CHAPTER 20

Accounting for Pensions and Postretirement Benefits

ASSIGNMENT CLASSIFICATION TABLE

Topics		Questions	Brief Exercises	Exercises	Problems	Cases
1.	Basic definitions and concepts related to pension plans.	1, 2, 3, 4, 5, 6, 7, 8, 9, 13, 14, 24		16		1, 2, 3, 7
2.	Work sheet preparation.		3	3, 4, 7, 10, 12, 15	1, 2, 7, 8, 9	
3.	Income statement recognition, computation of pension expense.	10, 11, 12, 14, 17, 18	1, 4	1, 2, 3, 6, 12, 13, 14, 15, 16, 17, 18, 20, 21	1, 2, 3, 4, 5, 6, 9	4, 5
4.	Balance sheet recognition, computation of pension expense.	16, 20, 21, 22, 23	2	3, 9, 11, 13, 14, 15, 17, 18, 19	2, 3, 4, 5, 6, 9	4, 5, 6, 7
5.	Minimum liability computation.	20, 22	8, 9, 10	11, 12, 13, 14, 16, 17, 18, 19	3, 4, 5, 7, 8, 9	2, 4
6.	Corridor calculation.	19	7	8, 14, 20, 21	3, 5, 6, 7, 8, 9	3, 5, 6
7.	Reconciliation schedule.	25	6	3, 9, 10, 14, 15, 19	1, 2, 3, 4, 6	
8.	Prior service cost.	13, 14, 22	5, 8, 9, 10	1, 2, 3, 5, 9, 11, 12, 13, 14, 15, 19, 21	1, 2, 3, 4, 5, 7, 8, 9	1
9.	Unrecognized net gain or loss.	15, 17	7	8, 9, 14, 19, 20, 21	1, 2, 3, 4, 5, 6, 7, 8, 9	4
10.	Disclosure issues.	25		12, 13		3, 4
11.	Special types of plans.	26				
*12.	Postretirement benefits.	27, 28, 29, 30, 31	11, 12	22, 23, 24, 25	10	

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

ASSIGNMENT CHARACTERISTICS TABLE

Item	Description	Level of Difficulty	Time (minutes)
E20-1	Pension expense, journal entries.	Simple	5-10
E20-2	Computation of pension expense.	Simple	10-15
E20-3	Preparation of pension work sheet with reconciliation.	Moderate	15-25
E20-4	Basic pension work sheet.	Simple	10-15
E20-5	Application of years-of-service method.	Moderate	15-25
E20-6	Computation of actual return.	Simple	10-15
E20-7	Basic pension work sheet.	Moderate	15-25
E20-8	Application of the corridor approach.	Moderate	20-25
E20-9	Disclosures: Pension expense and reconciliation schedule.	Moderate	25-35
E20-10	Pension work sheet with reconciliation schedule.	Moderate	20-25
E20-11	Computation of minimum liability, entry.	Moderate	10-15
E20-12	Pension expense, journal entries, statement presentation, minimum liability.	Moderate	20-30
E20-13	Pension expense, journal entries, minimum liability, statement presentation.	Moderate	20-30
E20-14	Computation of actual return, gains and losses, corridor test, prior service cost, minimum liability, pension expense, and reconciliation.	Complex	35-45
E20-15	Work sheet for E20-14.	Complex	40-50
E20-16	Pension expense, minimum liability, journal entries.	Moderate	15-20
E20-17	Pension expense, minimum liability, statement presentation.	Moderate	30-45
E20-18	Minimum liability, journal entries, balance sheet items.	Moderate	20-25
E20-19	Reconciliation schedule, minimum liability, and unrecognized loss.	Moderate	20-25
E20-20	Amortization of unrecognized net gain or loss (corridor approach), pension expense computation.	Moderate	25-35
E20-21	Amortization of unrecognized net gain or loss (corridor approach).	Moderate	30-40
*E20-22	Postretirement benefit expense computation.	Simple	10-12
*E20-23	Postretirement benefit expense computation.	Simple	10-12
*E20-24	Postretirement benefit work sheet.	Moderate	15-20
*E20-25	Postretirement benefit reconciliation schedule.	Simple	10-15
P20-1	Two-year work sheet and reconciliation schedule.	Moderate	40-50
P20-2	Three-year work sheet, journal entries, and reconciliation schedules.	Complex	45-55
P20-3	Pension expense, journal entries, minimum pension liability, amortization of unrecognized loss, reconciliation schedule.	Complex	40-50
P20-4	Pension expense, minimum liability, journal entries for two years.	Moderate	30-40
P20-5	Computation of pension expense, amortization of unrecognized net gain or loss (corridor approach), journal entries for three years, and minimum pension liability computation.	Complex	45-55
P20-6	Computation of unrecognized prior service cost amortization, pension expense, journal entries, net gain or loss, and reconciliation schedule.	Complex	45-60
P20-7	Pension work sheet, minimum liability.	Moderate	35-45

ASSIGNMENT CHARACTERISTICS TABLE (Continued)

Item	Description	Level of Difficulty	Time (minutes)
P20-8	Comprehensive 2-year work sheet.	Complex	45-60
P20-9	Comprehensive 2-year work sheet.	Moderate	40-45
*P20-10	Postretirement benefit work sheet with reconciliation.	Moderate	30-35
C20-1	Pension terminology and theory.	Moderate	30-35
C20-2	Pension terminology.	Moderate	25-30
C20-3	Basic terminology.	Simple	20-25
C20-4	Major pension concepts.	Moderate	30-35
C20-5	Implications of FASB Statement No. 87.	Complex	50-60
C20-6	Unrecognized gains and losses, corridor amortization.	Moderate	30-40
C20-7	Nonvested employees—an ethical dilemma	Moderate	20-30

ANSWERS TO QUESTIONS

1. A **private pension plan** is an arrangement whereby a company undertakes to provide its retired employees with benefits that can be determined or estimated in advance from the provisions of a document or from the company's practices.

   In a **contributory** pension plan the employees bear part of the cost of the stated benefits whereas in a **noncontributory** plan the employer bears the entire cost.

2. A **defined contribution plan** specifies the employer's contribution to the plan usually based on a formula, which may consider such factors as age, length of service, employer's profit, or compensation levels.

   A **defined benefit plan** specifies a determinable pension benefit that the employee will receive at a time in the future. The employer must determine the amount that should be contributed now to provide for the future promised benefits.

   In a **defined contribution plan,** the employer's obligation is simply to make a contribution to the plan each year based on the plan formula. The benefit of gain or risk of loss from assets contributed to the plan is borne by the employee. In a **defined benefit plan,** the employer's obligation is to make sufficient contributions each year to provide for the promised future benefits. Therefore, the employer is at risk to the extent that contributions will not be adequate to meet the promised benefits.

3. The **employer** is the organization sponsoring the pension plan. The employer incurs the costs and makes contributions to the pension fund. Accounting for the employer involves: (1) allocating the cost of the pension plan to the proper accounting periods, (2) measuring the amount of pension obligation resulting from the plan, and (3) disclosing the status and effects of the plan in the financial statements.

   The **pension fund** or plan is the entity which receives the contributions from the employer, administers the pension assets, and makes the benefit payments to the pension recipients. Accounting for the fund involves identifying receipts as contributions from the employer sponsor, income from fund investments, and computing the amounts due to individual pension recipients. Accounting for the pension costs and obligations of the employer is the topic of this chapter; accounting for the pension fund is not.

4. When the term "fund" is used as a **noun,** it refers to assets accumulated in the hands of a funding agency for the purpose of meeting pension benefits when they become due. When the term "fund" is used as a **verb,** it means to pay over to a funding agency (as to fund future pension benefits or to fund pension cost).

5. An actuary's role is to ensure that the company has established an appropriate funding pattern to meet its pension obligations, to make predictions and assumptions about future events and conditions that affect pension costs, and to assist the accountant in measuring facets of the pension plan that must be reported (costs, liabilities and assets). In order to determine the company's pension obligation, the actuary must first determine the expected benefits that will be paid in the future. To accomplish this requires the actuary to make actuarial assumptions, which are estimates of the occurrence of future events affecting pension costs, such as mortality, withdrawals, disablement and retirement, changes in compensation, and changes in discount rates to reflect the time value of money.

6. In measuring the amount of pension benefits under a defined benefit pension plan, an actuary must consider such factors as mortality rates, employee turnover, interest and earnings rates, early retirement frequency, and future salaries.

7. One measure of the pension obligation is the **vested benefit obligation.** This measure uses only current salary levels and includes only vested benefits; that is, benefits the employee is already entitled to receive even if the employee renders no additional services under the plan.

   A company's **accumulated benefit obligation** is the actuarial present value of benefits attributed by the pension benefit formula to service before a specified date and is based on employee service and compensation prior to that date. The accumulated benefit obligation differs from the projected benefit obligation in that it includes no assumption about future compensation levels. The **projected benefit obligation** is based on vested and nonvested services using future salaries.

8. **Noncapitalization** in pension accounting means no asset or liability is recorded and reported unless the amount funded is different from the amount expensed by the employer. Unrecognized is the real pension obligation, the pension plan assets, prior service costs (retroactive benefits), and unamortized gains and losses.

   The **capitalization** approach supports the economic substance of the pension plan as opposed to its legal form and records and reports all assets and liabilities of the plan as they relate to the employer. The employer is the ultimate source of funds to meet the benefit obligations.

   The FASB compromised and chose a method of pension accounting that leans toward capitalization but does not require recognition of the pension plan assets and liabilities, only disclosure of all such items.

9. **Cash-basis** accounting recognizes pension cost as being equal to the amount of cash paid by the employer to the pension fund in any period; pension funding serves as the basis for cost recognition under the cash basis.

   Accrual-basis accounting recognizes pension cost as it is incurred and attempts to recognize pension cost in the same period in which the company receives benefits from the services of its employees.

   Not infrequently, the amount which an employer must fund for pension purposes during a particular period is unrelated to the economic benefits derived from the pension plan in that period. Cash-basis accounting recognizes the amount funded as periodic pension cost and the amount funded may be discretionary and vary widely from year to year. Funding is a matter of financial management, based on working capital availability, tax considerations, and other matters unrelated to accounting considerations.

10. The five components of pension expense are:
    (1) Service cost component—the actuarial present value of benefits attributed by the pension benefit formula to employee service during the period.
    (2) Interest cost component—the increase in the projected benefit obligation as a result of the passage of time.
    (3) Actual return on plan assets component—the reduction in pension cost for actual investment income from plan assets and the change in the market value of plan assets.
    (4) Amortization of prior service cost—the cost of retroactive benefits granted in a plan amendment (including initiation of a plan).
    (5) Gains and losses—a change in the value of either the projected benefit obligation or the plan assets resulting from experience different from that assumed or expected or from a change in an actuarial assumption.

11. The **service cost component** of net periodic pension expense is determined as the actuarial present value of benefits attributed by the pension benefit formula to employee service during the period. The plan's benefit formula provides a measure of how much benefit is earned and, therefore, how much cost is incurred in each individual period. The FASB concluded that future compensation levels had to be considered in measuring the present obligation and periodic pension expense if the plan benefit formula incorporated them.

12. The **interest component** is the interest for the period on the projected benefit obligation outstanding during the period. The assumed discount rate should reflect the rates at which pension benefits could be effectively settled (settlement rates). Other rates of return on high-quality fixed-income investments might also be employed.

13. **Service cost** is the actuarial present value of benefits attributed by the pension benefit formula to employee service during the period. Actuaries compute service cost at the present value of the new benefits earned by employees during the year. **Prior service cost** is the cost of retroactive benefits granted in a plan amendment or initiation of a pension plan. The cost of the retroactive benefits is the increase in the projected benefit obligation at the date of the amendment.

14. When a defined benefit plan is either initiated or amended, credit is often given to employees for years of service provided before the date of initiation or amendment. The cost of these retroactive benefits are referred to as **prior service costs.** Employers grant retroactive benefits because they expect to receive benefits in the future. As a result, prior service cost should not be recognized as pension expense entirely in the year of amendment or initiation, but should be recognized during the service periods of those employees who are expected to receive benefits under the plan. Consequently, unrecognized prior service cost is amortized over the service life of employees who will receive benefits and is a component of net periodic pension expense each period.

15. **Liability gains and losses** are unexpected gains or losses from changes in the projected benefit obligation. Liability gains (resulting from unexpected decreases) and liability losses (resulting from unexpected increases) are deferred and combined in the Unrecognized Net Gain or Loss account. They are accumulated from year to year in a memo record account.

16. If pension expense recognized in a period exceeds the current amount funded, a liability account referred to as **Accrued Pension Cost** arises; the account would be reported either as a current or long-term liability, depending on the ultimate date of payment.

    If the current amount funded exceeds the amount recognized as pension expense, an asset account referred to as **Prepaid Pension Cost** arises; the account would be reported as a current asset if it is current in nature; if noncurrent, it would be reported in the other assets section. Often, one general account is used referred to as Accrued/Prepaid Pension Cost. If it has a credit balance, it is identified as a liability; if a debit balance, it is an asset.

17. Computation of actual return on plan assets

Fair value of plan assets at end of period		$10,150,000
Deduct: Fair value of plan assets at beginning of period		9,200,000
Increase in fair value of assets		950,000
Deduct: Contributions to plan during the period	$1,000,000	
Less benefits paid during the period	1,400,000	(400,000)
Actual return on plan assets		$ 1,350,000

18. An **asset gain** occurs when the actual return on the plan assets is greater than the expected return on plan assets while an **asset loss** occurs when the actual return is less than the expected return on the plan assets. A **liability gain** results from unexpected decreases in the pension obligation and a **liability loss** results from unexpected increases in the pension obligation.

19. **Corridor amortization** occurs when the accumulated unrecognized net gain or loss balance gets too large. The gain or loss is too large when it exceeds the arbitrarily selected FASB criterion of 10% of the larger of the beginning balances of the projected benefit obligation or the market-related value of the plan assets. The excess unrecognized gain or loss balance may be amortized using any systematic method but the amortization cannot be less than the amount computed using the straight-line method over the average remaining service-life of active employees expected to receive benefits.

20. A **minimum liability** is recognized when the accumulated benefit obligation exceeds the fair value of plan assets at the end of any year. The minimum liability amount is reported in two separate accounts, Prepaid/Accrued Pension Cost and Additional Pension Liability. The balances in these accounts are combined into one amount and reported as accrued pension cost or pension liability.

21. Whenever it is necessary to adjust the accounts to recognize a minimum pension liability, the offsetting debit is to an intangible asset account referred to as Deferred Pension Cost. The rationale for the debit to an intangible asset is that these costs (unrecognized prior service cost) are to be recognized in the future, not presently.

