## CHAPTER 21

## ACCOUNTING FOR LEASES

IFRS questions are available at the end of this chapter.

## TRUE-FALSE—Conceptual

| Answer | No. | Description |
| :---: | :---: | :--- |
| T | 1. | Benefits of leasing. |
| F | 2. | Accounting for long-term leases. |
| F | 3. | Classifying lease containing purchase option. |
| T | 4. | Accounting for executory costs. |
| F | 5. | Depreciating a capitalized asset. |
| F | 6. | Lessee recording of interest expense. |
| T | 7. | Benefit of leasing to lessor. |
| F | 8. | Distinction between direct-financing and sales-type leases. |
| F | 9. | Lessors' classification of leases. |
| T | 10. | Direct-financing leases. |
| F | 11. | Accounting for operating lease. |
| F | 12. | Computing annual lease payments. |
| T | 13. | Guaranteed residual value definition. |
| F | 14. | Guaranteed vs. unguaranteed residual value. |
| T | 15. | Unguaranteed residual value and minimum lease payments. |
| F | 16. | Net investment and guaranteed/unguaranteed residual value. |
| T | 17. | Difference between direct-financing and sales-type leases. |
| F | 18. | Gross profit in sales-type lease. |
| T | 19. | Review of estimated unguaranteed residual value. |
| T | 20. | FASB required lease disclosures. |

## MULTIPLE CHOICE—Conceptual

| Answer | No. | Description |
| :---: | :---: | :--- |
| d | 21. | Advantages of leasing. |
| d | 22. | Advantages of leasing. |
| b | 23. | Basic principle of lease accounting. |
| c | 24. | Conceptual support for treating all leases as a sale/purchase. |
| a | ${ }^{\text {s }} 25$. | Essential element of a lease. |
| b | ${ }^{\text {s }} 26$. | Bargain purchase option and minimum lease payments. |
| b | ${ }^{\text {P }} 27$. | Cost amount for a capital lease. |
| a | 28. | Lease accounting by lessee. |
| c | 29. | Knowledge of the capitalization criteria. |
| d | 30. | Components of minimum lease payments. |
| d | 31. | Identification of executory costs. |
| c | 32. | Discount rate used by lessee. |
| a | 33. | Depreciation of a leased asset by lessee. |
| b | 34. | Effect of a capital lease on lessee's debt. |
| a | ${ }^{\text {P }} 35$. | Depreciation of a capital lease. |
| a | 36. | Identification of lease type for lessor. |
| d | 37. | Elements of lease receivable by lessor. |
| a | 38. | Recognition of unearned lease income. |
| c | s39. | Direct-financing lease receivable. |

## MULTIPLE CHOICE—Conceptual (cont.)

| Answer | No. | Description |
| :---: | :---: | :---: |
| d | ${ }^{\text {s }} 40$. | Third party guarantee of residual value. |
| a | 41. | Lessor's accounting for residual value. |
| c | 42. | Accounting for initial direct costs. |
| c | ${ }^{\text {s }} 43$. | Difference between direct financing and sales-type lease. |
| b | ${ }^{\text {P } 44 .}$ | Amount of revenue in sales-type lease. |
| c | 45. | Accounting for a sales-type lease. |
| d | 46. | Accounting for initial direct costs. |
| c | 47. | Disclosing obligations under capital leases. |
| c | 48. | Leasing criteria to avoid asset capitalization. |
| d | *49. | Recording asset and interest expense in sale-leaseback lease. |
| b | *50. | Accounting for sale-leaseback lease. |
| d | *51. | Gain/loss recognition in a sale-leaseback. |
| ${ }^{\mathrm{P}}$ These questions also appear in the Problem-Solving Survival Guide. |  |  |
| ${ }^{5}$ These questions also appear in the Study Guide. |  |  |
| *This topic | is deal | with in an Appendix to the chapter. |

## MULTIPLE CHOICE-Computational

| Answer | No. | Description |
| :---: | :---: | :--- |
| b | 52. | Operating lease expense for year. |
| c | 53. | Calculate interest expense and depreciation expense for lessee. |
| c | 54. | Calculate minimum annual lease payment. |
| d | 55. | Calculate total annual lease payment. |
| a | 56. | Identification of lease type for lessor. |
| c | 57. | Identification of lease type for lessee. |
| c | 58. | Calculate depreciation expense for lessee. |
| d | 59. | Identification of lease type for lessee. |
| c | 60. | Calculate leased asset amount. |
| c | 61. | Calculate total lease obligation. |
| a | 62. | Compute interest expense for year. |
| b | 63. | Compute interest expense for year. |
| d | 64. | Calculate lease liability amount. |
| c | 65. | Compute interest expense and depreciation expense for year. |
| c | 66. | Compute interest expense and depreciation expense for year. |
| d | 67. | Compute depreciation expense for lease with transfer of title. |
| a | 68. | Calculate leased asset amount. |
| c | 69. | Compute interest expense for first year. |
| d | 70. | Compute principal reduction for second year. |
| c | 71. | Calculate depreciation expense for lessee. |
| b | 72. | Compute interest expense for first year. |
| c | 73. | Calculate leased asset and lease liability amounts. |
| a | 74. | Calculate annual lease payments. |
| b | 75. | Identification of lease type for lessee. |
| b | 76. | Expense recorded by lessee/operating lease. |
| c | 77. | Calculate reduction of lease obligation for lessee. |
| a | 78. | Identification of lease type for lessor. |
| c | 79. | Calculate lease receivable. |

## MULTIPLE CHOICE—Computational (cont.)

| Answer | No. | Description |
| :---: | :---: | :--- |
| d | 80. | Revenues and expenses recorded by lessor/operating lease. |
| a | 81. | Operating lease expense for year. |
| d | 82. | Calculate expense of an operating lease. |
| a | 83. | Calculate income from operating lease. |
| d | 84 | Journal entry in direct-financing lease. |
| b | 85. | Calculate lease payments. |
| b | 86. | Journal entry for lessee. |
| c | 87. | Journal entry for lessee. |
| c | 88. | Calculate loss on guaranteed residual value lease. |
| c | 89. | Calculate interest revenue in sales-type lease. |
| c | 90. | Determine gross profit and interest revenue. |
| a | 91. | Calculate interest expense and depreciation expense for lessee. |
| b | 92. | Calculate profit and interest income for lessor/sales-type lease. |
| c | 93. | Calculate profit on sales-type lease and interest income. |
| c | 94. | Identification of lease type for lessor. |
| b | 95. | Determine discount rate implicit in lease payments. |
| d | 96. | Lease-related expenses recognized by lessee. |
| d | 97. | Determine long-term lease obligation for lessee. |
| b | *98. | Gain recognized by lessee in a sale-leaseback. |
| b | *99. | Sale-leaseback/operating lease. |

## MULTIPLE CHOICE—CPA Adapted

Answer No. Description
c 100. Identification of lease type for lessee.
a 101. Calculate the lease liability of a lessee.
d 102. Calculate the lease liability of a lessee.
a 103. Determine reduction of lease obligation for lessee.
d 104. Calculate interest expense for lessee.
d 105. Calculate depreciation expense for lessee.
c 106. Recognition of interest revenue in a sales-type lease.
a 107. Calculate income realized by lessor/sales-type lease.
d *108. Reporting gain on a sale-leaseback.
d *109. Accounting for the gain on a sale-leaseback.

## EXERCISES

## Item

E21-110
E21-111
E21-112
E21-113
E21-114
E21-115
*E21-116
*E21-117

## Description

Capital lease (essay).
Capital lease amortization and journal entries.
Operating lease.
Lease criteria for classification by lessor.
Direct-financing lease (essay).
Lessor accounting-sales-type lease.
Lessee and lessor accounting (sale-leaseback).
Sale-leaseback.

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## PROBLEMS

## Item Description

P21-118 Lessee accounting-capital lease.
P21-119 Lessee accounting-capital lease.
P21-120 Lessor accounting-direct-financing lease.

## CHAPTER LEARNING OBJECTIVES

1. Explain the nature, economic substance, and advantages of lease transactions.
2. Describe the accounting criteria and procedures for capitalizing leases by the lessee.
3. Contrast the operating and capitalization methods of recording leases.
4. Identify the classifications of leases for the lessor.
5. Describe the lessor's accounting for direct-financing leases.
6. Identify special features of lease arrangements that cause unique accounting problems.
7. Describe the effect of residual values, guaranteed and unguaranteed, on lease accounting.
8. Describe the lessor's accounting for sales-type leases.
9. List the disclosure requirements for leases.
*10. Understand and apply lease-accounting concepts to various lease arrangements.
*11. Describe the lessee's accounting for sale-leaseback transactions.

## SUMMARY OF LEARNING OBJECTIVES BY QUESTIONS

| Item | Type | Item | Type | Item | Type | Item | Type | Item | Type | Item | Type | Item | Type |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Learning Objective 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. | TF | 2. | TF | 21. | MC | 22. | MC | 23. | MC | 24. | MC | ${ }^{\text {s } 25 .}$ | MC |
| Learning Objective 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. | TF | 30. | MC | 55. | MC | 63. | MC | 70. | MC | 77. | MC | 103. | MC |
| 4. | TF | 31. | MC | 56. | MC | 64. | MC | 71. | MC | 91. | MC | 104. | MC |
| 5. | TF | 32. | MC | 58. | MC | 65. | MC | 72. | MC | 96. | MC | 105. | MC |
| ${ }^{\text {S }} 26$. | MC | 33. | MC | 59. | MC | 66. | MC | 73. | MC | 97. | MC | 110. | E |
| ${ }^{2} 27$. | MC | 52. | MC | 60. | MC | 67. | MC | 74. | MC | 100. | MC | 111. | E |
| 28. | MC | 53. | MC | 61. | MC | 68. | MC | 75. | MC | 101. | MC | 118. | P |
| 29. | MC | 54. | MC | 62. | MC | 69. | MC | 76. | MC | 102. | MC | 119. | P |
| Learning Objective 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. | TF | 7. | TF | 34. | MC | ${ }^{\text {P }} 35$. | MC | 81. | MC | 82. | MC | 112. | E |
| Learning Objective 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $8 .$ | $\begin{aligned} & \mathrm{TF} \\ & \mathrm{TF} \end{aligned}$ | $36 .$ | $\mathrm{MC}$ | $57 .$ | MC |  | $\mathrm{MC}$ |  | E |  |  |  |  |
| Learning Objective 5 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & 10 . \\ & 11 . \end{aligned}$ | $\begin{aligned} & \hline \text { TF } \\ & \text { TF } \end{aligned}$ | $\begin{array}{r} 38 . \\ \mathrm{s} 39 . \end{array}$ | $\begin{aligned} & \hline \mathrm{MC} \\ & \mathrm{MC} \end{aligned}$ | $\begin{aligned} & 79 . \\ & 80 . \end{aligned}$ | $\begin{aligned} & \hline \mathrm{MC} \\ & \mathrm{MC} \end{aligned}$ | $\begin{aligned} & 84 . \\ & 95 . \end{aligned}$ | $\begin{aligned} & \hline \mathrm{MC} \\ & \mathrm{MC} \end{aligned}$ | $\begin{aligned} & 113 . \\ & 114 . \end{aligned}$ | $\begin{aligned} & \mathrm{E} \\ & \mathrm{E} \end{aligned}$ | 120. | P |  |  |
| Learning Objective 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12. | TF | 13. | TF | 85. | MC | 119. | P |  |  |  |  |  |  |
| Learning Objective 7 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & 14 . \\ & 15 . \end{aligned}$ | $\begin{aligned} & \hline \text { TF } \\ & \text { TF } \end{aligned}$ | $\begin{array}{r} 16 . \\ \mathrm{s}_{40} . \\ \hline \end{array}$ | $\begin{aligned} & \text { TF } \\ & \text { MC } \end{aligned}$ | $\begin{aligned} & 41 . \\ & 86 . \end{aligned}$ | $\begin{aligned} & \hline \mathrm{MC} \\ & \mathrm{MC} \end{aligned}$ |  | $\begin{aligned} & \hline \mathrm{MC} \\ & \mathrm{MC} \end{aligned}$ | 120. | P |  |  |  |  |
| Learning Objective 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17. | TF | 42. | MC | 45. | MC | 90. | MC | 105. | MC |  | E |  |  |
| 18. | TF | ${ }^{\text {s }} 43$. | MC | 46. | MC | 92. | MC | 106. | MC |  |  |  |  |
| 19. | TF | ${ }^{\text {P }} 44$. | MC | 89. | MC | 93. | MC | 107. | MC |  |  |  |  |
| Learning Objective 9 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20. | TF | 47. | MC | 48. | MC |  |  |  |  |  |  |  |  |
| Learning Objective 11* |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 49. | MC | $51 .$ $9 .$ | MC | 99. | MC | $109 .$ |  | 117. | E |  |  |  |  |
| 50. | MC |  | MC | 108. | MC |  | E |  |  |  |  |  |  |

Note: TF = True-False
MC = Multiple Choice
E = Exercise
P = Problem

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## TRUE-FALSE—Conceptual

1. Leasing equipment reduces the risk of obsolescence to the lessee, and passes the risk of residual value to the lessor.
2. The FASB agrees with the capitalization approach and requires companies to capitalize all long-term leases.
3. A lease that contains a purchase option must be capitalized by the lessee.
4. Executory costs should be excluded by the lessee in computing the present value of the minimum lease payments.
5. A capitalized leased asset is always depreciated over the term of the lease by the lessee.
6. A lessee records interest expense in both a capital lease and an operating lease.
7. A benefit of leasing to the lessor is the return of the leased property at the end of the lease term.
8. The distinction between a direct-financing lease and a sales-type lease is the presence or absence of a transfer of title.
9. Lessors classify and account for all leases that don't qualify as sales-type leases as operating leases.
10. Direct-financing leases are in substance the financing of an asset purchase by the lessee.
11. Under the operating method, the lessor records each rental receipt as part interest revenue and part rental revenue.
12. In computing the annual lease payments, the lessor deducts only a guaranteed residual value from the fair value of a leased asset.
13. When the lessee agrees to make up any deficiency below a stated amount that the lessor realizes in residual value, that stated amount is the guaranteed residual value.
14. Both a guaranteed and an unguaranteed residual value affect the lessee's computation of amounts capitalized as a leased asset.
15. From the lessee's viewpoint, an unguaranteed residual value is the same as no residual value in terms of computing the minimum lease payments.
16. The lessor will recover a greater net investment if the residual value is guaranteed instead of unguaranteed.
17. The primary difference between a direct-financing lease and a sales-type lease is the manufacturer's or dealer's gross profit.
18. The gross profit amount in a sales-type lease is greater when a guaranteed residual value exists.
19. Companies must periodically review the estimated unguaranteed residual value in a sales-type lease.
20. The FASB requires lessees and lessors to disclose certain information about leases in their financial statements or in the notes.

True-False Answers-Conceptual

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. | T | 6. | F | 11. | F | 16. | F |
| 2. | F | 7. | T | 12. | F | 17. | T |
| 3. | F | 8. | F | 13. | T | 18. | F |
| 4. | T | 9. | F | 14. | F | 19. | T |
| 5. | F | 10. | T | 15. | T | 20. | T |

## MULTIPLE CHOICE-Conceptual

21. Major reasons why a company may become involved in leasing to other companies is (are)
a. interest revenue.
b. high residual values.
c. tax incentives.
d. all of these.
22. Which of the following is an advantage of leasing?
a. Off-balance-sheet financing
b. Less costly financing
c. $100 \%$ financing at fixed rates
d. All of these
23. Which of the following best describes current practice in accounting for leases?
a. Leases are not capitalized.
b. Leases similar to installment purchases are capitalized.
c. All long-term leases are capitalized.
d. All leases are capitalized.
24. While only certain leases are currently accounted for as a sale or purchase, there is theoretic justification for considering all leases to be sales or purchases. The principal reason that supports this idea is that
a. all leases are generally for the economic life of the property and the residual value of the property at the end of the lease is minimal.
b. at the end of the lease the property usually can be purchased by the lessee.
c. a lease reflects the purchase or sale of a quantifiable right to the use of property.
d. during the life of the lease the lessee can effectively treat the property as if it were owned by the lessee.

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${ }^{\mathrm{s}} 25$. An essential element of a lease conveyance is that the
a. lessor conveys less than his or her total interest in the property.
b. lessee provides a sinking fund equal to one year's lease payments.
c. property that is the subject of the lease agreement must be held for sale by the lessor prior to the drafting of the lease agreement.
d. term of the lease is substantially equal to the economic life of the leased property.
${ }^{s} 26$. What impact does a bargain purchase option have on the present value of the minimum lease payments computed by the lessee?
a. No impact as the option does not enter into the transaction until the end of the lease term.
b. The lessee must increase the present value of the minimum lease payments by the present value of the option price.
c. The lessee must decrease the present value of the minimum lease payments by the present value of the option price.
d. The minimum lease payments would be increased by the present value of the option price if, at the time of the lease agreement, it appeared certain that the lessee would exercise the option at the end of the lease and purchase the asset at the option price.
${ }^{P} 27$. The amount to be recorded as the cost of an asset under capital lease is equal to the
a. present value of the minimum lease payments.
b. present value of the minimum lease payments or the fair value of the asset, whichever is lower.
c. present value of the minimum lease payments plus the present value of any unguaranteed residual value.
d. carrying value of the asset on the lessor's books.
28. The methods of accounting for a lease by the lessee are
a. operating and capital lease methods.
b. operating, sales, and capital lease methods.
c. operating and leveraged lease methods.
d. none of these.
29. Which of the following is a correct statement of one of the capitalization criteria?
a. The lease transfers ownership of the property to the lessor.
b. The lease contains a purchase option.
c. The lease term is equal to or more than $75 \%$ of the estimated economic life of the leased property.
d. The minimum lease payments (excluding executory costs) equal or exceed $90 \%$ of the fair value of the leased property.
30. Minimum lease payments may include a
a. penalty for failure to renew.
b. bargain purchase option.
c. guaranteed residual value.
d. any of these.
31. Executory costs include
a. maintenance.
b. property taxes.
c. insurance.
d. all of these.
32. In computing the present value of the minimum lease payments, the lessee should
a. use its incremental borrowing rate in all cases.
b. use either its incremental borrowing rate or the implicit rate of the lessor, whichever is higher, assuming that the implicit rate is known to the lessee.
c. use either its incremental borrowing rate or the implicit rate of the lessor, whichever is lower, assuming that the implicit rate is known to the lessee.
d. none of these.
33. In computing depreciation of a leased asset, the lessee should subtract
a. a guaranteed residual value and depreciate over the term of the lease.
b. an unguaranteed residual value and depreciate over the term of the lease.
c. a guaranteed residual value and depreciate over the life of the asset.
d. an unguaranteed residual value and depreciate over the life of the asset.
34. In the earlier years of a lease, from the lessee's perspective, the use of the
a. capital method will enable the lessee to report higher income, compared to the operating method.
b. capital method will cause debt to increase, compared to the operating method.
c. operating method will cause income to decrease, compared to the capital method.
d. operating method will cause debt to increase, compared to the capital method.
${ }^{P} 35$. A lessee with a capital lease containing a bargain purchase option should depreciate the leased asset over the
a. asset's remaining economic life.
b. term of the lease.
c. life of the asset or the term of the lease, whichever is shorter.
d. life of the asset or the term of the lease, whichever is longer.
36. Based solely upon the following sets of circumstances indicated below, which set gives rise to a sales-type or direct-financing lease of a lessor?

| Transfers Ownership By End Of Lease? | Contains Bargain Purchase Option? | Collectibility of Lease Payments Assured? | Any Important Uncertainties? |
| :---: | :---: | :---: | :---: |
| a. No | Yes | Yes | No |
| b. Yes | No | No | No |
| c. Yes | No | No | Yes |
| d. No | Yes | Yes | Yes |

37. Which of the following would not be included in the Lease Receivable account?
a. Guaranteed residual value
b. Unguaranteed residual value
c. A bargain purchase option
d. All would be included
38. In a lease that is appropriately recorded as a direct-financing lease by the lessor, unearned income
a. should be amortized over the period of the lease using the effective interest method.
b. should be amortized over the period of the lease using the straight-line method.
c. does not arise.
d. should be recognized at the lease's expiration.

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${ }^{5} 39$. In order to properly record a direct-financing lease, the lessor needs to know how to calculate the lease receivable. The lease receivable in a direct-financing lease is best defined as
a. the amount of funds the lessor has tied up in the asset which is the subject of the direct-financing lease.
b. the difference between the lease payments receivable and the fair value of the leased property.
c. the present value of minimum lease payments.
d. the total book value of the asset less any accumulated depreciation recorded by the lessor prior to the lease agreement.
${ }^{\mathrm{s}} 40$. If the residual value of a leased asset is guaranteed by a third party
a. it is treated by the lessee as no residual value.
b. the third party is also liable for any lease payments not paid by the lessee.
c. the net investment to be recovered by the lessor is reduced.
d. it is treated by the lessee as an additional payment and by the lessor as realized at the end of the lease term.
41. When lessors account for residual values related to leased assets, they
a. always include the residual value because they always assume the residual value will be realized.
b. include the unguaranteed residual value in sales revenue.
c. recognize more gross profit on a sales-type lease with a guaranteed residual value than on a sales-type lease with an unguaranteed residual value.
d. All of the above are true with regard to lessors and residual values.
42. The initial direct costs of leasing
a. are generally borne by the lessee.
b. include incremental costs related to internal activities of leasing, and internal costs related to costs paid to external third parties for originating a lease arrangement.
c. are expensed in the period of the sale under a sales-type lease.
d. All of the above are true with regard to the initial direct costs of leasing.
${ }^{\mathrm{s}} 43$. The primary difference between a direct-financing lease and a sales-type lease is the
a. manner in which rental receipts are recorded as rental income.
b. amount of the depreciation recorded each year by the lessor.
c. recognition of the manufacturer's or dealer's profit at the inception of the lease.
d. allocation of initial direct costs by the lessor to periods benefited by the lease arrangements.
${ }^{\mathrm{P}} 44$. A lessor with a sales-type lease involving an unguaranteed residual value available to the lessor at the end of the lease term will report sales revenue in the period of inception of the lease at which of the following amounts?
a. The minimum lease payments plus the unguaranteed residual value.
b. The present value of the minimum lease payments.
c. The cost of the asset to the lessor, less the present value of any unguaranteed residual value.
d. The present value of the minimum lease payments plus the present value of the unguaranteed residual value.
45. For a sales-type lease,
a. the sales price includes the present value of the unguaranteed residual value.
b. the present value of the guaranteed residual value is deducted to determine the cost of goods sold.
c. the gross profit will be the same whether the residual value is guaranteed or unguaranteed.
d. none of these.
46. Which of the following statements is correct?
a. In a direct-financing lease, initial direct costs are added to the net investment in the lease.
b. In a sales-type lease, initial direct costs are expensed in the year of incurrence.
c. For operating leases, initial direct costs are deferred and allocated over the lease term.
d. All of these.
47. The Lease Liability account should be disclosed as
a. all current liabilities.
b. all noncurrent liabilities.
c. current portions in current liabilities and the remainder in noncurrent liabilities.
d. deferred credits.
48. To avoid leased asset capitalization, companies can devise lease agreements that fail to satisfy any of the four leasing criteria. Which of the following is not one of the ways to accomplish this goal?
a. Lessee uses a higher interest rate than that used by lessor.
b. Set the lease term at something less than $75 \%$ of the estimated useful life of the property.
c. Write in a bargain purchase option.
d. Use a third party to guarantee the asset's residual value.
*49. If the lease in a sale-leaseback transaction meets one of the four leasing criteria and is therefore accounted for as a capital lease, who records the asset on its books and which party records interest expense during the lease period?

| Party recording the <br> asset on its books | Party recording <br> interest expense |
| :--- | :--- |
| Seller-lessee | Purchaser-lessor |
| Purchaser-lessor | Seller-lessee |
| Purchaser-lessor | Purchaser-lessor |
| Seller-lessee | Seller-lessee |

*50. In a sale-leaseback transaction where none of the four leasing criteria are satisfied, which of the following is false?
a. The seller-lessee removes the asset from its books.
b. The purchaser-lessor records a gain.
c. The seller-lessee records the lease as an operating lease.
d. All of the above are false statements.
*51. When a company sells property and then leases it back, any gain on the sale should usually be
a. recognized in the current year.
b. recognized as a prior period adjustment.
c. recognized at the end of the lease.
d. deferred and recognized as income over the term of the lease.

Multiple Choice Answers-Conceptual

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 21. | d | 26. | b | 31. | d | 36. | a | 41. | a | 46. | d | *51. | d |
| 22. | d | 27. | b | 32. | c | 37. | d | 42. | c | 47. | c |  |  |
| 23. | b | 28. | a | 33. | a | 38. | a | 43. | c | 48. | C |  |  |
| 24. | c | 29. | C | 34. | b | 39. | c | 44. | b | *49. | d |  |  |
| 25. | a | 30. | d | 35. | a | 40. | d | 45. | c | *50. | b |  |  |

## MULTIPLE CHOICE-Computational

52. On December 1, 2013, Goetz Corporation leased office space for 10 years at a monthly rental of $\$ 90,000$. On that date Perez paid the landlord the following amounts:

| Rent deposit | $\$ 90,000$ |
| :--- | ---: |
| First month's rent | 90,000 |
| Last month's rent | 90,000 |
| Installation of new walls and offices | $\underline{660,000}$ |
|  | $\underline{\$ 930,000}$ |

The entire amount of $\$ 930,000$ was charged to rent expense in 2013. What amount should Goetz have charged to expense for the year ended December 31, 2013 ?
a. $\$ 90,000$
b. $\$ 95,500$
c. $\$ 185,500$
d. $\$ 660,000$
53. On January 1, 2013, Dean Corporation signed a ten-year noncancelable lease for certain machinery. The terms of the lease called for Dean to make annual payments of $\$ 200,000$ at the end of each year for ten years with title to pass to Dean at the end of this period. The machinery has an estimated useful life of 15 years and no salvage value. Dean uses the straight-line method of depreciation for all of its fixed assets. