accounting principles require the use of the percentage-of-completion method in preference to the completed-contract method.

I hope you find this information helpful.

Sincerely,

A. Smart Student

PROBLEM 18-16 (Continued)

Percentage-of-Completion Method
Three-Year Schedule of Gross Profit Recognition

Gross profit recognized in 2010:		
Contract price		$1,100,000
Costs:		
Costs to date	$240,000	
Estimated additional costs	560,000	800,000
Total estimated profit		300,000
Percentage completion to date ($240,000/$800,000)		30%
Gross profit recognized in 2010		$ 90,000
Gross profit recognized in 2011:		
Contract price		$1,100,000
Costs:		
Costs to date	$600,000	
Estimated additional costs	200,000	800,000
Total estimated profit		300,000
Percentage completion to date ($600,000/$800,000)		75%
Total gross profit recognized		225,000
Less: Gross profit recognized in 2010		(90,000)
Gross profit recognized in 2011		$ 135,000
Gross profit recognized in 2012:		
Contract price		$1,100,000
Costs:		
Costs to date	$790,000	
Estimated additional costs	0	790,000
Total estimated profit		310,000
Percentage completion to date ($790,000/$790,000)		100%
Total gross profit recognized		310,000
Less: Gross profit recognized in 2010 and 2011 ($90,000 + $135,000)		225,000
Gross profit recognized in 2012		$ 85,000

PROBLEM 18-17

(a) **Schedule to Compute Gross Profit for 2010**

	A	B	C	D	E
Estimated profit (loss):					
A: ($300,000 – $320,000)	$(20,000)				
B: ($350,000 – $339,000)		$11,000			
C: ($280,000 – $186,000)			$94,000		
D: ($200,000 – $205,000)				$(5,000)	
E: ($240,000 – $200,000)					$40,000
A: (not applicable)	—				
B: ($67,800 ÷ $339,000)		20%			
C: ($186,000 ÷ $186,000)			100%		
D: (not applicable)				—	
E: ($190,000 ÷ $200,000)					95%
Gross profit (loss) recognized	$(20,000)	$ 2,200	$94,000	$(5,000)	$38,000

Schedule to Compute Unbilled Contract Costs and Recognized Profit and Billings in Excess of Costs and Recognized Profit

	Costs and Estimated Profits or Losses	Related Billings	Costs and Estimated Profits in Excess of Billings	Billings in Excess of Costs and Estimated Profits
A	$228,000[a]	$200,000	$ 28,000	
B	70,000[b]	110,000		$40,000
D	113,000[c]	35,000	78,000	
E	228,000[d]	205,000	23,000	
	$639,000	$550,000	$129,000	$40,000

[a]$248,000 – $20,000
[b]$ 67,800 + $2,200
[c]$118,000 – $5,000
[d]$190,000 + $38,000

PROBLEM 18-17 (Continued)

(b) **Partial Income Statement**

Revenue from long-term contracts	$925,622*
Costs of construction	
($252,500 + $67,800 + $186,000 + $120,122 + $190,000)......	816,422
Gross profit	$109,200

*A:	$300,000 X ($248,000 ÷ $320,000)	=	$232,500
B:	$350,000 X ($ 67,800 ÷ $339,000)	=	70,000
C:	$280,000 X ($186,000 ÷ $186,000)	=	280,000
D:	$200,000 X ($118,000 ÷ $205,000)	=	115,122
E:	$240,000 X ($190,000 ÷ $200,000)	=	228,000
	Total revenue recognized		$925,622

Partial Balance Sheet

Current assets:		
Accounts receivable		
($830,000 – $765,000)		$ 65,000
Inventories		
Construction in process	$569,000**	
Less: Billings	440,000***	
Costs and recognized profits		
in excess of billings		
(project A, D, and E)..............................		129,000
Current liabilities:		
Billings ($110,000) in excess of costs and		
recognized profit ($70,000) (project B).......		$ 40,000

Project	Costs	Profit/(loss)	Construction in Process	Billings
A	$248,000	$(20,000)	$228,000	$200,000
D	118,000	(5,000)	113,000	35,000
E	190,000	38,000	228,000	205,000
Total	$556,000	$ 13,000	$569,000**	$440,000***

PROBLEM 18-17 (Continued)

(c) Schedule to Compute Gross Profit for 2010

	A	B	C	D	E
A: ($300,000 – $320,000)	$(20,000)				
B: Not completed		–0–			
C: ($280,000 – $186,000)			$94,000		
D: ($200,000 – $205,000)				$(5,000)	
E: Not completed					–0–
Gross profit (loss) recognized	$(20,000)	–0–	$94,000	$(5,000)	–0–

Schedule to Compute Unbilled Contract Costs and Billings in Excess of Costs

	Costs and Estimated Profits or Losses	Related Billings	Costs and Estimated Losses in Excess of Billings	Billings in Excess of Costs
A	$228,000[a]	$200,000	$ 28,000	
B	67,800	110,000		$42,200
D	113,000[b]	35,000	78,000	
E	190,000	205,000		15,000
	$598,800	$550,000	$106,000	$57,200

[a]$248,000 – $20,000
[b]$118,000 – $5,000

(d) The principal advantage of the completed-contract method is that it reports revenue based on the final results and not on estimates made throughout the construction period. However, the disadvantage of using this method is that for contracts which extend more than one accounting period, income recognition is distorted. For example, in this exercise Buhl Construction Company would recognize $40,200 less gross profit using the completed-contract method than if it was using the percentage-of-completion method. This difference exists because the only project completed at the end of 2010 was project C and so that is the only project from which Buhl may recognize revenue and gross profit. Therefore, even though a portion of the work was completed on projects B and E, no revenues or gross profit can be recognized until those projects are completed.

PROBLEM 18-17 (Continued)

On the other hand, the percentage-of-completion method does recognize revenue and gross profit before the completion of a project. If Buhl can determine reliable estimates of its progress and meets the other conditions for this method, Buhl can recognize revenues as the work progresses. The use of this method provides financial statement users with a more current picture of the results of the company's operations; however, problems may occur if the estimates are poor. If revised estimates, or even rising costs, show that a project will result in a loss, the company must offset gross profit previously recognized for that project. Thus, it is possible that the financial statements may present a good picture one year and the next year present a picture that is not as good.

The end results will be the same under either method and so the difference is simply one of timing. Therefore, if a company can determine reliable estimates of its progress towards completion and meets the required conditions, the percentage-of-completion method is preferred. Otherwise the completed-contract method is more appropriate.

TIME AND PURPOSE OF CONCEPTS FOR ANALYSIS

CA 18-1 (Time 20–30 minutes)
Purpose—to provide a situation that requires an examination and application of the earning and realization elements of three revenue recognition methods. The three business situations require the computation of revenue to be recognized.

CA 18-2 (Time 35–45 minutes)
Purpose—to provide the student with an understanding of the conceptual merits of recognizing revenue at the point of sale. The student is required to explain and defend the reasons why the point of sale is usually used as the basis for the timing of revenue recognition, plus describe the situations where revenue would be recognized during production or when cash is received, and the accounting merits of utilizing each of these bases of timing revenue recognition.

CA 18-3 (Time 25–30 minutes)
Purpose—to provide the student with an understanding of the conceptual factors underlying the recognition of revenue. The student is required to explain and justify why revenue is often recognized as earned at the time of sale, the situations when it would be appropriate to recognize revenue as the productive activity takes place, and any other times that may be appropriate to recognize revenue.

CA 18-4 (Time 30–35 minutes)
Purpose—to provide the student with an understanding of the criteria and applications utilized in the determination of the proper accounting for revenue recognition. The student is required to discuss the factors to be considered in determining when revenue should be recognized, plus apply these factors in discussing the accounting alternatives that should be considered for the recognition of revenues and related expenses with regard to the information presented in the case.

CA 18-5 (Time 35–45 minutes)
Purpose—to provide the student an opportunity to explain how a magazine publisher should recognize subscription revenue. The case is complicated by a 25% return rate and a premium offered to subscribers. The effect on the current ratio must be discussed.

CA 18-6 (Time 20–25 minutes)
Purpose—to provide the student an opportunity to discuss the theoretical justification for use of the percentage-of-completion method. The student explains how progress billings are accounted for and how to determine the income recognized in the second year of a contract by the percentage-of-completion method. The student indicates the effect on earnings per share in the second year of a four-year contract from using the percentage-of-completion method instead of the completed-contract method.

CA 18-7 (Time 30–40 minutes)
Purpose—provides the student a recreational real estate development for which revenue recognition requires analysis and good judgment. The sale of lake lots is the basic transaction.

CA 18-8 (Time 25–30 minutes)
Purpose—to provide the student an ethical situation concerning revenue related to various transactions. Issues include membership fees, down payments, and sales with guarantees.

CA 18-9 (Time 20–25 minutes)
Purpose—to provide the student an ethical situation related to the recognition of revenue from membership fees.

Time and Purpose of Concepts for Analysis (Continued)

***CA 18-10** (Time 35–45 minutes)
Purpose—to provide the student with an understanding of the accounting treatment accorded franchising operations. The student is required to discuss the alternatives that the franchisor might use to account for the initial franchise fee, evaluate each by applying generally accepted accounting principles to the case situation, and give an illustrative journal entry for each alternative. The student is also asked to apply the above concepts in determining when revenue should be recognized, given the nature of the franchisor's agreement with its franchisees.

SOLUTIONS TO CONCEPTS FOR ANALYSIS

CA 18-1

(a) Definitions and descriptions of each of the three noted revenue recognition methods, and an indication as to whether they are in accordance with generally accepted accounting principles (GAAP), are presented below.

1. The **completion-of-production** method allows revenue to be recognized when production is complete even though a sale has not yet been made. The circumstances that justify revenue recognition at this point are:

   - The product is sold in a market with a reasonably assured selling price.
   - The costs of selling and distributing the product are insignificant and can reasonably be estimated.
   - Production, rather than sale, is considered the most critical event in the earnings process.

   This method is in accordance with GAAP; however, it is an exception to the normal revenue recognition rules.

2. The **percentage-of-completion** method is used on long-term projects and the following conditions must exist for its use:

   - A firm contract price with a high probability of collection.
   - A reasonably accurate estimate of costs.
   - A way to reasonably estimate the extent of progress to the completion of the project.

   Gross profit is recognized in proportion to the work completed. Normally, progress is measured as a percentage of the actual costs to date to the estimated total costs, or some other method that reasonably estimates actual completion.

   The method is in accordance with GAAP for long-term projects when estimates are dependable.

3. The **installment-sales** method allows revenue to be recognized when cash is collected rather than at the point of sale. Due, in part, to improved credit procedures that increase the likelihood of collection, the installment-sales method of recognizing revenue is generally considered unacceptable. However, there are exceptional cases where receivables are collectible over an extended period of time and, because of the terms of the transaction or other conditions, there is no reasonable basis for estimating the degree of collectibility. When such circumstances exist, and as long as they exist, either the installment-sales method or cost-recovery method of accounting may be used.

(b) The revenue to be recognized in the fiscal year ended November 30, 2010, for each of the three companies is as calculated and presented below:

1. Farber Mining would recognize as revenue the market value of metals mined during the year.

Silver	$ 750,000
Gold	1,400,000
Platinum	490,000
Total revenues	$2,640,000

CA 18-1 (Continued)

2. Enyart Paperbacks would recognize revenue of $5,600,000, calculated as follows.

Sales in fiscal 2010	$7,000,000
Less: Estimated sales returns and allowances (20%)	1,400,000
Net sales—revenue to be recognized in fiscal 2010	$5,600,000

Although book distributors can return up to 30 percent of sales, prior experience indicates that 20 percent of sales is the expected average amount of returns. The collection of 2009 sales has no effect on fiscal 2010 sales recognition. The 21 percent of returns on the initial $4,800,000 of 2010 sales confirms that 20 percent of sales will provide a reasonable estimate.

3. Glesen Protection Devices would recognize revenue of $5,000,000. Revenue to be recognized represents the amount of goods actually billed and shipped when the method of recognizing revenue is at the point of sale (terms are F.O.B. shipping point).

CA 18-2

(a) The point of sale is the most widely used basis for the timing of revenue recognition because in most cases it provides the degree of objective evidence accountants consider necessary to reliably measure periodic business income. In other words, sales transactions with outsiders represent the point in the revenue-generating process when most of the uncertainty about the final outcome of business activity has been alleviated.

It is also at the point of sale in most cases that substantially all of the costs of generating revenues are known, and they can at this point be matched with the revenues generated to produce a reliable statement of a firm's effort and accomplishment for the period. Any attempt to measure income prior to the point of sale would, in the vast majority of cases, introduce considerably more subjectivity in financial reporting than most accountants are willing to accept.

(b) 1. Though it is recognized that revenue is earned throughout the entire production process, generally it is not feasible to measure revenue on the basis of operating activity. It is not feasible because of the absence of suitable criteria for consistently and objectively arriving at a periodic determination of the amount of revenue to recognize.

Also, in most situations the sale represents the most important single step in the earnings process. Prior to the sale, the amount of revenue anticipated from the processes of production is merely prospective revenue; its realization remains to be validated by actual sales. The accumulation of costs during production does not alone generate revenue. Rather, revenues are earned by the completion of the entire process, including making sales.

Thus, as a general rule, the sale cannot be regarded as being an unduly conservative basis for the timing of revenue recognition. Except in unusual circumstances, revenue recognition prior to sale would be anticipatory in nature and unverifiable in amount.

2. To criticize the sales basis as not being sufficiently conservative because accounts receivable do not represent disposable funds, it is necessary to assume that the collection of receivables is the decisive step in the earnings process and that periodic revenue measurement and, therefore, net income should depend on the amount of cash generated during the period. This assumption disregards the fact that the sale usually represents the decisive

CA 18-2 (Continued)

factor in the earnings process and substitutes for it the administrative function of managing and collecting receivables. In other words, the investment of funds in receivables should be regarded as a policy designed to increase total revenues, properly recognized at the point of sale, and the cost of managing receivables (e.g., bad debts and collection costs) should be matched with the sales in the proper period.

The fact that some revenue adjustments (e.g., sales returns) and some expenses (e.g., bad debts and collection costs) may occur in a period subsequent to the sale does not detract from the overall usefulness of the sales basis for the timing of revenue recognition. Both can be estimated with sufficient accuracy so as not to detract from the reliability of reported net income.

Thus, in the vast majority of cases for which the sales basis is used, estimating errors, though unavoidable, will be too immaterial in amount to warrant deferring revenue recognition to a later point in time.

(c) 1. **During production.** This basis of recognizing revenue is frequently used by firms whose major source of revenue is long-term construction projects. For these firms the point of sale is far less significant to the earnings process than is production activity because the sale is assured under the contract (except of course where performance is not substantially in accordance with the contract terms).

To defer revenue recognition until the completion of long-term construction projects could impair significantly the usefulness of the intervening annual financial statements because the volume of contracts completed during a period is likely to bear no relationship to production volume. During each year that a project is in process a portion of the contract price is, therefore, appropriately recognized as that year's revenue. The amount of the contract price to be recognized should be proportionate to the year's production progress on the project.

Income might be recognized on a production basis for some products whose salability at a known price can be reasonably determined as might be the case with some precious metals and agricultural products.

It should be noted that the use of the production basis in lieu of the sales basis for the timing of revenue recognition is justifiable only when total profit or loss on the contracts can be estimated with reasonable accuracy and its ultimate realization is reasonably assured.

2. **When cash is received.** The most common application of this basis for the timing of revenue recognition is in connection with installment-sales contracts. Its use is justified on the grounds that, due to the length of the collection period, increased risks of default, and higher collection costs, there is too much uncertainty to warrant revenue recognition until cash is received.

The mere fact that sales are made on an installment contract basis does not justify using the cash receipts basis of revenue recognition. The justification for this departure from the sales basis depends essentially upon an absence of a reasonably objective basis for estimating the amount of collection costs and bad debts that will be incurred in later periods. If these expenses can be estimated with reasonable accuracy, the sales basis should be used.

CA 18-3

(a) Most merchandising concerns deal in finished products and would recognize revenue at the point of sale. This is often identified as the moment when the title legally passes from seller to purchaser. At the point of sale, there is an arm's-length transaction to objectively measure the amount of revenue to be recognized. With accounting theory based heavily on objective measurement, it is logical that point-of-sale transaction revenue recognition would be used by many firms, especially merchandising concerns.

Other advantages of point-of-sale timing for revenue recognition include the following:

1. It is a discernible event (as contrasted to the accretion concept).
2. The seller has completed his/her part of the bargain—that is, the revenue has been earned with the passage of title when the goods are delivered.
3. Realization has occurred in the sense that cash or near-cash assets have been received—there is some merit in the position that it is not earned revenue until cash or near-cash assets have been received.
4. The seller's costs have been incurred with the result that net income can be measured.

(b) For service-type transactions, revenue is generally recognized on the basis of the seller's performance of the transaction with performance being the execution of a defined act or acts or the passage of time. Service-type firms may select from recommended methods to recognize revenue: (1) specific performance method, (2) completed performance method, (3) proportional performance method, and (4) collection method.

In some non-service firms, revenue can be recognized as the productive activity takes place instead of at a later period (as at point of sale). The most common situation where revenue is recognized as production takes place has been through the application of percentage-of-completion accounting to long-term construction contracts. Under this procedure, revenue is approximated based on degree of contract performance to date and recorded as earned in the period in which the productive activity takes place.

A similar situation is present where, applying the accretion concept, the recognition of revenue takes place when increased values arise from natural growth or an aging process. In an economic sense, increases in the value of inventory give rise to revenue.

Revenue recognition by the accretion concept is not the result of recorded transactions, but is accomplished by the process of making comparative inventory valuations. Examples of applying the accretion concept would include the aging of certain liquors and wines, growing timber, and raising livestock.

(c) Revenue is sometimes recognized at completion of the production activity, or after the point of sale. The recognition of revenue at completion of production is justified only if certain conditions are present. The necessary conditions are that there must be a relatively stable market for the product, marketing costs must be nominal, and the units must be homogeneous. These three necessary conditions are not often present except in the case of certain precious metals and agricultural products. In these situations it has been considered appropriate to recognize revenue at the completion of production.

In rare situations it may be necessary to postpone the recognition of revenue until after the point of sale. The circumstances would have to be unusual to postpone revenue recognition beyond the point of sale because of the theoretical desirability to recognize revenue at the point of sale. A situation where it would be justified to postpone revenue recognition until a time after the point of sale would be where there is substantial doubt as to the ultimate collectibility of the receivable.

CA 18-4

(a) Income results from economic activity in which one entity furnishes goods or services to another. To warrant revenue recognition, the earnings process must be substantially complete and there must be a change in net assets that is capable of being objectively measured. Normally, this involves an arm's-length exchange transaction with a party external to the entity. The existence and terms of the transaction may be defined by operation of law, by established trade practice, or may be stipulated in a contract.

Events that give rise to revenue recognition are: the completion of a sale; the performance of a service; the progress of a long-term construction project, as in ship-building; or the production of a standard interchangeable good (such as a precious metal or an agricultural product) which has an immediate market, a determinable market value, and only minor costs of marketing. The passing of time may also be the event that establishes the recognition of revenues, as in the case of interest or rental revenue.

As a practical consideration, there must be a reasonable degree of certainty in measuring the amount of revenue. Problems of measurement may arise in estimating the degree of completion of a contract, the net realizable value of a receivable, or the value of a nonmonetary asset received in an exchange transaction. In some cases, while the revenue may be readily measured, it may be impossible to reasonably estimate the related expenses. In such instances, revenue recognition must be deferred until the matching process can be completed.

(b) Griseta & Dubel Inc., in effect, is a merchandising firm which collects cash (for merchandise credits) far in advance of furnishing the goods. In addition, since the data indicate that about 5 percent of the credits sold will never be redeemed, it also has revenue from this source unless these credits are redeemed. Griseta & Dubel's revenues from these two sources could be recognized on one of three major bases. First, all revenue could be recognized when the credits are sold—the sales basis or cash-collection basis if all sales are for cash. Second, amounts collected at the time credits are sold could be treated as an advance (sometimes referred to as deferred or unearned revenue) until credits are exchanged for the merchandise premiums at which time all of the revenue, including that relating to the never-to-be-redeemed credits, could be recognized. Third, some revenue could be recognized at the time the credits are sold, and the balance could be recognized at the time of redemption—this treatment would be especially appropriate for approximately 5 percent of the total, the credits that will never be redeemed. A modification of this basis would be to recognize the revenue from the never-to-be-redeemed credits on a passage-of-time basis.

The principal expense, merchandise premium costs, should be matched with the revenue. If all revenue is recognized when credits are sold, an accrual of the cost of the future premium redemptions would be necessary. In such a case, when credit redemptions and related premium issuances occurred, the costs of the premiums would be charged to the accrued liability account. On the other hand, if credit sales were treated as an advance, the deferred revenue would be recognized and the matching cost of the premiums issued would be recognized with the revenue at the time of redemption.

Under the third alternative, some predetermined portion of the revenue from the never-to-be-redeemed credits, would be recognized when the credits are sold, but the recognition of the merchandise premium expense would be deferred until time of recognition.

Reasonable estimation is crucial to income determination. Under the first alternative, it is necessary to estimate future costs of premium issuances well in advance of the actual occurrence. In the second case, it is necessary to estimate the proportion of revenue which has already been earned on the basis of premium costs already incurred. It is a virtual certainty that not all credits sold will ultimately be presented for redemption. Such factors as the number of credits required to fill a book, the types of customers who receive credits, and the ease of exchanging credits for

CA 18-4 (Continued)

premiums will all affect the proportion of credits actually redeemed in relation to the potential redemptions. The difference between the five percent initial estimate and the actual proportion of unredeemed credits affects the accrual of a liability for redemption of credits issued under the first method and the rate of transfer of revenue from the advances account under the second and third methods.

There will be other expenses aside from the costs of premiums issued but they should be relatively small after the initial promotion period and they should be accounted for under the usual principles which apply to accrual-basis accounting. Thus, premium catalogs printed but undistributed would ordinarily be treated as prepaid expenses; wages and salaries would be treated as expenses when incurred; depreciation, taxes, and similar expenses would be recognized in the usual manner.

(c) Under all of the alternatives, Griseta & Dubel's major asset (in terms of data given in the question) would be its inventory of premiums. The major account with a credit balance would be either an estimated liability for cost of redeeming the outstanding credits under the first alternative or an advance (deferred revenue) account under the second and third alternatives. In view of the nature of the operation, the inventory account(s) would be included in the current asset classification and the liability would be classified as current. The advances would be reported preferably as a current liability.

CA 18-5

(a) Receipts based on subscriptions should be credited to unearned revenue. As each monthly issue is distributed, the unearned revenue is reduced (Dr.) and earned revenue is recognized (Cr.). A problem results because of the unqualified guarantee for a full refund. Certain companies experience such a high rate of returns to sales that they find it necessary to postpone revenue recognition until the return privilege has substantially expired. Cutting Edge is expecting a 25% return rate and it will not expire until the new subscriptions expire. GAAP requires that transactions should not be recognized currently as revenue unless **all** of the following conditions are met:

1. The seller's price to the buyer is substantially fixed or determinable at the date of sale.
2. The buyer has paid the seller, or the buyer is obligated to pay the seller, and the obligation is not contingent on resale of the product.
3. The buyer's obligation to the seller would not be changed in the event of theft or physical destruction or damage of the product.
4. The buyer acquiring the product for resale has economic substance apart from that provided by the seller.
5. The seller does not have significant obligations for future performance to directly bring about resale of the product by the buyer.
6. The seller can reasonably estimate the amount of future returns.

Cutting Edge has met all of the above conditions. Consequently, revenue **should be** recognized as each issue is distributed.

(b) The expected sales return must be indicated when revenue is recognized. Since Cutting Edge is expecting a 25% return rate, as each issue is distributed and revenue is recognized, an amount equal to one-fourth of the earned revenue must be recognized for returns and allowances.

Sales Returns and Allowances..	xxx	
Allowance for Estimated Sales Returns		xxx

CA 18-5 (Continued)

This is necessary because the expense recognition principle requires that the expected return be recognized at the same time revenue is recognized. The account entitled Sales Returns and Allowances is a contra-revenue account. There is some controversy, however, over how the Allowance for Estimated Sales Returns is classified. As long as subscribers pay in cash, the Allowance for Estimated Sales Returns cannot be a contra-asset. But is it reasonable for the account to be a liability? According to **FASB Statement of Financial Accounting Concepts No. 6,** a liability is a transaction of the past requiring future outlay of cash and is estimable. Since the allowance for estimated sales returns has the characteristics of a liability as stated above, it is indeed reasonable to classify it as a liability.

(c) Since the atlas premium may be accepted whenever requested, it is necessary for Cutting Edge to record a liability for estimated premium claims outstanding. According to **GAAP,** the estimated premium claims outstanding is a contingent liability which should be reported since it can be readily estimated [60% of the new subscribers X (cost of atlas – $2)] and its occurrence is probable. As the new subscription is obtained, Cutting Edge should record the estimated liability as follows:

Premium Expense	xxx	
Estimated Premium Claims Outstanding		xxx

Upon request for the atlas and payment of $2 by the new subscriber, Cutting Edge should record:

Cash	xxx	
Estimated Premium Claims Outstanding	xxx	
Inventory of Premiums		xxx

(d) The current ratio (Current Assets/Current Liabilities) will change, but not in the direction Embry thinks. As subscriptions are obtained, current assets (cash or accounts receivable) will increase and current liabilities (unearned revenue) will increase by the same amount. In addition, the liabilities for estimated premium claims outstanding and the allowance for estimated sales returns will increase with no change in current assets. Consequently, the current ratio will decrease rather than increase as proposed. Naturally as the revenue is earned, these ratios will become more favorable. Similarly, the debt to equity ratio will not be decreased due to the increase in liabilities.

CA 18-6

(a) Widjaja Company should recognize revenue as it performs the work on the contract (the percentage-of-completion method) because the right to revenue is established and collectibility is reasonably assured. Furthermore, the use of the percentage-of-completion method avoids distortion of income from period to period and provides for better recognition of expenses with the related revenues.

(b) Progress billings would be accounted for by increasing accounts receivable and increasing progress billings on contract, a contra-asset that is offset against the construction in process account. If the construction in process account exceeds the billings on construction in process account, the two accounts would be shown net in the current assets section of the balance sheet. If the billings on construction in process account exceeds the construction in process account, the two accounts would be shown net, in most cases, in the current liabilities section of the balance sheet.

CA 18-6 (Continued)

(c) The income recognized in the second year of the four-year contract would be determined using the cost-to-cost method of determining percentage of completion as follows:

1. The estimated total income from the contract would be determined by deducting the estimated total costs of the contract (the actual costs to date plus the estimated costs to complete) from the contract price.
2. The actual costs to date would be divided by the estimated total costs of the contract to arrive at the percentage completed. This would be multiplied by the estimated total income from the contract to arrive at the total income recognizable to date.
3. The income recognized in the second year of the contract would be determined by deducting the income recognized in the first year of the contract from the total income recognizable to date.

(d) Earnings per share in the second year of the four-year contract would be higher using the percentage-of-completion method instead of the completed-contract method because income would be recognized in the second year of the contract using the percentage-of-completion method, whereas no income would be recognized in the second year of the contract using the completed-contract method.

CA 18-7

(a) GAAP provides two criteria, both of which must be met; collectibility is assured and the seller is not obligated to perform significant activities in the future. In this scenario, satisfaction of those two criteria is questionable. First, the development is not completed; thus, the seller does have significant activities to complete. If the developer fails to complete the development, it is very reasonable to expect the buyers to stop making payment on their notes. In fact, they will probably initiate legal proceedings (class action suit) against the seller. The seller does not receive cash at the time of the "sale" and for all practical purposes is the holder of the notes.

(b) This is the critical issue—what is the experience, financial status, and integrity of the developer? The accountant's judgment should be strongly influenced by the background of management. If the developer has good experience and financial backing, consequently a high probability of project completion and customer satisfaction, one could recognize revenue when the development is virtually complete. If the developer has poor experience, worse—a bad reputation, revenue should not be recognized until the development is substantially complete. The objective of this question is to stimulate discussion of these professional judgment issues.

(c) If the developer is financially sound and there is good reason to expect completion:

Notes Receivable	750,000	
Sales Revenue (50 X $15,000)		750,000
Cost of Sales	150,000	
Developed Land (50 X $3,000)		150,000
Promotion Expense	35,000	
Cash (50 X $700)		35,000

If the financial security of the developer is questionable:

Notes Receivable	750,000	
Deferred Revenue (50 X $15,000)		750,000
Promotion Expense	35,000	
Cash (50 X $700)		35,000

CA 18-7 (Continued)

(d) Notes to the financial statements should summarize the terms of the sale of lots, discuss the amount of development work which remains to be completed, the expected time of completion, and the major terms of the developer's credit line.

CA 18-8

(a) 1. NHRC should recognize revenue on the following bases:

- The membership fees, which are paid in advance and sold with a money-back guarantee, should be recognized as revenue over the life of the membership. Each month, NHRC earns one-twelfth of the revenue. This results in a liability for the unearned and potentially refundable portion of the fee. For those membership fees that are financed, interest is recognized as time passes at the rate of 9 percent per annum.

- Court rental fees should be recorded as revenue as the members use the courts.

- Revenue from the sale of coupon books should be recorded when the coupons are redeemed; i.e., when members attend aerobics classes. At year-end, an adjustment should be made to recognize the revenue from unused coupons that have expired.

2. Since NHRC has not provided any service when the down payment for equipment is received, the down payment should be treated as a current liability until delivery of the equipment is made.

3. Since NHRC expects to incur costs under the guarantee and these costs can be estimated, an amount equal to 4 percent of the total revenue should be accrued in the accounting period in which the sale is recorded.

(b) The Institute of Management Accountants structured its unofficial answer to this ethical question around its "Standards of Ethical Conduct for Management Accountants" (Statement on Management Accounting Number 1c):

- Competence
  Bush has an obligation: (1) to perform his professional duties in accordance with relevant technical standards and (2) to prepare complete and clear reports after appropriate analyses of relevant and reliable information. Bush's proposed changes to the financial statements are not in accordance with generally accepted accounting principles and, therefore, will not result in clear reports based on reliable information.

- Confidentiality
  Bush has an obligation to refrain from using or appearing to use confidential information acquired in the course of his work for unethical personal advantage. If Bush is proposing the accounting changes to increase his year-end bonus, as Kiley believes, he has misused confidential information.

- Integrity
  By insisting on making the adjustments to the financial statements to cover up unfavorable information and increase his bonus, Bush has: (1) failed to avoid a conflict of interest, (2) prejudiced his ability to carry out his duties ethically, (3) subverted the attainment of the organization's legitimate and ethical objectives, (4) failed to communicate unfavorable as well as favorable information, and (5) engaged in an activity that discredits his profession.

CA 18-8 (Continued)

- Objectivity
  Bush's proposals do not communicate information fairly and objectively nor will they disclose all relevant information that could reasonably be expected to influence an intended user's understanding of the financial statements.

(c) Joyce Kiley may wish to speak to Bush again regarding the GAAP violations to ensure that she understands his position. In order to resolve the situation, Kiley should follow the policies established by NHRC for the resolution of ethical conflicts. If the company does not have such a policy or the policy does not resolve the conflict, Kiley should consider the following course of action:

1. Since her immediate supervisor is involved in the situation, Kiley should take the issue to the next higher managerial level. Kiley need not inform Bush of this step because of his involvement.

2. If there is no resolution, Kiley should continue to present the problem to successively higher levels of internal review; i.e., audit committee, Board of Directors.

3. Kiley should have a confidential discussion of her options with an objective advisor to obtain a clearer understanding of possible courses of action.

4. After exhausting all levels of internal review without resolution, Kiley may have no other recourse than to resign her position. Upon doing so, she should submit an informative memorandum to an appropriate representative of the organization.

5. Kiley should not communicate with individuals outside of the organization about this situation unless legally prescribed to do so.

CA 18-9

(a) Honesty and integrity of financial reporting versus higher corporate profits are the ethical issues. Nies's position represents GAAP. The financial statements should be presented fairly and that will not be the case if Avery's approach is followed. External users of the statements such as investors and creditors, both current and future, will be misled.

(b) Nies should insist on statement presentation in accordance with GAAP. If Avery will not accept Nies's position, Nies will have to consider alternative courses of action, such as contacting higher-ups at Midwest, and assess the consequences of each.

*CA 18-10

(a) Two primary criteria must be met before revenue is recognized: (1) the related earnings process must be substantially completed (the revenue must be earned), and (2) there must be objective evidence of the market value of the output—this often is interpreted to require that an exchange has taken place—and is usually referred to as realization (often stated as realized or realizable). Several issues arise when applying these principles in accounting for the initial franchise fee. The first concerns the time of recognition of the fee as revenue—to which of several possible periods should it be assigned? The second relates to the amount of revenue to be recognized and this, in turn, is partially a question of the valuation of the notes received. Possible alternative methods are illustrated and evaluated as follows:

*CA 18-10 (Continued)

		Debit	Credit	or Debit	or Credit
1.	Cash	20,000		20,000	
	Notes Receivable	100,000		75,816	
	Discount on Notes Receivable ($100,000 – $75,816)		24,184		
	Franchise Fee Revenue		95,816		95,816

This method would be acceptable if (a) the probability of refunding the initial fee was extremely low, and (b) the amount of future services to be provided to the franchisee was minimal; that is, performance by the franchisor is deemed to have taken place.

		Debit	Credit	or Debit	or Credit
2.	Cash	20,000		20,000	
	Notes Receivable	100,000		75,816	
	Discount on Notes Receivable		24,184		
	Unearned Franchise Fees		95,816		95,816

This method would be appropriate if (a) there was a reasonable expectation that the down payment may be refunded, and (b) substantial future services are to be provided to the franchisee; that is, performance by the franchisor has not yet occurred.

		Debit	Credit	or Debit	or Credit
3.	Cash	20,000		20,000	
	Notes Receivable	100,000		75,816	
	Discount on Notes Receivable		24,184		
	Revenue from Franchise Fees		20,000		20,000
	Unearned Franchise Fees		75,816		75,816

The assumptions underlying this alternative are that (a) the down payment of $20,000 is not refundable and represents a fair measure of services provided to the franchisee at the time the contract is signed, and (b) a significant amount of service is to be performed by the franchisor in future periods.

		Debit	Credit
4.	Cash	20,000	
	Revenue from Franchise Fees		20,000

This procedure would be consistent with the cash basis of accounting and would be considered appropriate in situations where (a) the initial fee is not refundable, (b) the contract does not call for a substantial amount of future services to the franchisee, and (c) the collection of any part of the notes is so uncertain that recognition of the notes as assets is unwarranted.

		Debit	Credit
5.	Cash	20,000	
	Unearned Franchise Fees		20,000

The assumption underlying this procedure is that either the down payment is refundable or substantial services must be performed by the franchisor before the fee can be considered earned. As in alternative 4., the collection of any portion of the notes receivable is so uncertain that recognition in the accounts cannot be considered appropriate.

6. Three additional alternatives would parallel the first three alternatives given above, except that the notes would be reported at their face value. These alternatives would be appropriate in situations where the notes bear interest or call for the payment of interest at the going rate.

(b) Because the initial cash collection of $20,000 must be refunded if the franchise fails to open, it is not fully earned until the franchisee begins operations. Thus, Amigos Burrito should record the initial franchise fee as follows:

			or	
Cash	20,000		20,000	
Notes Receivable	100,000		75,816	
Discount on Notes Receivable		24,184		
Unearned Franchise Fees		95,816		95,816
(or Advances by Franchisees)				

When the franchisee begins operations, the $20,000 would be earned and the following entry should be made:

Unearned Franchise Fee	20,000	
Revenue from Franchise Fees		20,000

If there is no time lag between the collection of the $20,000 and the opening by the franchisee, then the initial cash collection of $20,000 is earned when it is received and the initial franchise fee should be recorded as follows:

			or	
Cash	20,000		20,000	
Notes Receivable	100,000		75,816	
Discount on Notes Receivable		24,184		
Unearned Franchise Fees		75,816		75,816
(or Advances by Franchisees)				
Revenue from Franchise Fees		20,000		20,000

After Amigos Burrito Inc. has experienced the opening of a large number of franchises, it should be possible to develop probability measures so that the expected value of the retained initial franchise fee can be determined and recorded as earned at the time of receipt.

The notes receivable are properly recorded at their present value. No more than $75,816, the net present value of the notes, should be reported as an asset. Interest at 10% should be accrued each year by a debit to Discount on Notes Receivable (or Notes Receivable) and a credit to Interest Revenue. Collections are recorded as debits to Cash and credits to Notes Receivable. Each year as the services are rendered, an appropriate amount would be transferred from Unearned Franchise Fees to Revenue from Franchise Fees. Since these annual payments are not refundable, the Revenue from Franchise Fees might be recognized at the time the $20,000 is collected, but this may result in the mismatching of costs and revenues.

At the time that a franchise opens, only two steps remain before Amigos Burrito Inc. will have fully earned the entire franchise fee. First, it must provide expert advice over the five-year period.

*CA 18-10 (Continued)

Second, it must wait until the end of each of the next five years so that it may collect each of the $20,000 notes. Since collection has not been a problem, and since the advice may consist largely of manuals and periodical service tip flyers, it could be maintained that a substantial portion of the $75,816, the present value of the notes, should be recognized as revenue when a franchisee begins operations. Although there have been no defaults on the notes, the extent of Amigos Burrito Inc.'s experience may be so limited that there may in fact be a substantial collection problem in the future (as has been the actual experience of many franchisors in the recent past). At some time in the future, after Amigos Burrito Inc. has experienced a large number of franchises that have opened and operated for five years or more, it should be possible to develop probability measures so that the earned portion of the present value of the notes may be recognized as revenue at the time the franchise begins operations.

The monthly fee of 2% of sales should be recorded as revenue at the end of each month. This fee is for current services rendered and should be recognized as the services are performed.

(c) If the rental portion of the initial franchise fee, $20,000, represents the present value of monthly rentals over a ten-year period, it should be recorded as Unearned Lease Revenue to be recognized on an actuarially sound basis over the periods benefiting from the use of the leased assets. This type of transaction does not necessarily represent a sale of the equipment and immediate recognition of the entire rental as revenue may not be appropriate.

If the transaction could be considered to be a sale of equipment, the entire rental revenue of $20,000 should be recognized immediately upon delivery of the equipment.

Since credit risks are no problem, the conditions that must be met to justify recognizing a sales transaction are: (1) whether Amigos Burrito Inc. retains sizable risks of ownership, and (2) whether there are important uncertainties surrounding the amount of costs yet to be incurred. The fact that no portion of the rental is refundable does not warrant immediate recognition of the entire amount as revenue. The major questions are whether the equipment has a substantial salvage value at the end of the ten years, whether the franchisee or Amigos Burrito Inc. gets the equipment free or for a nominal fee at the end of the ten years, and whether Amigos Burrito Inc. has responsibility for servicing, repairing, and maintaining the equipment during all or part of the ten-year period.

Because the data do not provide answers to these questions, a definite recommendation cannot be given to the preferable method of accounting for the "rental" portion of the initial franchise fee.

FINANCIAL REPORTING PROBLEM

(a) 2007 Sales: $76,476 million.

(b) P&G's revenues increased from $68,222 million to $76,476 million from 2006 to 2007, or 12.1%. Revenues increased from $56,741 million to $68,222 million from 2005 to 2006, or 20.2%. Revenues increased from $40.2 billion in 2002 to $76.5 billion in 2007—a 90.3% increase.

(c) Sales are recognized when revenue is realized or realizable and has been earned. Most revenue transactions represent sales of inventory, and the revenue recorded includes shipping and handling costs, which generally are included in the list price to the customer. The Company's policy is to recognize revenue when title to the product, ownership and risk of loss transfer to the customer, which generally is on the date of shipment. A provision for payment discounts and product return allowances is recorded as a reduction of sales in the same period that the revenue is recognized.

(d) Sales are recorded net of trade promotion spending, which is recognized as incurred, generally at the time of the sale. Most of these arrangements have terms of approximately one year. Accruals for expected payouts under these programs are included as accrued marketing and promotion in the accrued and other current liabilities line in the Consolidated Balance Sheets.

The policies for trade promotions are consistent with revenue recognition criteria and with accrual accounting concepts. Trade promotion expenses are recorded in the period of the sales, and as a result are matched with the revenue they help generate. Any amounts that benefit future periods are accrued and reported as liabilities to be matched with revenues in future periods when paid out.

COMPARATIVE ANALYSIS CASE

(a) For the year 2007, Coca-Cola reported net operating revenues of $28.857 billion and PepsiCo reported net revenue of $39.474 billion.

Coca-Cola increased its revenues $4,769 million or 19.8% from 2006 to 2007 while PepsiCo increased its revenue $4,337 million or 12.3% from 2006 to 2007.

(b) Revenue Recognition Policies

Coca-Cola provided the following revenue recognition note:

> Our Company recognizes revenue when persuasive evidence of an arrangement exists, delivery of products has occurred, the sales price charged is fixed or determinable, and collectibility is reasonably assured. For our Company, this generally means that we recognize revenue when title to our products is transferred to our bottling partners, resellers or other customers. In particular, title usually transfers upon shipment to or receipt at our customers' locations, as determined by the specific sales terms of the transactions. Our sales terms do not allow for a right of return except for matters related to any manufacturing defects on our part.
>
> In addition, our customers can earn certain incentives, which are included in deductions from revenue, a component of net operating revenues in the consolidated statements of income. These incentives include, but are not limited to, cash discounts, funds for promotional and marketing activities, volume-based incentive programs and support for infrastructure programs (refer to the heading "Other Assets"). The aggregate deductions from revenue recorded by the Company in relation to these programs, including amortization expense on infrastructure initiatives, was approximately $4.1 billion, $3.8 billion and $3.7 billion for the years ended December 31, 2007, 2006 and 2005, respectively.

PepsiCo's Revenue Recognition note is as follows:

> We recognize revenue upon shipment or delivery to our customers in accordance with written sales terms that do not allow for a right of return. However, our policy for direct-store-delivery (DSD) and chilled products is to remove and replace damaged and out-of-date products from store shelves to ensure that our consumers receive

> **the product quality and freshness that they expect. Similarly, our policy for warehouse distributed products is to replace damaged and out-of-date products. Based on our historical experience with this practice, we have reserved for anticipated damaged and out-of-date products.**

The policies are similar but Coca-Cola does not discuss it policies with respect to returns on direct store deliveries. This is likely due to the company's extensive equity bottling investees. That is, the direct store deliveries are made by the bottlers, not by Coca-Cola.

(c) In 2007, Coca Cola experienced significant amounts of revenue in Africa, $1,237 million; Eurasia, $970 million; European Union, $4,145 million; Latin America, $3,069 million and Pacific $3,997 million. In 2007, PepsiCo reported net revenues in Mexico, $3,498 million; United Kingdom, $1,987; Canada, $1,961 million; all other countries, $10,050.

In 2007, Coca-Cola's U.S. (North America) revenues were $7,761 million compared with $21,096 million of foreign revenues, while PepsiCo's U.S. revenues were $21,978 million compared with $17,496 ($39,474 – $21,978) million of foreign revenues.

FINANCIAL STATEMENT ANALYSIS CASE

WESTINGHOUSE ELECTRIC CORPORATION

(a) For product sales, Westinghouse Electric Corporation uses the date of delivery, point of sale, basis for revenue recognition. For services rendered, Westinghouse uses the "when services are complete and billable method" of recognizing revenues. For nuclear steam supply system orders (approximately 5 years in duration) and other long-term construction projects, Westinghouse uses the percentage-of-completion method for recognizing revenue. And, WFSI revenues are recognized on the accrual basis, except when accounts become delinquent for two or more periods; then income is recognized only as payments are received; that is, on the cash basis.

(b) Point of sale or date of delivery is acceptable in ordinary product sale transactions where the seller's earning process is virtually complete, no further obligations or costs remain, and the exchange transaction has taken place (title passes).

For service transactions revenue is recognized as earned and realizable, which is when services are rendered to the satisfaction of the customer and become billable.

The percentage-of-completion method of revenue recognition is acceptable on long-term projects, usually construction contracts exceeding one year in length. Its application is required if the following conditions exist:

1. **A firm contract price with a high probability of collection exists.**
2. **A reasonably accurate estimate of costs and therefore gross profit, can be made.**
3. **A reasonable estimate of the extent of progress toward completion can be made intermittently.**

(c) WFSI is probably a wholly owned finance subsidiary of Westinghouse that provides financing for customers of Westinghouse. The character of the revenue being recognized by WFSI is interest revenue on notes receivable. So long as accounts are current, payments are being received, interest and principal are recognized in each payment. When two payments are missed, the account is declared delinquent and interest is no longer accrued. On delinquent accounts it is probable that if and as cash is collected, the cost-recovery method is applied; that is, interest is recognized only after all principal is recovered.

PROFESSIONAL RESEARCH: FASB CODIFICATION

(a) See FASB ASC 605-15-15 (Predecessor Literature—FAS 48: Revenue Recognition When Right of Return Exists)

(b) According to FASB ASC 605-15-15:

15-2 The guidance in this Subtopic applies to the following transactions:

a. Sales in which a product may be returned, whether as a matter of contract or as a matter of existing practice, either by the ultimate customer or by a party who resells the product to others. The product may be returned for a refund of the purchase price, for a credit applied to amounts owed or to be owed for other purchases, or in exchange for other products. The purchase price or credit may include amounts related to incidental services, such as installation. However, exchanges by ultimate customers of one item for another of the same kind, quality, and price (for example, one color or size for another) are not considered returns for purposes of this Subtopic.

b. Sales by a manufacturer who repurchases the product subject to an operating lease with the buyer.

(c) According to FASB ASC 605-15-25:

> Sales of Product when Right of Return Exists

25-1 If an entity sells its product but gives the buyer the right to return the product, revenue from the sales transaction shall be recognized at time of sale only if all of the following conditions are met:

a. The seller's price to the buyer is substantially fixed or determinable at the date of sale.

b. The buyer has paid the seller, or the buyer is obligated to pay the seller and the obligation is not contingent on resale of the product. If the buyer does not pay at time of sale and the buyer's obligation to pay is contractually or implicitly excused until the buyer resells the product, then this condition is not met.

c. The buyer's obligation to the seller would not be changed in the event of theft or physical destruction or damage of the product.

d. The buyer acquiring the product for resale has economic substance apart from that provided by the seller. This condition relates primarily to buyers that exist on paper, that is, buyers that have little or no physical facilities or employees. It prevents entities from recognizing sales revenue on transactions with parties that the sellers have established primarily for the purpose of recognizing such sales revenue.

e. The seller does not have significant obligations for future performance to directly bring about resale of the product by the buyer.

f. The amount of future returns can be reasonably estimated (see paragraphs 605-15-25-3 through 25-4).

(d) According to FASB ASC Codification 605-15-25:

25-3 The ability to make a reasonable estimate of the amount of future returns depends on many factors and circumstances that will vary from one case to the next. However, any of the following factors may impair the ability to make a reasonable estimate:

a. The susceptibility of the product to significant external factors, such as technological obsolescence or changes in demand.

b. Relatively long periods in which a particular product may be returned.

c. Absence of historical experience with similar types of sales of similar products, or inability to apply such experience because of changing circumstances, for example, changes in the selling entity's marketing policies or relationships with its customers.

d. Absence of a large volume of relatively homogeneous transactions.

Measurement

Computation of net income for 2011:

Revenues	$5,500,000
Expenses	4,200,000
	1,300,000
Gross profit on long-term contract	25,000*
Realized gross profit on installment sales	39,600**
Net income	$1,364,600

$$* \frac{\$100,000 + \$100,000}{\$100,000 + \$100,000 + \$200,000} = 50\%; 50\% \text{ X } (\$500,000 - \$400,000) = \$50,000$$

Less gross profit recognized in 2010	(25,000)
	$25,000

**$220,000 X 18% = $39,600

Journal Entries

Construction in Process	100,000	
Materials, Cash, Payables, etc.		100,000
Construction in Process (Gross Profit)*	25,000	
Construction Expenses	100,000	
Revenue from Long-Term Contracts		125,000***

*See above.
***(50% X $500,000) – $125,000

Financial Statements

NOMAR INDUSTRIES, INC.
Balance Sheet
12/31/2011

Current Assets

Accounts Receivable ($230,000 – $202,500)		$27,500
Inventories		
Construction in process ($100,000 + $100,000 + $50,000)	$250,000	
Less: Billings	202,500	
Costs and recognized profits in excess of billings		47,500

PROFESSIONAL SIMULATION (Continued)

Explanation

Given these facts, a more appropriate revenue recognition policy would be the cost-recovery method. Using the cost-recovery method, given the uncertainty of getting paid, gross profit is not recognized until cash collected on the sale exceeds the cost. This represents a more conservative policy in light of the uncertainty of realizability of the real estate sales.