    If the debit to the intangible asset account results in that account's balance exceeding the amount of unrecognized prior service cost, then it must mean that the company has experienced an actuarial loss. The excess amount by which the intangible asset exceeds the unrecognized prior service cost should be debited to Excess of Additional Pension Liability over Unrecognized Prior Service Cost and charged to other comprehensive income. The total account balance (contra stockholders' equity account) should be reported as a component of accumulated other comprehensive income as a reduction of stockholders' equity.

22. The amount of the minimum pension liability to be reported on the company's balance sheet is as follows:

Accumulated benefit obligation	$(400,000)
Pension plant assets	300,000
Minimum pension liability	$(100,000)

    The additional liability is $141,000. In the financial statements, the company will report a net pension liability of $100,000 and an intangible asset of $141,000 ($100,000 + $41,000). Neither the plan assets nor the accumulated benefit obligation are reported in the financial statements (but they are both disclosed in the notes).

23. The unrecognized prior service cost is not reported on the balance sheet. An intangible asset—Deferred Pension Cost—in the amount of $9,150,000 would be reported in the intangible asset section. The remaining $1,350,000 is debited to Excess of Additional Pension Liability over Unrecognized Prior Service Cost and charged to other comprehensive income. The total account balance (contra stockholders' equity account) should be reported as a component of accumulated other comprehensive income as a reduction of stockholders' equity.

24. (a) A **contributory plan** is a pension plan under which employees contribute part of the cost. In some contributory plans, employees wishing to be covered must contribute; in other contributory plans, employee contributions result in increased benefits.
    (b) **Vested benefits** are benefits for which the employee's right to receive a present or future pension benefit is no longer contingent on remaining in the service of the employer.
    (c) **Retroactive benefits** are benefits granted in a plan amendment (or initiation) that are attributed by the pension benefit formula to employee services rendered in periods prior to the amendment.
    (d) The **years-of-service method** is used to allocate prior service cost to the remaining years of service of the affected employees. Each year receives a fraction of the original cost with the fraction depicting the number of service-years received out of the total service-years to be worked by the affected employees.

25. Compromises by the FASB to full capitalization or recognition in the financial statements of relevant pension data resulted in nonrecognition of the projected benefit obligation, plan assets, prior service cost, and gains and losses. These unrecognized items are disclosed in a separate schedule in such a way that the total obligation and funded status (either over- or underfunded) of the pension plan are reconciled to the prepaid/accrued pension cost reported in the balance sheet by acknowledging the unrecognized pension elements (plan assets, prior service cost, and deferred gains and losses).

26. The accounting issue that arises from these terminations is whether a gain should be recognized by the corporation when these assets revert (often called asset reversion transactions) to the company. The profession requires that these gains or losses be reported immediately in most situations. Otherwise, the gain is deferred and amortized over at least ten years in the future.

*27. **Postretirement benefits other than pensions** include health care and other welfare benefits provided to retirees, their spouses, dependents, and beneficiaries. The other welfare benefits include life insurance offered outside a pension plan, dental care as well as medical care, eye care, legal and tax services, tuition assistance, day care, and housing activities.

*28. The FASB did not cover both pensions and health care benefits in the earlier pension accounting statement **(No. 87)** because of the significant differences between the two types of postretirement benefits. These differences are listed in the following schedule:

Differences between Postretirement Health Care Benefits and Pensions

Item	Pensions	Health Care Benefits
Funding	Generally funded.	Generally **NOT** funded.
Benefit	Well-defined and level dollar amount.	Generally uncapped and great variability.
Beneficiary	Retiree (maybe some benefit to surviving spouse).	Retiree, spouse, and other dependents.
Benefit Payable	Monthly.	As needed and used.
Predictability	Variables are reasonably predictable.	Utilization difficult to predict. Level of cost varies geographically and fluctuates over time.

Additionally, although health care benefits are generally covered by the fiduciary and reporting standards for employee benefit funds under ERISA, the stringent minimum vesting, participation, and funding standards that apply to pensions do not apply to health care benefits.

*29. Under **FASB Statement No. 106,** accounting for postretirement benefits, the transition amount (obligation or asset—almost always an obligation) is computed as the difference between the accumulated postretirement benefit obligation and the fair value of the plan assets (plus any accrued obligation or less any prepaid cost). It may be written off immediately or amortized on a straight-line basis over the average remaining service period to expected retirement of employees in place at the time of transition and expected to receive benefits. If the remaining service period is less than 20 years, the employer may elect a 20-year amortization period.

Accounting for transition amounts is so controversial because of the potentially significant impact on earnings.

*30. The major differences between pension benefits and postretirement benefits are listed below:

Differences between Postretirement Health Care Benefits and Pensions

Item	Pensions	Health Care Benefits
Funding	Generally funded.	Generally **NOT** funded.
Benefit	Well-defined and level dollar amount.	Generally uncapped and great variability.
Beneficiary	Retiree (maybe some benefit to surviving spouse).	Retiree, spouse, and other dependents.
Benefit Payable	Monthly.	As needed and used.
Predictability	Variables are reasonably predictable.	Utilization difficult to predict. Level of cost varies geographically and fluctuates over time.

*31. EPBO (expected postretirement benefit obligation) is the actuary's present value of all benefits expected to be paid after retirement, while APBO (accumulated postretirement benefit obligation) is the actuarial present value of future benefits attributed to employees' services rendered to a particular date.

The components of postretirement expense are service cost, interest cost, actual return on plan assets, amortization of prior service cost, gains and losses, and amortization of transition obligation.

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 20-1

Service cost	$ 260,000
Interest on PBO	515,000
Return on plan assets	(539,000)
Amortization of unrecognized prior service cost	11,000
Amortization of unrecognized net loss	22,000
Pension expense	$ 269,000

BRIEF EXERCISE 20-2

Ending plan assets		$2,000,000
Beginning plan assets		1,680,000
Increase in plan assets		320,000
Deduct: Contributions	$120,000	
Less benefits paid	(200,000)	(80,000)
Actual return on plan assets		$ 400,000

BRIEF EXERCISE 20-3

UDDIN COMPANY

	General Journal Entries			Memo Record	
Items	Pension Expense	Cash	Prepaid/ Accrued Cost	Projected Benefit Obligation	Plan Assets
1/1/05				250,000 Cr	250,000 Dr
Service cost	27,500 Dr			27,500 Cr	
Interest cost	25,000 Dr			25,000 Cr	
Actual return	25,000 Cr				25,000 Dr
Contributions		20,000 Cr			20,000 Dr
Benefits				17,500 Dr	17,500 Cr
Journal entry	27,500 Dr	20,000 Cr	7,500 Cr		
12/31/05			7,500 Cr	285,000 Cr	277,500 Dr

BRIEF EXERCISE 20-4

Prepaid Pension Cost	134,000	
Cash		122,000
Pension Expense		12,000

BRIEF EXERCISE 20-5

Cost per service year:
$120,000/2,000 = $60

2005 amortization:
350 X $60 = $21,000

BRIEF EXERCISE 20-6

Project benefit obligation	$(510,000)
Plan assets at fair value	322,000
PBO in excess of plan assets (or funded status)	(188,000)
Unrecognized prior service cost	127,000
Accrued pension cost	$ (61,000)

BRIEF EXERCISE 20-7

Unrecognized net loss	$475,000
Corridor (10% X $3,300,000)	330,000
Excess	145,000
Average remaining service life	÷ 7.5
Minimum amortization	$ 19,333

BRIEF EXERCISE 20-8

Accumulated benefit obligation	$2,800,000
Fair value of plan assets	2,000,000
Minimum liability	800,000
Accrued pension cost	200,000
Additional liability	$ 600,000

BRIEF EXERCISE 20-9

Intangible Asset—Deferred Pension Cost.....	145,000	
Additional Pension Liability.....		145,000*

*Accumulated benefit obligation	$3,400,000
Fair value of plan assets	2,420,000
Minimum liability	980,000
Accrued pension cost	235,000
Additional liability required	745,000
Previous additional liability	600,000
Increase in additional liability	$ 145,000

BRIEF EXERCISE 20-10

Intangible Asset—Deferred Pension Cost.....	425,000	
Excess of Additional Pension Liability over Unrecognized Prior Service Cost	175,000	
Additional Pension Liability.....		600,000

***BRIEF EXERCISE 20-11**

Service cost	$40,000
Interest cost	52,400
Actual return on plan assets	(26,900)
Amortization of unrecognized transition amount	24,600
Postretirement expense	$90,100

***BRIEF EXERCISE 20-12**

Postretirement Expense	240,900	
Cash.....		160,000
Prepaid/Accrued Cost		80,900

SOLUTIONS TO EXERCISES

EXERCISE 20-1 (5-10 minutes)

(a) Computation of pension expense:

Service cost	$ 60,000
Interest cost ($500,000 X .10)	50,000
Actual (expected) return on plan assets	(12,000)
Unrecognized prior service cost amortization	8,000
Pension expense for 2004	$106,000

(b)

Pension Expense	106,000	
Cash		95,000
Prepaid/Accrued Pension Cost		11,000

EXERCISE 20-2 (10-15 minutes)

Computation of pension expense:

Service cost	$ 90,000
Interest cost ($800,000 X 10%)	80,000
Actual (and expected) return on plan assets	(64,000)
Unrecognized prior service cost amortization	10,000
Pension expense for 2005	$116,000

Rebekah Company
Pension Work Sheet—2005

	General Journal Entries			Memo Record		
	Annual Pension Expense	Cash	Prepaid/ Accrued Cost	Projected Benefit Obligation	Plan Assets	Unrecognized Prior Service Cost
Balance, January 1, 2005			10,000 Cr.	800,000 Cr.	640,000 Dr.	150,000 Dr.
(a) Service cost	90,000 Dr.			90,000 Cr.		
(b) Interest cost	80,000 Dr.			80,000 Cr.		
(c) Actual return	64,000 Cr.				64,000 Dr.	
(d) Amortization of PSC	10,000 Dr.					10,000 Cr.
(e) Contributions		105,000 Cr.			105,000 Dr.	
(f) Benefits				40,000 Dr.	40,000 Cr.	
Journal entry	116,000 Dr.	105,000 Cr.	11,000 Cr.			
Balance, January 31, 2005			21,000 Cr.	930,000 Cr.	769,000 Dr.	140,000 Dr.

(b) $80,000 = $800,000 X 10%.

Reconciliation Schedule

Projected benefit obligation	$(930,000)
Plan assets at fair value	769,000
Funded status	(161,000)
Unrecognized prior service cost	140,000
Prepaid/accrued pension cost	$ (21,000)

Trudy Borke Inc.
Pension Work Sheet—2005

	General Journal Entries			Memo Record	
Items	Annual Pension Expense	Cash	Prepaid/ Accrued Cost	Projected Benefit Obligation	Plan Assets
Balance, January 1, 2005				490,000 Cr.	490,000 Dr.
(a) Service cost	40,000 Dr.			40,000 Cr.	
(b) Interest cost	41,650 Dr.			41,650 Cr.	
(c) Actual return	49,700 Cr.				49,700 Dr.
(d) Contributions		30,000 Cr.			30,000 Dr.
(e) Benefits					
Journal entry, December 31	31,950 Dr.	30,000 Cr.	1,950 Cr.	33,400 Dr.	33,400 Cr.
Balance, December 31, 2005			1,950 Cr.	538,250 Cr.	536,300 Dr.

(b) $41,650 = $490,000 X .085.

EXERCISE 20-5 (15-25 minutes)

Computation of Service-Years

Year	Ed	Paul	Mary	Dave	Caroline	Total
2005	1	1	1	1	1	5
2006	1	1	1	1	1	5
2007	1	1	1	1	1	5
2008		1	1	1	1	4
2009			1	1	1	3
2010			1	1	1	3
	3	4	6	6	6	25

Cost per service-year: $60,000 ÷ 25 = $2,400

Computation of Annual Prior Service Cost Amortization

Year	Total Service-Years	Cost Per Service-Year	Annual Amortization
2005	5	$2,400	$12,000
2006	5	2,400	12,000
2007	5	2,400	12,000
2008	4	2,400	9,600
2009	3	2,400	7,200
2010	3	2,400	7,200
			$60,000

EXERCISE 20-6 (10-15 minutes)

Computation of Actual Return on Plan Assets

Fair value of plan assets at 12/31/05		$2,725,000
Fair value of plan assets at 1/1/05		2,300,000
Increase in fair value of plan assets		425,000
Deduct: Contributions to plan during 2005	$250,000	
Less benefits paid during 2005	350,000	(100,000)
Actual return on plan assets for 2005		$ 525,000

EXERCISE 20-7 (15-25 minutes)

Doreen Corp.
Pension Work Sheet—2005

Items	General Journal Entries: Annual Pension Expense	General Journal Entries: Cash	General Journal Entries: Prepaid/ Accrued Cost	Memo Record: Projected Benefit Obligation	Memo Record: Plan Assets	Memo Record: Unrecognized Prior Service Cost
Balance, January 1, 2005			13,800 Cr.	560,000 Cr.	546,200 Dr.	
(a) Prior service cost				100,000 Cr.		100,000 Dr.
New balance, January 1, 2005			13,800 Cr.	660,000 Cr.	546,200 Dr.	100,000 Dr.
(b) Service cost	58,000 Dr.			58,000 Cr.		
(c) Interest cost	59,400 Dr.			59,400 Cr.		
(d) Actual return	52,280 Cr.				52,280 Dr.	
(e) Amortization of PSC	17,000 Dr.					17,000 Cr.
(f) Contributions		55,000 Cr.			55,000 Dr.	
(g) Benefits				40,000 Dr.	40,000 Cr.	
Journal entry, December 31	82,120 Dr.	55,000 Cr.	27,120 Cr.			
Balance, December 31, 2005			40,920 Cr.	737,400 Cr.	613,480 Dr.	83,000 Dr.

(c) $59,400 = $660,000 X .09.

EXERCISE 20-8 (20-25 minutes)

Corridor and Minimum Loss Amortization

Year	Projected Benefit Obligation (a)	Plan Asset Value (a)	10% Corridor	Cumulative Unrecognized Net Loss (a)	Minimum Amortization of Loss
2003	$2,000,000	$1,900,000	$200,000	$ 0	$ 0
2004	2,400,000	2,500,000	250,000	280,000	3,000 (b)
2005	2,900,000	2,600,000	290,000	367,000 (c)	6,417 (d)
2006	3,600,000	3,000,000	360,000	370,583 (e)	882 (f)

(a) As of the beginning of the year.
(b) ($280,000 – $250,000) ÷ 10 years = $3,000
(c) $280,000 – $3,000 + $90,000 = $367,000
(d) ($367,000 – $290,000) ÷ 12 years = $6,417
(e) $367,000 – $6,417 + $10,000 = $370,583
(f) $370,583 – $360,000) ÷ 12 years = $882

EXERCISE 20-9 (25-35 minutes)

(a) Note to financial statements disclosing components of 2005 pension expense:

Note X: Net pension expense for 2005 is composed of the following components of pension cost:

Service cost	$ 94,000
Interest cost	253,000
Expected return on plan assets	(175,680)
Prior service cost amortization	45,000
Net pension expense	$216,320

(b) The following schedule reconciles the funded status of the plan with the amount reported in the balance sheet at December 31, 2005:

Projected benefit obligation	$(2,737,000)
Plan assets at fair value	2,278,329
Projected benefit obligation in excess of plan assets (funded status)	(458,671)
Unrecognized prior service cost	205,000
Unrecognized net loss	45,680
Accrued pension cost liability	$ (207,991)

(a)

Tim Buhl Corp.
Pension Work Sheet

Items	General Journal Entries: Annual Pension Expense	Cash	Prepaid/ Accrued Cost	Memo Record: Projected Benefit Obligation	Plan Assets	Unrecognized Prior Service Cost	Unrecognized Net Gain or Loss
Balance, January 1, 2005			45,000 Cr.	625,000 Cr.	480,000 Dr.	100,000 Dr.	
(a) Service cost	90,000 Dr.			90,000 Cr.			
(b) Interest cost	56,250 Dr.			56,250 Cr.			
(c) Actual return	57,000 Cr.				57,000 Dr.		
(d) Unexpected gain	5,000 Dr.						5,000 Cr.
(e) Amortization of PSC	19,000 Dr.					19,000 Cr.	
(f) Liability increase				76,000 Cr.			76,000 Dr.
(g) Contributions		99,000 Cr.			99,000 Dr.		
(h) Benefits				85,000 Dr.	85,000 Cr.		
Journal entry	113,250 Dr.	99,000 Cr.	14,250 Cr.				
			59,250 Cr.	762,250 Cr.	551,000 Dr.	81,000 Dr.	71,000 Dr.

(b) $56,250 = $625,000 X .09.
(d) Expected return = $52,000.
Unexpected gain = Actual return minus expected return; $5,000 = $57,000 – $52,000.

(b) Reconciliation Schedule—12/31/05

Projected benefit obligation (Credit)	$(762,250)
Plan assets at fair value (Debit)	551,000
Funded status	(211,250)
Unrecognized prior service cost (Debit)	81,000
Unrecognized net loss (Debit)	71,000
Prepaid/Accrued Pension Cost—Liability	$ (59,250)

EXERCISE 20-11 (10-15 minutes)

(a) Additional Liability Computations

	December 31	
	2004	2005
Accumulated benefit obligation	$(260,000)	$(370,000)
Fair value plan of assets	255,000	300,000
Minimum liability	(5,000)	(70,000)
Prepaid (accrued) pension cost	30,000	(45,000)
Additional liability to report	(35,000)	(25,000)
Less: Beginning additional liability	—	(35,000)
Additional liability to record	$ (35,000)	$ 10,000

(b)

2004		
Intangible Asset—Deferred Pension Cost	35,000	
Additional Pension Liability		35,000
2005		
Additional Pension Liability	10,000	
Intangible Asset—Deferred Pension Cost		10,000

EXERCISE 20-12 (20-30 minutes)

(a) Pension expense for 2004 composed of the following:

Service cost	$ 56,000
Interest on projected benefit obligation (9% X $1,000,000)	90,000
Actual and expected return on plan assets	(54,000)
Amortization of unrecognized gain or loss	0
Amortization of unrecognized prior service cost	40,000
Pension expense	$132,000

(b)

Pension Expense	132,000	
Prepaid/Accrued Pension Cost	13,000*	
Cash		145,000
(To record pension expense and employer's contribution)		

*$145,000 – $132,000

EXERCISE 20-12 (Continued)

(c) Income Statement:

Pension expense	$132,000

Balance Sheet:

Assets	
Intangible asset—deferred pension cost	$44,000
Liabilities	
Accrued pension cost	$31,000

Minimum liability computation:

	12/31/04
Accumulated benefit obligation	$(830,000)
Plan assets at fair value	799,000[a]
Minimum liability	$ (31,000)
Prepaid/accrued pension cost (an asset)	13,000
Additional liability	(44,000)
Unrecognized prior service cost	360,000[b]
Contra equity charge	$ 0

[a]$799,000 = $600,000 + $145,000 + $54,000
[b]$360,000 = $400,000 – $40,000

EXERCISE 20-13 (20-30 minutes)

(a) Pension expense for 2004 composed of the following:

Service cost	$ 77,000
Interest on projected benefit obligation (10% X $2,000,000)	200,000
Actual and expected return on plan assets (10% X $800,000)	(80,000)
Amortization of unrecognized net gain or loss	0
Amortization of unrecognized prior service cost	115,000
Pension expense	$312,000

(b)

Pension Expense	312,000	
Cash		250,000
Prepaid/Accrued Pension Cost		62,000
(To record pension expense and employer's contribution)		

EXERCISE 20-13 (Continued)

(c) Income Statement:

Pension expense	$312,000

Balance Sheet:

Assets	
Intangible asset—deferred pension cost	$528,000
Liabilities	
Accrued pension cost	$590,000

Minimum liability computation:	12/31/04
Accumulated benefit obligation	$(1,720,000)
Plan assets at fair value	1,130,000
Minimum liability	(590,000)
Prepaid/accrued pension cost	(62,000)
Additional liability	(528,000)
Unrecognized prior service cost	1,085,000*
Contra equity charge	$ 0

*($1,200,000 – $115,000)

Note: Beginning of year prior service cost must be $1,200,000, since there are no unrecognized gains or losses.

Note to instructor: To prove the amounts reported, a work sheet might be prepared as follows:

	Journal Entries			Memo Record			
	Annual Pension Expense	Cash	Prepaid/ Accrued Cost	Projected Benefit Obligation	Plan Assets	Unrecognized Prior Service Cost	Unrecognized Net Gain or Loss
Balance, Jan. 1, 2004			0	2,000,000 Cr.	800,000 Dr.	1,200,000 Dr.*	0
(a) Service cost	77,000 Dr.			77,000 Cr.			
(b) Interest cost	200,000 Dr.			200,000 Cr.			
(c) Actual return	80,000 Cr.				80,000 Dr.		
(d) Amortization of PSC	115,000 Dr.					115,000 Cr.	
(e) Contributions		250,000 Cr.			250,000 Dr.		
(f) Liability gain				200,000 Dr.			200,000 Cr.
Journal entry, Dec. 31	312,000 Dr.	250,000 Cr.	62,000 Cr.				
Balance, Dec. 31, 2004			62,000 Cr.	2,077,000 Cr.	1,130,000 Dr.	1,085,000 Dr.	200,000 Cr.

*This number is a plug as the problem states there is no unrecognized gain or loss.

EXERCISE 20-14 (35-45 minutes)

(a) Actual Return = (Ending – Beginning) – (Contributions – Benefits)

Fair value of plan assets, December 31, 2005		$2,620
Deduct: Fair value of plan assets, January 1, 2005		1,700
Increase in fair value of plan assets		920
Deduct: Contributions	$800	
Less benefits paid	200	600
Actual return on plan assets in 2005		$ 320

(b) Computation of pension liability gains and losses and pension asset gains and losses.

1. Difference between 12/31/05 actuarially computed PBO and 12/31/05 recorded projected benefit obligation (PBO):

PBO at end of year		$3,645	
PBO per memo records:			
1/1/05 PBO	$2,800		
Add interest (10%)	280		
Add service cost	400		
Less benefit payments	(200)	3,280	
Liability loss			$365

2. Difference between actual fair value of plan assets and expected fair value:

12/31/05 actual fair value of plan assets		2,620	
Expected fair value			
1/1/05 fair value of plan assets	1,700		
Add expected return ($1,700 X 10%)	170		
Add contribution	800		
Less benefits paid	(200)	2,470	
Asset gain			(150)
Unrecognized net (gain) or loss			$215

(c) Because no unrecognized net gain or loss existed at the beginning of the period, no amortization occurs. Therefore, the corridor calculation is not needed. An example of how the corridor would have been computed is illustrated below, assuming an unrecognized net loss of $240.

EXERCISE 20-14 (Continued)

		Beginning-of-the-Year			
Year	PBO	Plan Assets (FV)	10% Corridor	Unrecognized Net Loss	Loss Amortization
2005	$2,800	$1,700	$280	$240	–0–

(d) Prior service cost amortization: $1,100 X 1/20 = $55 per year.

(e) Minimum liability computation:

Accumulated benefit obligation, 12/31/05	$(2,730)
Plan assets at fair value	2,620
Minimum liability	(110)
Prepaid pension cost, 12/31/05 ($800 – $565)	235
Additional liability	$ (345)

(f) Pension expense for 2005:

Service cost	$400
Interest cost ($2,800 X 10%)	280
Actual return on plan assets [from (a)]	(320)
Unexpected gain [from (b)2.]	150
Amortization of prior service cost	55
Pension expense for 2005	$565

(g) Reconciliation schedule:

Projected benefit obligation	$(3,645)
Fair value of plan assets	2,620
Funded status	(1,025)
Unrecognized prior service cost ($1,100 – $55)	1,045
Unrecognized net (gain) or loss	215
Prepaid/accrued pension cost	235
Adjustment required to recognize minimum liability	(345)
Accrued pension cost recognized in the balance sheet	$ (110)

Linda Berstler Company
Pension Work Sheet—2005

Items	General Journal Entries: Annual Pension Expense	Cash	Prepaid/ Accrued Cost	Additional Liability	Pension Intangible Asset	Memo Record Entries: Projected Benefit Obligation	Plan Assets	Unrecognized Prior Service Cost	Unrecognized Net Gain or Loss
Balance, Jan. 1, 2005						2,800 Cr.	1,700 Dr.	1,100 Dr.	
(a) Service cost	400 Dr.					400 Cr.			
(b) Interest cost	280 Dr.					280 Cr.			
(c) Actual return	320 Cr.						320 Dr.		
(d) Unexpected gain	150 Dr.							55 Cr.	150 Cr.
(e) Amortization of PSC	55 Dr.								
(f) Funding		800 Cr.					800 Dr.		
(g) Benefits						200 Dr.	200 Cr.		
(h) Liability change (increase)						365 Cr.			365 Dr.
(i) Minimum liability adjustment				345 Cr.	345 Dr.				
Journal entry—2005	565 Dr.	800 Cr.	235 Dr.						
Balance, Dec. 31, 2005			235 Dr.	345 Cr.	345 Dr.	3,645 Cr.	2,620 Dr.	1,045 Dr.	215 Dr.

(b) $2,800 X 10%

(c) $320 = ($2,620 – $1,700) – ($800 – $200)

(d)

Actual return	$320
Expected return ($1,700 X 10%)	170
Asset gain	$150

(e) $1,100 X 1/20 = $55

(h) $365 = $3,645 – ($2,800 + $400 + $280 – $200)

(i)

Accumulated benefit obligation, 12/31/05	$(2,730)
Plan asset at fair value	2,620
Minimum liability	(110)
Prepaid pension cost	235
Additional liability	$ (345)

EXERCISE 20-15 (Continued)

Journal entries 12/31/05

1.	Pension Expense	565	
	Prepaid/Accrued Pension Cost	235	
	Cash		800
2.	Pension Intangible Asset	345	
	Additional Pension Liability		345

Reconciliation Schedule

Projected benefit obligation	$(3,645)
Fair value of plan assets	2,620
Funded status	(1,025)
Unrecognized prior service cost	1,045
Unrecognized net (gain) or loss	215
Prepaid pension cost	235
Additional liability	(345)
Pension liability reported	$ (110)

EXERCISE 20-16 (15-20 minutes)

(a) Computation of pension expense:

Service cost	$ 90,000
Interest cost ($700,000 X .10)	70,000
Actual (expected) return on plan assets	(15,000)
Pension expense for 2004	$145,000

Pension Expense	145,000	
Prepaid/Accrued Pension Cost	5,000	
Cash		150,000

(b) Minimum liability computation:

Accumulated benefit obligation	$(400,000)
Fair value of plan assets	350,000
Minimum liability	(50,000)
Prepaid (accrued) pension cost ($25,000 – $5,000)	(20,000)
Additional liability to report	(30,000)
Less: Beginning additional liability	(10,000)
Additional liability to record	$ (20,000)

EXERCISE 20-16 (Continued)

Excess of Additional Pension Liability over Unrecognized Prior Service Cost	20,000	
Additional Pension Liability		20,000

EXERCISE 20-17 (30-45 minutes)

(a)/(b) Journal Entries—2004

Pension Expense	95,000	
Prepaid/Accrued Pension Cost	15,000*	
Cash		110,000
Intangible Asset—Deferred Pension Cost	113,000	
Additional Pension Liability		113,000**
(To record an additional liability to reflect the minimum liability)		

*Prepaid/accrued pension cost at beginning of year	$ 0
Pension expense	(95,000)
Contribution	110,000
Prepaid/accrued pension cost at end of year	$ 15,000

**Accumulated benefit obligation	$(378,000)
Plan assets (at fair value)	280,000
Unfunded accumulated benefit obligation (minimum liability)	(98,000)
Prepaid pension cost	15,000
Additional liability required	$(113,000)

Journal Entries—2005

Pension Expense	128,000	
Prepaid/Accrued Pension Cost	22,000	
Cash		150,000
Intangible Asset—Deferred Pension Cost	38,000	
Additional Pension Liability		38,000*
(To record an additional liability to reflect the minimum liability)		

EXERCISE 20-17 (Continued)

*Prepaid/accrued pension cost at beginning of year	$ 15,000
Pension expense	(128,000)
Contribution	150,000
Prepaid/accrued pension cost at end of year	$ 37,000
Accumulated benefit obligation	$(512,000)
Plan assets (at fair value)	398,000
Unfunded accumulated benefit obligation (minimum liability)	$(114,000)
Prepaid pension cost	37,000
Additional liability—2005	(151,000)
Additional liability—2004	113,000
Additional liability required—2005	$ (38,000)

Journal Entries—2006

Pension Expense	130,000	
Cash		125,000
Prepaid/Accrued Pension Cost		5,000
Additional Pension Liability	151,000	
Intangible Asset—Deferred Pension Cost		151,000*
(To reverse additional liability no longer required because plan assets exceed accumulated benefit obligation)		

*Prepaid/accrued pension cost at beginning of year	$ 37,000
Pension expense	(130,000)
Contribution	125,000
Prepaid/accrued pension cost at end of year	$ 32,000
Accumulated benefit obligation	$(576,000)
Plan assets (at fair value)	586,000
Excess of plan assets over accumulated benefit obligation	$ 10,000

EXERCISE 20-17 (Continued)

	2004	2005	2006
Income Statement:			
Pension expense	$ 95,000	$128,000	$130,000
Balance Sheet:			
Assets			
Intangible asset— deferred pension cost	$113,000	$151,000	$ 0
Prepaid pension cost			32,000
Liabilities			
Accrued pension cost*	$ 98,000	$114,000	$ 0

*For financial statement presentation, the Additional Pension Liability balance is combined with the Prepaid/Accrued Pension Cost account balance to arrive at Accrued Pension Cost.

EXERCISE 20-18 (20-25 minutes)

(a) In 2004, the balance sheet reports as an asset "prepaid pension cost" of $19,000.

In 2005, the balance sheet reports as an asset "prepaid pension cost" of $16,000 as given.

In 2006, the balance sheet reports as a liability "accrued pension cost" of $110,000 and as an intangible asset $103,000 ($110,000 – $7,000).

The computation for 2006 is as follows:

Accumulated benefit obligation	$(2,060,000)
Plan assets (at fair value)	1,950,000
Unfunded accumulated benefit obligation (minimum liability)	$ (110,000)

(b)

	2004	
Pension Expense	250,000	
Prepaid/Accrued Pension Cost	19,000	
Cash		269,000
(To record pension expense for the period)		

EXERCISE 20-18 (Continued)

2005		
Pension Expense	268,000	
Prepaid/Accrued Pension Cost		3,000
Cash		265,000
(To record pension expense for the period)		
2006		
Pension Expense	300,000	
Prepaid/Accrued Pension Cost		23,000
Cash		277,000
(To record pension expense for the period)		

(c) 2004—No entry necessary.
2005—No entry necessary.

In 2006, the journal entry is as follows:

Intangible Asset—Deferred Pension Cost	103,000	
Additional Pension Liability		103,000*
(To record an additional liability to reflect the minimum liability)		

*Unfunded accumulated benefit obligation [part (a)] $(110,000)
Accrued pension cost (2006) 7,000
Additional liability required $(103,000)

Note to instructor: The debit is to Intangible Asset—Deferred Pension Cost because this amount is less than the unrecognized prior service cost of $637,000.

EXERCISE 20-19 (20-25 minutes)

(a) Actuarial present value of benefit obligations:

Projected benefit obligation	$(930,000)[a]
Plan assets at fair value	700,000[a]
Projected benefit obligation in excess of plan assets (funded status)	(230,000)
Prior service cost not yet recognized in pension expense	120,000[a]
Prepaid/accrued pension cost	(110,000)
Adjustment required to recognize minimum liability	(55,000)[c]
Liability recognized in the balance sheet	$(165,000)[b]

[a]All given.

[b]Accumulated benefit obligation	$(865,000)
Pension plan assets (at fair value)	700,000
Unfunded accumulated benefit obligation (minimum liability)	$(165,000)

The $165,000 is the amount to be reported on the balance sheet.

[c]Difference between the accrued pension cost (before adjustment) $110,000 ($230,000 – $120,000) and the liability recognized in the balance sheet.

(b) If an additional unrecognized loss is reported, it would increase the adjustment required to recognize the minimum liability. The lower section of the reconciliation would be as follows: [Top part same as (a)]

Projected benefit obligation in excess of plan assets	$(230,000)
Unrecognized net loss	16,000
Prior service cost not yet recognized in pension expense	120,000
Prepaid/accrued pension cost	(94,000)
Adjustment required to recognize minimum liability	(71,000)
Liability recognized in the balance sheet	$ 165,000

EXERCISE 20-19 (Continued)

(c) The prior service cost not yet recognized in periodic expense should be deducted from the projected benefit obligation in excess of plan assets because, for accounting purposes, it has not been recognized. As a result, the liability for accounting purposes is lower, and, therefore, to reconcile to this lower number, the prior service cost not yet recognized must be deducted.

The unrecognized loss has either increased the project benefit obligation or decreased the fair value of the plan assets, but has not been recognized for accounting purposes. As a result, the accounting obligation is lower by this amount. In reconciling from the project benefit obligation in excess of plan assets to the accounting liability, this unrecognized loss must be deducted.

EXERCISE 20-20 (25-35 minutes)

The excess of the cumulative unrecognized net gain or loss over the corridor amount is amortized by dividing the excess by the average remaining service period of employees. The average remaining service period is computed as follows:

$$\frac{\text{Expected future years of service}}{\text{Number of employees}} = \text{Average remaining service life per employee}$$

$$\text{Average remaining service life per employee} = \frac{5{,}600}{400} = 14.$$

Amortization of Unrecognized Net (Gain) or Loss

(Gain) or Loss For the Year Ended December 31,	Amount
2004	300,000
2005	480,000
2006	(210,000)
2007	(290,000)

EXERCISE 20-20 (Continued)

Year	Projected Benefit Obligation (a)	Plan Assets (a)	Corridor (b)	Cumulative Unrecognized (Gain) Loss (a)	Minimum Amortization of (Gain) Loss
2004	$4,000,000	$2,400,000	$400,000	$ 0	$ 0
2005	4,520,000	2,200,000	452,000	300,000	0
2006	4,980,000	2,600,000	498,000	780,000	20,143 (c)
2007	4,250,000	3,040,000	425,000	549,857 (d)	8,918 (e)

(a) As of the beginning of the year.
(b) The corridor is 10 percent of the greater of projected benefit obligation or plan assets.
(c) $780,000 – $498,000 = $282,000; $282,000/14 = $20,143.
(d) $780,000 – $20,143 – $210,000 = $549,857.
(e) $549,857 – $425,000 = $124,857; $124,857/14 = $8,918.

EXERCISE 20-21 (30-40 minutes)

(a)

Year	Unrecognized Prior Service Cost Amortized	
2004	$110,000	($1,155,000 ÷ 10.5 years)
2005	110,000	($1,155,000 ÷ 10.5 years)

(b) The excess of the cumulative unrecognized net gain or loss over the corridor amount is amortized by dividing the excess by the average remaining service life per employee. The average service life is 10.5 years.

Amortization of Unrecognized Net (Gain) or Loss

(Gain) or Loss For the Year Ended December 31,	Amount
2004	$101,000
2005	(24,000)

EXERCISE 20-21 (Continued)

Year	Projected Benefit Obligation (a)	Plan Assets (a)	10% Corridor (b)	Cumulative Unrecognized (Gain) Loss (a)	Minimum Amortization of (Gain) Loss
2004	$2,800,000	$1,700,000	$280,000	$ 0	$ –0–
2005	3,650,000	2,900,000	365,000	101,000	–0– (c)

(a) As of the beginning of the year.
(b) The corridor is 10 percent of the greater of the projected benefit obligation or plan assets.
(c) $365,000 is greater than $101,000; therefore, no amortization.

(c) Pension expense for 2004 composed of the following:

Service cost	$400,000
Interest on projected benefit obligation ($2,800,000 X 11%)	308,000
Expected return on plan assets ($1,700,000 X 10%)	(170,000)
Amortization of unrecognized net gain or loss	0
Amortization of unrecognized prior service cost	110,000
Pension expense	$648,000

Pension expense for 2005 composed of the following:

Service cost	$475,000
Interest on projected benefit obligation ($3,650,000 X 8%)	292,000
Expected return on plan assets ($2,900,000 X 10%)	(290,000)
Amortization of unrecognized prior service cost	110,000
Pension expense	$587,000

*EXERCISE 20-22 (10-12 minutes)

Service cost	$ 88,000
Interest on accumulated postretirement benefit obligation (10% X $810,000)	81,000
Expected return on plan assets	(34,000)
Amortization of prior service cost	21,000
Amortization of transition amount	5,000
Postretirement expense	$161,000

***EXERCISE 20-23 (10-12 minutes)**

Service cost	$ 90,000
Interest on accumulated postretirement benefit obligation (9% X $810,000)	72,900
Expected return on plan assets	(62,000)
Amortization of prior service cost	3,000
Amortization of transition amount	5,000
Postretirement expense	$108,900

***EXERCISE 20-24 (15-20 minutes)**

See work sheet on next page.

***EXERCISE 20-25 (10-15 minutes)**

(a) Accumulated postretirement benefit obligation (Credit)	$(950,000)
Plan assets at fair value (Debit)	650,000
Funded status (Credit)	(300,000)
Unrecognized prior service cost (Debit)	60,000
Unrecognized transition amount (Debit)	100,000
Accrued postretirement benefit cost (Credit)	$(140,000)

(b) Accumulated postretirement benefit obligation (Credit)	$(950,000)
Plan assets at fair value (Debit)	650,000
Funded status (Credit)	(300,000)
Unrecognized prior service cost (Debit)	60,000
Unrecognized transition amount (Debit)	100,000
Unrecognized loss (Debit)	20,000
Accrued postretirement benefit cost (Credit)	$(120,000)

*EXERCISE 20-24 (15-20 minutes)

Marvelous Marvin Co.
Postretirement Benefits Work Sheet—2005

Items	General Journal Entries: Annual Post-retirement Expense	General Journal Entries: Cash	General Journal Entries: Prepaid/ Accrued Cost	Memo Record: Accumulated Postretire-ment Benefit Obligation	Memo Record: Plan Assets	Memo Record: Unrecognized Transition Amount	Memo Record: Unrecognized Prior Service Cost
Balance, Jan. 1, 2005			0	810,000 Cr.	710,000 Dr.	80,000 Dr.	20,000 Dr.
(a) Service cost	90,000 Dr.			90,000 Cr.			
(b) Interest cost	*72,900 Dr.			72,900 Cr.			
(c) Actual return	62,000 Cr.				62,000 Dr.		
(d) Contributions		16,000 Cr.			16,000 Dr.		
(e) Benefits				40,000 Dr.	40,000 Cr.		
(f) Amortization:							
Transition	5,000 Dr.					5,000 Cr.	
Prior service cost	3,000 Dr.						3,000 Cr.
Journal entry for 2005	108,900 Dr.	16,000 Cr.	92,900 Cr.				
Balance, Dec. 31, 2005			92,900 Cr.	932,900 Cr.	748,000 Dr.	75,000 Dr.	17,000 Dr.

*($710,000 X 9%)

TIME AND PURPOSE OF PROBLEMS

Problem 20-1 (Time 40-50 minutes)
Purpose—to provide a problem that requires preparation of a pension work sheet for two separate years' pension transactions accompanied with a reconciliation schedule at the end of the second year. Included in the problem are an unexpected loss and prior service cost amortization.

Problem 20-2 (Time 45-55 minutes)
Purpose—to provide a problem that requires preparation of a pension work sheet for three separate years' pension transactions, three years of general journal entries for the pension plan, and a reconciliation schedule at the end of each year.

Problem 20-3 (Time 40-50 minutes)
Purpose—to provide a problem that requires computation of the annual pension expense, preparation of the pension journal entries, measurement and recognition of the minimum liability, measurement of unrecognized gains and losses and their amortization, and preparation of a reconciliation schedule.

Problem 20-4 (Time 30-40 minutes)
Purpose—to provide a problem that requires computation of pension expense, preparation of the pension journal entries, and adjustment to the minimum liability.

Problem 20-5 (Time 45-55 minutes)
Purpose—to provide a problem that requires computation of the pension expense for three separate years and the preparation of the pension journal entries for three years with recognition of the minimum pension liability.

Problem 20-6 (Time 45-60 minutes)
Purpose—to provide a problem that requires computation and amortization of unrecognized prior service cost, computation of pension expense, preparation of pension journal entries, and preparation of a reconciliation schedule.

Problem 20-7 (Time 35-45 minutes)
Purpose—to provide a problem that requires preparation of a work sheet, including computation of the minimum liability.

Problem 20-8 (Time 45-60 minutes)
Purpose—to provide a problem that requires preparation of a comprehensive work sheet for two years, covering all facets of pension accounting.

Problem 20-9 (Time 40-45 minutes)
Purpose—to provide a problem that requires preparation of a work sheet for two years, journal entries, and a schedule reconciling funded status to accrued pension cost.

***Problem 20-10** (Time 30-35 minutes)
Purpose—to provide a problem that requires preparation of a work sheet and a reconciliation schedule for postretirement benefit expense.

(a)

Diana Peter Company
Pension Work Sheet—2005 and 2006

	General Journal Entries			Memo Record			
Items	Annual Pension Expense	Cash	Prepaid/ Accrued Cost	Projected Benefit Obligation	Plan Assets	Unrecognized Prior Service Cost	Unrecognized Net Gain or Loss
Balance, Jan. 1, 2005				4,200,000 Cr.	4,200,000 Dr.		
(a) Service cost	150,000 Dr.			150,000 Cr.			
(b) Interest cost	420,000 Dr.			420,000 Cr.			
(c) Actual return	252,000 Cr.				252,000 Dr.		
(d) Funding		140,000 Cr.			140,000 Dr.		
(e) Benefits				200,000 Dr.	200,000 Cr.		
Journal entry, 12/31/05	318,000 Dr.	140,000 Cr.	178,000 Cr.				
Balance, Dec. 31, 2005			178,000 Cr.	4,570,000 Cr.	4,392,000 Dr.		
(f) Prior service cost, 1/1/06				500,000 Cr.		500,000 Dr.	
				5,070,000 Cr.			
(g) Service cost	180,000 Dr.			180,000 Cr.			
(h) Interest cost	507,000 Dr.			507,000 Cr.			
(i) Actual return	260,000 Cr.				260,000 Dr.		
(j) Unexpected loss	91,360 Cr.						91,360 Dr.
(k) Amortization of PSC	90,000 Dr.					90,000 Cr.	
(l) Funding		185,000 Cr.			185,000 Dr.		
(m) Benefits				280,000 Dr.	280,000 Cr.		
Journal entry, 12/31/06	425,640 Dr.	185,000 Cr.	240,640 Cr.				
Balance, Dec. 31, 2006			418,640 Cr.	5,477,000 Cr.	4,557,000 Dr.	410,000 Dr.	91,360 Dr.

(b) $420,000 = $4,200,000 X 10%.
(h) $507,000 = $5,070,000 X 10%.
(j) $91,360 = ($4,392,000 X .08) – $260,000.

(b) Reconciliation Schedule—12/31/06

Projected benefit obligation	$(5,477,000)
Fair value of plan assets	4,557,000
Funded status	(920,000)
Unrecognized prior service cost	410,000
Unrecognized net (gain) or loss	91,360
Accrued pension cost liability	$ (418,640)

(a)

Katie Day Company
Pension Work Sheet—2005, 2006, 2007

	General Journal Entries			Memo Record			
	Annual Pension Expense	Cash	Prepaid/ Accrued Cost	Projected-Benefit Obligation	Plan Assets	Unrecognized Net Gain or Loss	Unrecognized Prior Service Cost
Balance, Jan. 1, 2005				200,000 Cr.	200,000 Dr.		
(a) Service cost	16,000 Dr.			16,000 Cr.			
(b) Interest cost	20,000 Dr.			20,000 Cr.			
(c) Actual return	17,000 Cr.				17,000 Dr.		
(d) Unexpected loss	3,000 Cr.					3,000 Dr.	
(e) Contributions		16,000 Cr.			16,000 Dr.		
(f) Benefits				14,000 Dr.	14,000 Cr.		
Journal entry, 12/31/05	16,000 Dr.	16,000 Cr.					
Balance, Dec. 31, 2005				222,000 Cr.	219,000 Dr.	3,000 Dr.	
(g) Prior service cost, 1/1/06				160,000 Cr.			160,000 Dr.
Balance, Jan. 1, 2006				382,000 Cr.	219,000 Dr.	3,000 Dr.	160,000 Dr.
(h) Service cost	19,000 Dr.			19,000 Cr.			
(i) Interest cost	38,200 Dr.			38,200 Cr.			
(j) Actual return	21,900 Cr.				21,900 Dr.		
(k) Amortization of PSC	54,400 Dr.						54,400 Cr.
(l) Contributions		40,000 Cr.			40,000 Dr.		
(m) Benefits				16,400 Dr.	16,400 Cr.		
Journal entry, 12/31/06	89,700 Dr.	40,000 Cr.	49,700 Cr.				
Balance, Dec. 31, 2006			49,700 Cr.	422,800 Cr.	264,500 Dr.	3,000 Dr.	105,600 Dr.
(n) Service cost	26,000 Dr.			26,000 Cr.			
(o) Interest cost	42,280 Dr.			42,280 Cr.			
(p) Actual return	24,000 Cr.				24,000 Dr.		
(q) Unexpected loss	2,450 Cr.					2,450 Dr.	
(r) Amortization of PSC	41,600 Dr.						41,600 Cr.
(s) Contributions		48,000 Cr.			48,000 Dr.		
(t) Benefits				21,000 Dr.	21,000 Cr.		
(u) Unexpected liability loss				49,920 Cr.		49,920 Dr.	
Journal entry, 12/31/07	83,430 Dr.	48,000 Cr.	35,430 Cr.				
Balance, Dec. 31, 2007			85,130 Cr.	520,000 Cr.	315,500 Dr.	55,370 Dr.	64,000 Dr.

PROBLEM 20-2 (Continued)

Work sheet computations:

(b) $20,000 = $200,000 X 10%
(d) $3,000 = ($200,000 X 10%) – $17,000; expected return exceeds actual return.
(i) $38,200 = $382,000 X 10%
(j) Expected return and actual return are the same.
(o) $42,280 = $422,800 X 10%
(q) $2,450 = ($264,500 X 10%) – $24,000; expected return exceeds actual return.

(Note to instructor: Because the amount of unrecognized net gain or loss does not exceed 10% of the larger of the projected benefit obligation or the fair value of the plan assets at the beginning of any of the years, no amortization is recorded. The minimum liability could not be computed in this problem because no accumulated benefit obligation was given for any of the years.)

(b) Journal entries:

2005		
Pension Expense	**16,000**	
Cash		**16,000**
2006		
Pension Expense	**89,700**	
Cash		**40,000**
Accrued Pension Cost		**49,700**
2007		
Pension Expense	**83,430**	
Cash		**48,000**
Accrued Pension Cost		**35,430**

(c) Reconciliation Schedule 2005

Projected benefit obligation	**$(222,000)**
Fair value of plan assets	**219,000**
Projected benefit obligation in excess of plan assets (funded status)	**(3,000)**
Unrecognized net (gain) or loss	**3,000**
Prepaid/accrued pension cost	**$ 0**

PROBLEM 20-2 (Continued)

Reconciliation Schedule 2006	
Projected benefit obligation	$(422,800)
Fair value of plan assets	264,500
Projected benefit obligation in excess of plan assets (funded status)	(158,300)
Unrecognized net (gain) or loss	3,000
Unrecognized prior service cost	105,600
Accrued pension cost	$ (49,700)

Reconciliation Schedule 2007	
Projected benefit obligation	$(520,000)
Fair value of plan assets	315,500
Projected benefit obligation in excess of plan assets (funded status)	(204,500)
Unrecognized net (gain) or loss	55,370
Unrecognized prior service cost	64,000
Accrued pension cost	$ (85,130)

PROBLEM 20-3

(a) Pension expense for 2004 comprises the following:

Service cost	$52,000
Interest on projected benefit obligation (10% X $350,000)	35,000
Actual return on plan assets	(11,000)
Unexpected loss	(9,000)*
Amortization of unrecognized gain or loss in 2004	0
Amortization of unrecognized prior service cost ($150,000 ÷ 10.5 years)	14,286**
Pension expense	$81,286

*([10% X $200,000] – $11,000)
**Amortization: $150,000 ÷ 10.5 years = $14,286

(b) Journal Entries—2004

Pension Expense	81,286	
Cash		65,000
Prepaid/Accrued Pension Cost		16,286

(c)

Intangible Asset—Deferred Pension Cost	72,714	
Additional Pension Liability		72,714

(To record an additional liability to reflect the minimum liability)

Prepaid/accrued pension cost at beginning of year	$ 0
Pension expense	(81,286)
Contribution	65,000
Prepaid/accrued pension cost at end of year	$(16,286)
Accumulated benefit obligation	$(365,000)
Plan assets (at fair value)	276,000
Unfunded accumulated benefit obligation (minimum liability)	(89,000)
Accrued pension cost	(16,286)
Additional liability required	$ (72,714)

PROBLEM 20-3 (Continued)

(d) 2004 Increase/Decrease in Unrecognized Gains/Losses

(1) 12/31/04 new actuarially computed PBO		$452,000	
Less: Projected benefit obligation per memo record:			
1/1/04 PBO	$350,000		
Add interest (10% X $350,000)	35,000		
Add service cost (given)	52,000		
Less benefit payments	0		
		437,000	
Liability loss			$15,000
(2) 12/31/04 fair value of plan assets		$276,000	
Less: Expected fair value 1/1/04 fair value of plan assets	$200,000*		
Add expected return (10% X $200,000)	20,000		
Add pension plan contribution	65,000		
Less benefit payments	0		
		285,000	
Asset loss			9,000
Unrecognized net loss at 12/31/04			$24,000

*Note: The statement allows either the fair value of plan assets or an average of fair values to be used as the market-related asset value. However, if the problem gives you both the fair value of plan assets and market-related asset value, use the market-related asset value in computing expected return. In this problem, fair value and market-related value are the same.

The $24,000 net loss in the Unrecognized Net Gain or Loss account becomes the beginning balance in 2005. The corridor at 1/1/05 is 10% of the greater of $452,000 (PBO) or $276,000 (market-related asset value). Since the corridor of $45,200 is greater than the balance in the unamortized gain/loss account of $24,000, there will be no gain/loss amortization in 2005. It follows that no amortization occurs in 2004 because no balance existed in the Unrecognized Net Gain or Loss account at the beginning of 2004.

(e) Reconciliation of Pension-Related Amounts

	Dr (Cr)
Projected benefit obligation	$(452,000)
Fair value of plan assets	276,000
Projected benefit obligation in excess of plan assets (funded status)	(176,000)
Unrecognized net (gain) or loss	24,000
Unrecognized prior service cost ($150,000 – $14,286)	135,714
Prepaid/accrued pension cost	(16,286)
Additional pension liability	(72,714)
Accrued pension liability (minimum liability recognized in financial statements: additional pension liability, $72,714, plus accrued pension cost, $16,286)	$ (89,000)

PROBLEM 20-4

(a) Computation of pension expense:

	2004	2005
Service cost	$ 60,000	$ 90,000
Interest cost ($600,000 X .09) and ($700,000 X .09)	54,000	63,000
Actual (expected) return on plan assets	(24,000)	(30,000)
Amortization of prior service cost	10,000	12,000
Pension expense	$100,000	$135,000

(b)

	2004		2005	
Pension Expense	100,000		135,000	
Cash		110,000		120,000
Prepaid/Accrued Pension Cost	10,000			15,000

(c) Minimum liability computation:

	2004	2005
Accumulated benefit obligation	$(500,000)	$(550,000)
Fair value of plan assets	380,000	465,000
Minimum liability	(120,000)	(85,000)
Prepaid (accrued) pension cost ($40,000 – $10,000) and ($30,000 + $15,000)	(30,000)	(45,000)
Additional liability to report	(90,000)	(40,000)
Less: Beginning additional liability	(50,000)	(90,000)
Additional liability to record	$ (40,000)	$ 50,000

(d)

2004		
Intangible Asset—Deferred Pension Cost	40,000	
Additional Pension Liability		40,000
2005		
Additional Pension Liability	50,000	
Intangible Asset—Deferred Pension Cost		50,000

PROBLEM 20-5

(a) Pension expense for 2004 consisted only of the service cost component amounting to $55,000. There were no unrecognized prior service cost, unrecognized net gain or loss, pension assets, or projected benefit obligation as of January 1, 2004.

Pension expense for 2005 comprised the following:

Service cost	$85,000
Interest on projected benefit obligation ($55,000 X 11%)	6,050
Expected return on plan assets ($50,000 X 10%)	(5,000)
Amortization of unrecognized net gain or loss	0
Amortization of unrecognized prior service cost	0
Pension expense	$86,050

Pension expense for 2006 comprised the following:

Service cost	$119,000
Interest on projected benefit obligation ($200,000 X 8%)	16,000
Expected return on plan assets ($85,000 X 10%)	(8,500)
Amortization of unrecognized net gain or loss (1)	5,329
Amortization of unrecognized prior service cost	0
Pension expense	$131,829

PROBLEM 20-5 (Continued)

(1)

Year	Projected Benefit Obligation (a)	Plan Assets (a)	Corridor (b)	Cumulative Unrecognized (Gain) Loss (a)	Minimum Amortization of (Gain) Loss
2004	$ 0	$ 0	$ 0	$ 0	$ 0
2005	55,000	50,000	5,500	0	0
2006	200,000	85,000	20,000	83,950	5,329 (c)

(a) As of the beginning of the year.
(b) The corridor is 10 percent of the greater of the projected benefit obligation or plan assets.
(c) $83,950 – $20,000 = $63,950; $63,950/12 = $5,329

(b)

Journal Entries—2004

Pension Expense	55,000	
Cash		50,000
Prepaid/Accrued Pension Cost		5,000

Journal Entries—2005

Pension Expense	86,050	
Cash		60,000
Prepaid/Accrued Pension Cost		26,050
Excess of Additional Pension Liability over Unrecognized Prior Service Cost*	48,950	
Additional Pension Liability		48,950*

Computation of Minimum Liability

Required minimum liability ($165,000 – $85,000)	$(80,000)
Accrued pension cost ($5,000 + $26,050)	(31,050)
Additional liability	$(48,950)

*Note: Since there are no unrecognized prior service costs, the adjustment will appear as a charge in other comprehensive income and also be reported as a component of accumulated other comprehensive income on the balance sheet.

PROBLEM 20-5 (Continued)

Journal Entries—2006

Pension Expense	131,829	
Cash		95,000
Prepaid/Accrued Pension Cost		36,829
Excess of Additional Pension Liability over Unrecognized Prior Service Cost	10,875	
Additional Pension Liability		10,875
(To record an additional liability to reflect minimum liability)		

Computation of Minimum Liability

Required minimum liability ($292,000 – $170,000)	$(122,000)
Accrued pension cost ($31,050 + $31,125)	(67,879)
	(54,121)
Less balance of additional liability	(48,950)
Required adjustment to reflect minimum pension liability	$ (5,171)

Determination of Amounts to Be Recognized

	2004	2005	2006
Prepaid/accrued pension cost at beginning of year	$ 0	$ (5,000)	$ (31,050)
Net periodic pension cost	(55,000)	(86,050)	(131,829)
Contribution	50,000	60,000	95,000
Prepaid/accrued pension cost at end of year	$ (5,000)	$ (31,050)	$ (67,879)
Plan assets	$ 50,000	$ 85,000	$ 170,000
Accumulated benefit obligation	(45,000)	(165,000)	(292,000)
Required minimum liability (unfunded accumulated benefit obligation)	$ 0	$ (80,000)	$(122,000)
Adjustment required to reflect minimum liability:			
Additional liability	$ 0	$(48,950)	$(5,171)
Excess of additional pension liability over unrecognized prior service cost (there is no unrecognized prior service cost)	$ 0	$ 48,950	$ 5,171

PROBLEM 20-6

(a) Prior Service Cost Amortization

2004	$153,846	($2,000,000 ÷ 13 years)
2005	153,846	($2,000,000 ÷ 13 years)
2006	153,846	($2,000,000 ÷ 13 years)

(b) Pension expense for 2004 comprised the following:

Service cost	$200,000
Interest on projected benefit obligation*	500,000
Actual return on plan assets**	(325,000)
Unexpected gain***	25,000
Amortization of unrecognized prior service cost	153,846
Pension expense	$553,846

*($5,000,000 X 10% = $500,000)
**[$3,900,000 – $3,000,000 – ($575,000 – $0)]
***(Expected return of $300,000 – actual return of $325,000 = $25,000 unexpected gain)

(c)

Prepaid/accrued pension cost at beginning of year	$ 0
Pension expense	(553,846)
Contribution	575,000
Prepaid pension cost at end of year	$ 21,154

Journal Entries—2004

Pension Expense	553,846	
Prepaid/Accrued Pension Cost	21,154	
Cash		575,000
Intangible Asset—Deferred Pension Cost	146,154	
Additional Pension Liability		146,154*
(To record an additional liability to reflect the minimum liability)		

PROBLEM 20-6 (Continued)

*Accumulated benefit obligation	$(4,025,000)
Plan assets at fair value	3,900,000
Unfunded ABO (minimum liability)	(125,000)
Prepaid pension cost	21,154
Additional liability	$ (146,154)

(d)

12/31/04 Fair value of plan assets			$3,900,000
Less: Expected fair value of assets			
1/1/04 fair value of plan assets		$3,000,000	
Add expected return (10% X $3,000,000)		300,000	
Add contributions to the plan		575,000	
Less benefits		0	3,875,000
Asset gain			(25,000)
12/31/04 New actuarially computed PBO		4,750,000	
Less: 1/1/04 PBO	$5,000,000		
Add interest (10% X $5,000,000)	500,000		
Add service cost	200,000		
Less benefits	0	5,700,000	
Liability gain			(950,000)
Unrecognized net gain 12/31/04			$ (975,000)

Amortization in 2004: None because there was no beginning balance.

Amortization in 2005 (corridor approach): $38,462

Year	Projected Benefit Obligation	MV of Plan Assets	Corridor	Unrecognized Net (Gain)	Amortization
2004	$5,000,000	$3,000,000	$500,000	$ 0	$ 0
2005	4,750,000	3,900,000	475,000	(975,000)	38,462*

*$975,000 – $475,000 = $500,000; $500,000 ÷ 13 = $38,462

PROBLEM 20-6 (Continued)

(e) Reconciliation Schedule 2004

Projected benefit obligation	$(4,750,000)
Fair value of plan assets	3,900,000
PBO in excess of plan assets (funded status)	(850,000)
Unrecognized prior service cost ($2,000,000 – $153,846)	1,846,154
Unrecognized net (gain) or loss	(975,000)
Prepaid/accrued pension cost	21,154
Adjustment required to recognize minimum liability	(146,154)
Accrued pension cost liability recognized in the balance sheet	$ (125,000)

Farrey Corp.
Pension Work Sheet—2006

Item	General Journal Entries: Annual Pension Expense	Cash	Prepaid/ Accrued Cost	Additional Liability	Pension Intangible
Balance, Jan. 1, 2006					
(a) Service cost	108,000 Dr.		33,000 Cr.		
(b) Interest cost	65,250 Dr.				
(c) Actual return	48,000 Cr.				
(d) Unexpected loss	7,000 Cr.				
(e) Amortization of PSC	25,000 Dr.				
(f) Amortization of loss	1,850 Dr.				
(g) Contributions		138,000 Cr.			
(h) Benefits					
(i) Minimum liability adjustment				9,900 Cr.	9,900 Dr.
Journal entry	145,100 Dr.	138,000 Cr.	7,100 Cr.		
Balance, Dec. 31, 2006			40,100 Cr.	9,900 Cr.	9,900 Dr.

(b) $65,250 = $725,000 X .09.
(d) $7,000 = ($550,000 X .10) – $48,000.

(MEMO ENTRIES NEXT PAGE)

(f)

Year	1/1 Projected Benefit Obligation	Market-Related Value of 1/1 Plan Assets	10% Corridor	Unrecognized Net Loss, 1/1	Minimum Amortization of Loss for 2006
2006	$725,000	$550,000	$72,500	$91,000	$1,850*

*$91,000 – $72,500 = $18,500; $18,500 ÷ 10 = $1,850.

PROBLEM 20-7 (Continued)

(i) Computation of minimum liability

Accumulated benefit obligation 12/31/06	$(671,000)
Plan assets at fair value 12/31/06	621,000
Unfunded accumulated benefit (minimum liability)	(50,000)
Prepaid (accrued) pension cost (balance 12/31/06)	(40,100)
Additional liability required	(9,900)
Unrecognized prior service cost	56,000
Contra equity charge	$ 0

Farrey Corp.
Pension Work Sheet—2006

Item	Memo Entries: Projected Benefit Obligation	Plan Assets	Unrecognized Prior Service Cost	Unrecognized Net Gain or Loss
Balance, Jan. 1, 2006	725,000 Cr.	520,000 Dr.	81,000 Dr.	91,000 Dr.
(a) Service cost	108,000 Cr.			
(b) Interest cost	65,250 Cr.			
(c) Actual return		48,000 Dr.		
(d) Unexpected loss				7,000 Dr.
(e) Amortization of PSC			25,000 Cr.	
(f) Amortization of loss				1,850 Cr.
(g) Contributions		138,000 Dr.		
(h) Benefits	85,000 Dr.	85,000 Cr.		
(i) Minimum liability adjustment				
Journal entry				
Balance, Dec. 31, 2006	813,250 Cr.	621,000 Dr.	56,000 Dr.	96,150 Dr.

(a)

Glesen Company
Pension Work Sheet—2005 and 2006

Item	Annual Pension Expense	Cash	Prepaid/ Accrued Cost	Additional Liability	Pension Intangible	Contra Equity Charge
			General Journal Entries			
Balance, Jan. 1, 2005			80,000 Cr.	12,300 Cr.	12,300 Dr.	
(a) Service cost	40,000 Dr.					
(b) Interest cost	65,000 Dr.					
(c) Actual return	36,000 Cr.					
(d) Unexpected loss	5,000 Cr.					
(e) Amortization of PSC	70,000 Dr.					
(f) Contributions		72,000 Cr.				
(g) Benefits						
(h) Liability loss						
(i) Minimum liability adjustment				81,000 Cr.	77,700 Dr.	3,300 Dr.
Journal entry for 2005	134,000 Dr.	72,000 Cr.	62,000 Cr.			
Balance, Dec. 31, 2005			142,000 Cr.	93,300 Cr.	90,000 Dr.	3,300 Dr.
(j) Service cost	59,000 Dr.					
(k) Interest cost	81,050 Dr.					
(l) Actual return	61,000 Cr.					
(m) Unexpected gain	12,350 Dr.					
(n) Amortization of PSC	55,000 Dr.					
(o) Contributions		81,000 Cr.				
(p) Benefits						
(q) Unrecognized loss amortization	548 Dr.					
(r) Minimum liability adjustment				86,748 Dr.	83,448 Cr.	3,300 Cr.
Journal entry for 2006	146,948 Dr.	81,000 Cr.	65,948 Cr.			
Balance, Dec. 31, 2006			207,948 Cr.	6,552 Cr.	6,552 Dr.	0

Glesen Company
Pension Work Sheet—2005 and 2006

Item	Memo Record: Projected Benefit Obligation	Plan Assets	Unrecognized Prior Service Cost	Unrecognized Net Gain or Loss
Balance, Jan. 1, 2005	650,000 Cr.	410,000 Dr.	160,000 Dr.	
(a) Service cost	40,000 Cr.			
(b) Interest cost	65,000 Cr.			
(c) Actual return		36,000 Dr.		
(d) Unexpected loss				5,000 Dr.
(e) Amortization of PSC			70,000 Cr.	
(f) Contributions		72,000 Dr.		
(g) Benefits	31,500 Dr.	31,500 Cr.		
(h) Liability loss	87,000 Cr.			87,000 Dr.
(i) Minimum liability adjustment				
Journal entry for 2005				
Balance, Dec. 31, 2005	810,500 Cr.	486,500 Dr.	90,000 Dr.	92,000 Dr.
(j) Service cost	59,000 Cr.			
(k) Interest cost	81,050 Cr.			
(l) Actual return		61,000 Dr.		
(m) Unexpected gain				12,350 Cr.
(n) Amortization of PSC			55,000 Cr.	
(o) Contributions		81,000 Dr.		
(p) Benefits	54,000 Dr.	54,000 Cr.		
(q) Unrecognized loss amortization				548 Cr.
(r) Minimum liability adjustment				
Journal entry for 2006				
Balance, Dec. 31, 2006	896,550 Cr.	574,500 Dr.	35,000 Dr.	79,102 Dr.

PROBLEM 20-8 (Continued)

Work sheet computations:

(b) $65,000 = $650,000 X 10%.

(d) $5,000 = ($410,000 X 10%) – $36,000; expected return exceeds actual return.

(i) (r) Minimum Liability Computation:

	December 31	
	2005	2006
Accumulated benefit obligation	$(721,800)	$(789,000)
Plan assets at fair value	486,500	574,500
Unfunded accumulated benefit obligation (minimum liability)	(235,300)	(214,500)
Prepaid (accrued) pension cost	(142,000)	(207,948)
Additional liability	(93,300)	(6,552)
Unrecognized prior service cost	90,000	35,000
Contra equity charge	$ (3,300)	$ 0

(k) $81,050 = $810,500 X 10%.

(m) $12,350 = ($486,500 X 10%) – $61,000; actual return exceeds expected return.

(q) 2006 Corridor Test:

Unrecognized net (gain) or loss at beginning of year	$92,000
10% of larger of PBO or fair value of plan assets	81,050
Amortizable amount	$10,950
2006 amortization ($10,950 ÷ 20 years)	$548

(b)

2005		
Pension Expense	134,000	
Cash		72,000
Prepaid/Accrued Pension Cost		62,000
Intangible Asset—Deferred Pension Cost	77,700	
Excess of Additional Pension Liability Over Unrecognized Prior Service Cost	3,300	
Additional Pension Liability		81,000

PROBLEM 20-8 (Continued)

	2006	
Pension Expense	146,948	
Cash		81,000
Prepaid/Accrued Pension Cost		65,948
Additional Pension Liability	86,748	
Intangible Asset—Deferred Pension Cost.		83,448
Excess of Additional Pension Liability Over Unrecognized Prior Service Cost		3,300*

*In 2005, the charge for $3,300 would be reported as a reduction of Other Comprehensive Income and also as a component of Accumulated Other Comprehensive Income. In 2006, Other Comprehensive Income would be increased $3,300 and the balance in Accumulated Other Comprehensive Income would be zero related to this component.

(c) Pension Reconciliation Schedule—2006

Projected benefit obligation	$(896,550)
Plan assets at fair value	574,500
Projected benefit obligation in excess of plan assets (funded status)	(322,050)
Unrecognized prior service cost	35,000
Unrecognized net (gain) or loss	79,102
Prepaid/accrued pension cost	(207,948)
Adjustment required to recognize minimum liability	(6,552)
Accrued pension cost liability recognized in the balance sheet	$(214,500)

PROBLEM 20-9

(a) See work sheet on next page.

(b)

	December 31, 2003	
Pension Expense	330,000	
Cash		150,000
Prepaid/Accrued Pension Cost		180,000

(c) See work sheet on next page. The entry is below.

	December 31, 2004	
Pension Expense	433,440	
Cash		184,658
Prepaid/Accrued Pension Cost		248,782

(d) See reconciliation schedule on next page.

(a)

Ingrid Mount Company
Pension Work Sheet—2003 and 2004

Items	General Journal Entries: Annual Pension Expense	Cash	Prepaid/ Accrued Cost	Memo Record: Projected Benefit Obligation	Plan Assets	Unrecognized Prior Service Cost	Unrecognized Net Gain or Loss
Balance, Jan. 1, 2003				4,500,000 Cr.	4,500,000 Dr.		
(a) Service cost	150,000 Dr.			150,000 Cr.			
(b) Interest cost	450,000 Dr.			450,000 Cr.			
(c) Actual return	252,000 Cr.				252,000 Dr.		
(d) Unexpected loss	18,000 Cr.						18,000 Dr.
(e) Funding		150,000 Cr.			150,000 Dr.		
(f) Benefits				220,000 Dr.	220,000 Cr.		
Journal entry, 12/31/03	330,000 Dr.	150,000 Cr.	180,000 Cr.				
Balance, Dec. 31, 2003			180,000 Cr.	4,880,000 Cr.	4,682,000 Dr.		18,000 Dr.
(g) Prior service cost, 1/1/04				600,000 Cr.		600,000 Dr.	
(h) Service cost	170,000 Dr.			170,000 Cr.			
(i) Interest cost	548,000 Dr.			548,000 Cr.			
(j) Actual return	250,000 Cr.				250,000 Dr.		
(k) Unexpected loss	124,560 Cr.						124,560 Dr.
(l) Amortization of PSC	90,000 Dr.					90,000 Cr.	
m) Funding		184,658 Cr.			184,658 Dr.		
(n) Benefits				280,000 Dr.	280,000 Cr.		
Journal entry, 12/31/04	433,440 Dr.	184,658 Cr.	248,782 Cr.				
			428,782 Cr.	5,918,000 Cr.	4,836,658 Dr.	510,000 Dr.	142,560 Dr.

(b) $450,000 = $4,500,000 X 10%.
(d) $18,000 = ($4,500,000 X 6%) – $252,000.
(i) $548,000 = ($4,880,000 + $600,000) X 10%.
(k) $124,560 = ($4,682,000 X .08) – $250,000.

(d) Reconciliation Schedule—12/31/04

Projected benefit obligation	$(5,918,000)
Fair value of plan assets	4,836,658
Unfunded PBO (funded status)	(1,081,342)
Unrecognized prior service cost	510,000
Unrecognized net (gain) or loss	142,560
Accrued pension cost liability	$ (428,782)

(a)

Dusty Hass Foods Inc.
Postretirement Benefits Work Sheet—2005

	General Journal Entries			Memo Record			
Items	Net Periodic Postretirement Cost	Cash	Prepaid/ Accrued Cost	Accumulated Postretirement Benefit Obligation	Plan Assets	Unrecognized Transition Amount	Unrecognized Net Gain or Loss
Balance, Jan. 1, 2005				882,000 Cr.	200,000 Dr.	682,000 Dr.	
(a) Service cost	70,000 Dr.			70,000 Cr.			
(b) Interest cost	79,380 Dr.*			79,380 Cr.			
(c) Actual return	15,000 Cr.				15,000 Dr.		
(d) Unexpected gain	6,000 Dr.**						6,000 Cr.
(e) Contributions		60,000 Cr.			60,000 Dr.		
(f) Benefits				44,000 Dr.	44,000 Cr.		
(g) Amortization:							
Transition***	31,000 Dr.					31,000 Cr.	
Journal entry, Dec. 31	171,380 Dr.	60,000 Cr.	111,380 Cr.				
			111,380 Cr.	987,380 Cr.	231,000 Dr.	651,000 Dr.	6,000 Cr.

*$882,000 X .09 = $79,380
**$15,000 – $9,000 = $6,000
***$682,000 ÷ 22 = $31,000

(b) Reconciliation Schedule—December 31, 2005

Accumulated postretirement benefit obligation (Credit)	$(987,380)
Plan assets at fair value (Debit)	231,000
Funded status (Credit)	(756,380)
Unrecognized transition amount (Debit)	651,000
Unrecognized net gain or loss (Credit)	(6,000)
Prepaid/accrued postretirement benefit cost	$(111,380)

TIME AND PURPOSE OF CASES

Case 20-1 (Time 30-35 minutes)
Purpose—to provide the student with the opportunity to discuss some of the more traditional issues related to pension reporting. Specifically, the student is asked to define a pension plan, distinguish between a funded and unfunded plan, differentiate between accounting for the employer and the pension fund. In addition, justification for accrual accounting must be developed, as well as a determination of the relative objectivity of the accrual versus the cash basis.

Case 20-2 (Time 25-30 minutes)
Purpose—to provide the student with the opportunity to discuss the new terminology employed in **FASB Statement No. 87.** The student is required to explain the significance of such items as prepaid pension cost, pension expense, intangible asset—deferred pension cost, and accrued pension cost.

Case 20-3 (Time 20-25 minutes)
Purpose—to provide the student with the opportunity to discuss a relatively straightforward case dealing with reasons why accrual accounting is followed for pension reporting. In addition, certain terms are required to be explained and the proper footnote disclosures identified.

Case 20-4 (Time 30-35 minutes)
Purpose—to provide the student with the opportunity to study some of the implications of **FASB Statement No. 87.** The student is required to identify the five components of pension expense, the major differences between the accumulated benefit obligation and the projected benefit obligation, how to report actuarial gains and losses, and when a minimum liability should be recognized.

Case 20-5 (Time 50-60 minutes)
Purpose—to provide the student with the opportunity to discuss the implications of **FASB Statement No. 87,** given a number of different factual situations. This case is quite thought-provoking and should stimulate a great deal of class discussion.

Case 20-6 (Time 30-40 minutes)
Purpose—to provide the student with the opportunity to explain unrecognized gains and losses, including the use of corridor amortization.

Case 20-6 (Time 30-40 minutes)
Purpose—to provide the student with the opportunity to explain unrecognized gains and losses, including the use of corridor amortization.

Case 20-7 (Time 20-30 minutes)
Purpose—to provide the student with the opportunity to consider the ethical implications of the impact of pension benefits and their impact on financial statements.

SOLUTIONS TO CASES

CASE 20-1

(a) A private pension plan is an arrangement whereby a company undertakes to provide its retired employees with benefits that can be determined or estimated in advance from the provisions of a document or from the company's practices.

In a contributory pension plan the employees bear part of the cost of the stated benefits whereas in a noncontributory plan the employer bears the entire cost.

(b) The employer is the organization sponsoring the pension plan. The employer incurs the costs and makes contributions to the pension fund. Accounting for the employer involves: (1) allocating the cost of the pension plan to the proper accounting periods, (2) measuring the amount of pension obligation resulting from the plan, and (3) disclosing the status and effects of the plan in the financial statements.

The pension fund or plan is the entity which receives the contributions from the employer, administers the pension assets, and makes the benefit payments to the pension recipients. Accounting for the fund involves identifying receipts as contributions from the employer sponsor and as income from fund investments and computing the amounts due to individual pension recipients.

(c) 1. Relative to the pension fund the term "funded" refers to the relationship between pension fund assets and the present value of expected future pension benefit payments; thus, the pension fund may be fully funded or underfunded. Relative to the employer, the term "funded" refers to the relationship of the contributions made by the employer to the pension fund and the pension expense accrued by the employer; if the employer contributes annually to the pension fund an amount equal to the pension expense, the employer is fully funded (a liability could still appear due to the recognition of a minimum liability).

2. Relative to the pension fund, the pension liability is an actuarial concept representing an economic liability under the pension plan for future cash payments to retirees. From the viewpoint of the employer, the pension liability is an accounting credit that results from an excess of amounts expensed over amounts contributed (funded) to the pension fund. In addition, an additional liability may result if the accumulated benefit obligation is greater than the fair value of the pension plan assets.

(d) 1. The theoretical justification for accrual recognition of pension costs is based on the matching concept. Pension costs are incurred during the period over which an employee renders services to the enterprise; these costs may be paid upon the employee's retirement, over a period of time after retirement, as incurred through funding or insurance plans, or through some combination of any or all of these methods.

2. Although cash (pay-as-you-go) accounting is highly objective for the final determination of actual pension costs, it provides no measurement of annual pension costs as they are incurred. Accrual accounting provides greater objectivity in the annual measurement of pension costs than does cash accounting if actuarial funding methods are applied to actuarial valuations to determine the provision for pension costs. While cash accounting provides a more precise determination of the final cost, accrual accounting provides a more objective measure of the annual cost.

CASE 20-1 (Continued)

(e) Terms and their definitions as they apply to accounting for pension plans follow:

1. Service cost is the actuarial present value of benefits attributed by the pension benefit formula to employee service during that period. The service cost component is a portion of the projected benefit obligation and is unaffected by the funded status of the plan.

2. Prior service costs are the retroactive benefits granted in a plan amendment (or initiation). Retroactive benefits are benefits granted in a plan amendment (or initiation) that are attributed by the pension benefit formula to employee services rendered in periods prior to the amendment.

3. Vested benefits are benefits that are not contingent on the employee continuing in the service of the employer. In some plans the payment of the benefits will begin only when the employee reaches the normal retirement date; in other plans the payment of the benefits will begin when the employee retires (which may be before or after the normal retirement date). The actuarially computed value of vested benefits represents the present value (at the date of determination) of the sum of: (a) the benefits expected to become payable to former employees who have retired, or who have terminated service with vested rights, at the date of determination; and (b) the benefits (based on service rendered prior to the date of determination) expected to become payable at future dates to present employees, taking into account the probable time that employees will retire, at the vesting percentages applicable at the date of determination. The determination of vested benefits is not affected by other conditions, such as inadequacy of the pension fund, which may prevent the employee from receiving the vested benefits.

CASE 20-2

1. Prepaid pension cost is the cumulative contributions in excess of accrued net pension expense. This item is reported in the asset section of the balance sheet and is reduced when pension expense is greater than the contribution made to the fund during a period.

   Intangible asset—deferred pension cost is the asset that usually arises when the accumulated benefit obligation exceeds the fair value of plan assets. If an additional liability is recognized, an equal amount should be recognized as an intangible asset, provided the asset recognized does not exceed the amount of unrecognized prior service cost.

2. Accrued pension cost is the cumulative net pension expense accrued in excess of the employer's contributions. This item is reported in the liability section of the balance sheet and is increased when pension expense is greater than the contribution made to the fund.

3. Excess of additional pension liability over unrecognized prior service cost arises when an additional liability is recognized that exceeds unrecognized prior service cost. This account should be reported in the stockholders' equity section as a component of accumulated other comprehensive income. In addition, it should be shown as part of other comprehensive income.

4. Net periodic pension expense is the amount recognized in an employer's financial statements as the expense for a pension plan for the period. Components of net periodic pension expense are service cost, interest cost, actual return on plan assets, amortization of unrecognized gain or loss, and amortization of unrecognized prior service cost. It should be noted that **FASB Statement No. 87** uses the term net periodic pension **cost** instead of net periodic pension **expense** because part of the cost recognized in a period may be capitalized along with other costs as part of an asset such as inventory.

CASE 20-3

(a) 1. The theoretical justification for accrual recognition of pension costs is based on the matching concept. Pension costs are incurred during the period over which an employee renders services to the enterprise; these costs may be paid upon the employee's retirement, over a period of time after retirement, as incurred through funding or insurance plans, or through some combination of any or all of these methods.

2. Although cash (pay-as-you-go) accounting is highly objective for the final determination of actual pension costs, it provides no measurement of annual pension costs as they are incurred. Accrual accounting provides greater objectivity in the annual measurement of pension costs than does cash accounting.

(b) Terms and their definitions as they apply to accounting for pensions follow:

1. Market-related asset value is a moving average of pension plan asset values over a period of time. Considerable flexibility is permitted in computing this amount. In many cases, companies will undoubtedly use the actuarial asset value employed by the actuary as their market-related asset value for purposes of applying this concept to pension reporting.

2. The projected benefit obligation is the present value of vested and nonvested employee benefits accrued to date based on employees' future salary levels. This is the pension liability adopted by the FASB in **Statement No. 87** (except in reporting the "minimum liability" when the accumulated benefit obligation is used).

3. The corridor approach was invented by the FASB as the method for determining when to amortize the accumulated balance in the Unrecognized Net Gain or Loss account. The unrecognized net gain or loss balance is amortized when it exceeds the arbitrarily selected FASB criterion of 10% of the larger of the beginning-of-the-year balances of the projected benefit obligation or the market-related value of the plan assets.

(c) The following disclosures about a company's pension plans should be made in financial statements or their notes:

1. A description of the plan including employee groups covered, type of benefit formula, funding policy, types of assets held, and the nature and effect of significant matters affecting comparability of information for all periods presented.

2. The components of net periodic pension expense for the period.

3. A reconciliation showing how the projected benefit obligation and the fair value of the plan assets changed from the beginning to the end of the period.

4. The funded status of the plan (difference between the PBO and fair value of the plan assets) and the amounts recognized and not recognized in the financial statements.

5. A disclosure of the rates used in measuring the benefit amounts (discount rate, expected return on plan assets, and rate of compensation).

CASE 20-4

(a) Pension benefits are part of the compensation received by employees for their services. The actual payment of these benefits is deferred until after retirement. The net periodic pension expense measures this compensation and consists of the following five elements:

1. The service cost component is the present value of the benefits earned by the employees during the current period.

CASE 20-4 (Continued)

2. Since a pension represents a deferred compensation agreement, a liability is created when the plan is adopted. The interest cost component is the increase in that liability, the projected benefit obligation, due to the passage of time.

3. In order to discharge the pension liability, an employer contributes to a pension fund. The return on the fund assets serves to reduce the interest element of the pension expense. Specifically, the expected return reduces pension expense. Expected return is the expected rate of return times the market-related value of plan assets.

4. When a pension plan is adopted or amended, credit is often given for employee service rendered in prior years. This retroactive credit, or prior service cost, is not recognized as pension expense entirely in the year the plan is adopted or amended, but should be recognized as pension expense over the time that the employees who benefited from this credit worked.

5. The gains and losses component arises from a change in the amount of either the projected benefit obligation or the plan assets. This component is amortized via corridor amortization.

(b) The major similarity between the accumulated benefit obligation and the projected benefit obligation is that they both represent the present value of the benefit attributed by the pension benefit formula to employee service rendered prior to a specific date. All things being equal, when an employee is about to retire, the accumulated benefit obligation and the projected benefit obligation would be the same.

The major difference between the accumulated benefit obligation and the projected benefit obligation is that the former is based on present salary levels and the latter is based on estimated future salary levels. Assuming salary increases over time, the projected benefit obligation should be higher than the accumulated benefit obligation.

(c) 1. Pension gains and losses, sometimes called actuarial gains and losses, result from changes in the value of the projected benefit obligation or the fair value of the plan assets. These changes arise from the deviations between the estimated conditions and the actual experience, and from changes in assumptions. The volatility of these gains and losses may reflect an unavoidable inability to predict compensation levels, length of employee service, mortality, retirement ages, and other relevant events accurately for a period, or several periods. Therefore, fully recognizing the gains or losses on the income statement may result in volatility that does not reflect actual changes in the funded status of the plan in that period.

2. In order to decrease the volatility of the reporting of the pension gains or losses, the FASB had adopted what is referred to as the "corridor approach." This approach achieves the objective by amortization of the cumulative, unrecognized pension gains and losses, in excess of 10 per cent of the greater of the projected benefit obligation or the market-related asset value of the plan assets.

(d) An additional minimum liability must be recognized when the accumulated benefit obligation exceeds the fair value of the plan assets.

CASE 20-5

1. This situation can exist because companies vary as to whether they are using an implicit or explicit set of assumptions when interest rates are disclosed. In the implicit approach, two or more assumptions do not individually represent the best estimate of the plan's future experience with respect to these assumptions, but the aggregate effect of their combined use is presumed to be approximately the same as that of an explicit approach. In the explicit approach, each significant

assumption reflecting the best estimate of the plan's future experience solely with respect to that assumption must be stated. As a result, some companies are presently using an implicit approach, others an explicit approach. **FASB Statement No. 87** requires the use of explicit assumptions. As a result, this large variance in interest rates will probably disappear to some extent. However, it should be noted that companies will have some leeway in establishing settlement rates. In addition, the expected return on assets will also be different among companies.

2. This situation will occur because of the minimum liability required to be reported. That is, companies are required to report as a liability the excess of their accumulated benefit obligation over the fair value of plan assets. In the past, the basic liability companies reported was the excess of the amount expensed over the amount funded.

3. This statement is questionable. If a financial measure purports to represent a phenomenon that is volatile, the measure must show that volatility or it will not be representationally faithful. Nevertheless, many argue that volatility is inappropriate when dealing with such long-term measures as pensions. A good example of where dampening might be useful is the recognition of gains and losses. If assumptions prove to be accurate estimates of experience over a number of years, gains or losses in one year will be offset by losses or gains in subsequent periods, and amortization of unrecognized gains and losses would be unnecessary. The main point is that volatility per se should not be considered undesirable when establishing accounting principles. Although some managements may consider volatility bad, this belief should not influence standard-setting. However, it is clear from some of the compromises made in **FASB Statement No. 87** that certain procedures were provided to dampen the volatility effect.

4. These pension plan assets in excess of the projected benefit obligation are not reported on the employer's books. However, the fair value of plan assets are required to be reported in the footnote, so that a reader of the financial statements can determine the funded status of the plan.

5. (a) In a defined contribution plan, the amount contributed is the amount expensed. No significant reporting problems exist here. On the other hand, defined benefit plans involve many difficult reporting issues which may lead to additional expense and liability recognition.

   Significant amendments will generally increase prior service cost which may lead to significant adjustments to pension expense in the future.

   (b) Plan participants are of importance, because the expected future years of service computation can have an impact on the amortization of the transition amount, prior service cost, and gains and losses.

   (c) If the plan is underfunded, pension expense will generally increase (all other factors constant). If the plan is overfunded, pension expense will generally decrease (all other factors constant). The reason is that the expected return on plan assets will be less if the plan is underfunded and vice versa.

   (d) If the company is using an actuarial funding method different than the one prescribed in **FASB Statement No. 87** (benefits/years-of-service approach), some changes in the computation of pension expense will occur for the company.

6. The corridor method is an approach which requires that only gains and losses in excess of 10% of the greater of the projected benefit obligation or plan assets be allocated. This excess is then amortized over the average remaining service period of current employees expected to participate in the plan.

   The corridor's purpose is to only recognize gains and losses above a certain amount, on the theory that gains and losses within the corridor will offset one another over time.

CASE 20-5 (Continued)

7. This intangible asset is established on the basis that the plan amendment may reduce employee turnover, improve productivity, reduce demands for increases in cash compensation, and improve prospects for attracting additional qualified employees. This intangible asset arises when the accumulated benefit obligation exceeds the fair value of plan assets and the company has unrecognized prior service cost. The asset is not amortized, but instead is adjusted upward, downward, or eliminated based on the facts at each year end.

8. This disclosure was eliminated because of cost/benefit considerations. Many companies complained that this disclosure was: (1) difficult to compute, (2) of limited benefit to users, and (3) costly to prepare. Apparently the Board was sympathetic with this view and eliminated this disclosure from the final pronouncement on pensions.

CASE 20-6

To: Rachael Avery, Accounting Clerk

From: Good Student, Manager of Accounting

Date: January 3, 2005

Subject: Amortization of unrecognized gains and losses in pension expense

Pension expense includes several components; one occasionally included is the amortization of unrecognized gains/losses. These gains/losses occur for two reasons. First, the plan assets may provide a return that is either greater or less than what was expected. Second, changes in actuarial assumptions may create increases or decreases in the pension liability. If these gains/losses are small in relation to the projected benefit obligation (PBO) or the market value of the Plan Assets (PA), then do not include them in annual pension expense.

If, in any given year, the gains or losses become too great, then at least a portion must be included in pension expense so as not to understate or overstate the annual obligation. This is done through a process called amortization.

To decide whether or not you should include gains/losses in annual pension expense, calculate 10 percent of either the PBO or the PA (whichever is greater) as a "corridor." Amortize the amount of any gain or loss falling outside the corridor over the average remaining service life of the active employees. Note: these gains/losses must exist at the beginning of the year for which amortization takes place [see (a) on schedule below].

Thus, in the attached schedule, no amortization of the $280,000 loss in 2001 was required because the balance in the unrecognized gain/loss account at the beginning of that year was zero. However, at the beginning of 2002, the balance in that account was $280,000. The 10 percent corridor is $260,000, so the loss exceeds this corridor by $20,000. Since the remaining service life of employees is 10 years, you derive the amortized portion by dividing 10 into $20,000: $2,000 [see (b) on schedule below].

Note that the unamortized portion of the gain/loss from the previous year is combined with the current gain/loss. Check this new sum against a newly calculated 10 percent corridor. If the sum exceeds this corridor, then amortize the excess.

In the attached schedule, the unamortized loss from 2002 ($278,000) was added to the 2002 loss of $90,000, resulting in a cumulative unrecognized loss of $368,000 (see (c) below). This amount exceeds the new corridor ($290,000) by $78,000. However, the remaining service life has been changed to 12 years, resulting in annual amortization of only $6,500 [see (d) below].

CASE 20-6 (Continued)

Finally, if the losses from 2003 are added to the unamortized portion of the unrecognized loss from prior years, the sum falls within the 2004 corridor and does not need to be amortized at all.

Corridor and Minimum Loss Amortization Schedule

Year	Projected Benefit Obligation (a)	Plan Asset Value (a)	10% Corridor	Cumulative Unrecognized Net Loss (a)	Minimum Amortization of Loss
2001	$2,200,000	$1,900,000	$220,000	$ 0	$ 0
2002	2,400,000	2,600,000	260,000	280,000	2,000 (b)
2003	2,900,000	2,600,000	290,000	368,000 (c)	6,500 (d)
2004	3,900,000	3,000,000	390,000	373,500 (e)	0

(a) As of the beginning of the year.
(b) ($280,000 – $260,000) ÷ 10 years = $2,000
(c) $280,000 – $2,000 + $90,000 = $368,000
(d) ($368,000 – $290,000) ÷ 12 years = $6,500
(e) $368,000 – $6,500 + $12,000 = $373,500

CASE 20-7

While Selma may be correct in assuming that the termination of nonvested employees would decrease its pension-related liabilities and associated expenses, she is callous to suggest that firing employees is a reasonable approach to correcting the underfunding of College Electronix's pension plan. Arbitrarily dismissing productive employees on the basis of being vested or not vested in the pension plan in order to avoid capitalizing a liability and recognizing expenses is a capricious and unsound business decision.

Richard Nye should discuss the ethical, legal, and financial implications of the alternatives available as well as the accounting requirements relating to this situation. This obligation and its effect on the financial statements should have been known to Cardinal Technology when it performed its due diligence audit of CE at the time of merger negotiations. Cardinal Technology should capitalize the pension obligations of CE as required by GAAP.

FINANCIAL REPORTING PROBLEM

(a) 3M has various company-sponsored retirement plans covering substantially all U.S. employees and many employees outside the United States. Pension benefits are based principally on an employee's years of service and compensation near retirement. In addition to providing pension benefits, the company provides certain postretirement health care and life insurance benefits for substantially all of its U.S. employees who reach retirement age while employed by the company. Most international employees and retirees are covered by government health care programs. The cost of company-provided health care plans for these international employees is not material.

The company's pension funding policy is to deposit with independent trustees amounts at least equal to accrued liabilities, to the extent allowed by law. Trust funds and deposits with insurance companies are maintained to provide pension benefits to plan participants and their beneficiaries. In addition, the company has set aside funds for its U.S. postretirement plan with an independent trustee and makes periodic contributions to the plan.

(b)	**2001**	**Pension income**	**$39,000,000**
	2000	**Pension income**	**$25,000,000**
	1999	**Pension expense**	**$58,000,000**

(c) In 2001, 3M reports a $263,000,000 Prepaid Pension cost on its balance sheet. It reports $39,000,000 as pension income on its income statement. It also reports a postemployment liability of $270,000,000.

FINANCIAL STATEMENT ANALYSIS CASE

The $1.8 billion charge to income made by General Electric was for the postretirement benefit transition amount that existed at the time of its adoption of FASB Statement No. 106. The transition amount represents the difference between: (1) the APBO and (2) the fair value of the benefit plan assets, plus any accrued obligation or less any prepaid cost (asset). The charge taken by GE represents the unfunded portion of the accumulated postretirement benefit obligation at the date of adoption of the new standard.

The president of Peake, Inc. should be told that under the new accounting standard, the transition amount may be written off entirely in the year of FASB Statement No. 106 adoption or it may be deferred and amortized over future periods. As an immediate write-off, the transition amount is recognized in the income statement as the "cumulative effect of a change in accounting principle" (net of tax) and reported in the balance sheet as a long-term liability entitled Postretirement Benefit Obligation. If Peake, Inc. chooses deferred recognition, it must amortize the transition amount on a straight-line basis over the average remaining service period to expected retirement of the employees in place at the time of transition and expected to receive benefits. If the remaining service period is less than 20 years, Peake may elect a 20-year amortization period.

COMPARATIVE ANALYSIS CASE

(a) Coca-Cola sponsors and/or contributes to pension plans covering substantially all U.S. employees and certain employees in international locations. Coca-Cola also sponsors nonqualified, unfunded defined benefit plans for certain officers and other employees.

PepsiCo sponsors noncontributory defined benefit pension plans covering substantially all full-time U.S. employees and certain international employees.

(b) Coca-Cola reported "total pension expense" for all benefit plans of approximately $62 million in 2001.

PepsiCo reported "net pension expense" of $83 million in 2001 for U.S. plans.

(c) 2001 Funded Status	Pensions	OPEB
Coca-Cola	($414,000)	($530,000)
PepsiCo	$157,000	($825,000)

(d) Relevant rates used to compute pension information:

	Coca-Cola	PepsiCo
Discount rate (expense)	6.5%	7.4%
Rate of increase in compensation levels	4.25%	4.6%
Expected long-term rate of return on plan assets	8.5%	9.8%

INTERNATIONAL REPORTING CASE

(a) The key differences arise from: (1) the use of different discount rates; (2) the projected benefit obligation under Swedish rules is based on current salary levels while under U.S. GAAP the PBO is based on projected salaries at retirement; (3) under U.S. GAAP gains in the pension fund are recognized while they are not "accounted for" in Sweden. Note that Volvo also has a defined contribution plan. There is no difference in U.S. and Swedish accounting for defined contribution plans.

(b) Discount rates can affect pension expense through interest cost and affects the measurement of the PBO and ABO recognized on the balance sheet. If higher rates are used in Sweden compared to the U.S., then the benefit obligation would be lower. Expense due to interest cost (discount rate X beginning PBO) could be higher or lower depending on how much lower the beginning benefit obligation is if the higher rate is used for the beginning PBO. Recognition of pension fund surpluses under U.S. GAAP would result in a lower net liability obligation. However, any unexpected gain would be deferred from recognition in income under U.S. GAAP.

(c) Applying U.S. GAAP to Volvo's pension plan results in higher income and stockholders' equity. Thus, Volvo's pension expense under U.S. GAAP would be lower and it would record a lower accrued pension obligation on the balance sheet. This suggests that asset gains and/or use of a lower discount rate under U.S. GAAP are the likely reasons why Volvo's pension amounts are different under U.S. GAAP.

RESEARCH CASES

CASE 1

Students' answers will vary based on the companies selected.

CASE 2

(a) Companies record a credit to pension expense by applying an expected rate of return to the fair value of the pension assets. When the market does well the value of the plan assets increase and the pension credit is larger. The higher returns also factor into the expected return, resulting in a higher return, lower expense, and higher income.

In the short term, managers and directors get more benefits and possibly higher salaries, to the extent that pension credits increase earnings-related bonuses. However, in the wake of a bear market, the pension surpluses will dissipate and the company may not have the resources to fund its benefit obligations and/or have competitive benefit packages to attract high-quality employees.

(b) Because it can be costly to withdraw excess pension assets from overfunded pension plans, companies could choose to use the excesses to (1) provide additional pension benefits for current employees, (2) provide additional other post-retirement benefits (healthcare, life insurance, etc.), (3) increase pension benefits to current retirees, or (4) maintain the pension surplus by changing to cash-balance or similar plans, which reduce the overall benefit obligation. The article indicates that many companies are "letting the surplus ride," in order to reap continued pension expense credits.

(c) The major disadvantage of overfunding is the loss of flexibility for uses of the monies invested in the pension fund. Excess funds can only be used on employee-related costs and companies may have to pay an excise tax if they contribute too much.

(d) The ethical issue relates to the fairness of reducing or holding steady benefits to current (via switches to cash balance plans) and retired employees while at the same time protecting or increasing benefits to top management. The use of so-called "top hat" benefit plans for top management could increase management's welfare at the expense of employees and shareholders.

PROFESSIONAL SIMULATION

Simulation 1

Explanation

(a) The key liability issue presented in this case relates to the prior service cost of the pension plan. The present accounting is not to recognize these costs as an expense immediately or to recognize a liability unless the accumulated benefit obligation exceeds the fair value of the plan assets. In this view, pension arrangements are executory contracts (contracts in which neither party has performed) and therefore a liability does not arise until the services are received. In this case, even though prior service credit may be given, it is future benefits that the employer expects to receive from the employee. As a result, the liability and related expense should be recognized in the future.

Another approach is to recognize a liability immediately and charge expense—others might charge this amount to prior periods or establish an intangible asset. If an intangible asset was established, it would be amortized in the future on some expected benefit basis. This view is predicated on the assumption that accumulated plan benefits are a liability in that they arise from a past transaction, are a present obligation, and require payment in the future. It should be noted that the FASB in discussing conclusions related to accounting for pensions requires the recognition of a liability and an intangible asset in situations where the accumulated benefit obligation exceeds the fair value of plan assets (note that the intangible asset is recognized only up to the amount of unrecognized prior service cost).

Under current practice then, prior service costs are not considered to have accounting significance until recognized as an expense under appropriate accrual accounting. Only if the amount funded for the pension plan is less than the amount expensed would a liability appear on the balance sheet.

(b) The liability for each subsequent year would be computed in the same way as in the first year; that is, if and when the company expenses more than it funds, the difference would be recorded as a liability. The only change that would occur is if an additional liability had to be established because the accumulated benefit obligation exceeded the fair value of the pension plan assets.

(c) The pension expense is generally a function of five factors. These are:

1. **Service cost.**
2. **Interest on the projected benefit obligation.**
3. **Expected return on plan assets.**
4. **Amortization of prior service cost.**
5. **Amortization of gains and losses.**

In addition, amortization of a pension transition amount may also affect the computation of pension expense.

(d) The assets of the pension fund would not appear on the balance sheet of the company. An asset might appear only if the company funds its plan more than it reports pension expense. In addition, an intangible asset may be reported if the accumulated benefit obligation exceeds the fair value of plan assets. An intangible asset, Deferred Pension Cost, is reported in this situation, provided that unrecognized prior service cost is larger than this amount.

(e) The interest rate used to compute the present value of the projected benefit obligation and the accumulated benefit obligation is a settlement rate. In other words, assumed discount rates should reflect the rates at which the pension benefits could be effectively settled. It is appropriate in estimating those rates to look to available information about rates implicit in current prices of annuity contracts that could be used to effect settlement of the obligation. In making those estimates, employers may also look to rates of return on high-quality fixed income investments currently available and expected to be available during the period to maturity of the pension benefits.

PROFESSIONAL SIMULATION (Continued)

On the asset side, an expected rate of return on plan assets should be employed. This rate should parallel the rate expected to be earned on the plan assets in the current period.

(f) Gains and losses should be recognized only after they exceed 10 percent of the higher of the projected benefit obligation or the market-related asset value. This excess amount should be amortized over the average remaining service life of existing employees expected to participate in the plan. Certain gains and losses, it should be noted, are excluded because they are considered single occurrence gains or losses that should be associated with that given event. For example, a gain or loss that is directly related to a plant closing, a disposal of a segment, or a similar event that greatly affects the size of the employee work force, shall be recognized as a part of the gain or loss associated with that event.

SIMULATION 2

Resources

(a)

	A	B	C	D	E	F	G	H	I	J	K
1		The following formula is inserted in this cell=0.09*F9*(-1)		The following formula is inserted in this cell:=+F9+G9+H9			The following formula is inserted into this cell:=+B10*-1				
2											
3											
4											
5											
6											
7											
8		Expense	Cash	Acc / PrePaid		PBO	Assets	PSC	UR G-L		
9	Beg. Balance			(45,000)		(625,000)	480,000	100,000			
10	Service Cost	90,000				(90,000)					
11	Int on Liab.	56,250				(56,250)					
12	EXP/ACT Return	(52,000)					57,000		(5,000)		
13	Contributions		(99,000)				99,000				
14	Benefits					85,000	(85,000)				
15	PSC Amort.	19,000						(19,000)			
16	UR Gain / Loss					(76,000)			76,000		
17	Change in Acc/PrePaid			(14,250)							
18											
19	Ending Balance	113,250	(99,000)	(59,250)		(762,250)	551,000	81,000	71,000		
20											
21											
22											
23		The following function is entered into this cell:=SUM(B9:B17)				The following formula is inserted into this cell:=+B11*-1					
24				The following formula is entered into this cell:=D19-D9							
25											
26											
27											
28						The following function is entered into this cell:=SUM(F19:I19)					
29											
30											
31											
32											

The following formula is inserted in this cell: =(G12+B12)*-1

(b) Simply change the formula in cell B11 to multiply by .07; change the formula in cell B12 to multiply .10 times (C-9 * –1).

Journal Entry

Pension Expense	**113,250**	
Accrued Pension Cost		**14,250**
Cash		**99,000**

Measurement

Projected Benefit Obligation	**$ 762,250**
Plan Assets at Fair Value	**551,000**
Projected benefit obligation in excess of plan assets (funded status)	**(211,250)**
Unrecognized Prior Service Cost	**81,000**
Unrecognized Gain or Loss	**71,000**
Prepaid/Accrued Pension Cost	**$ (59,250)**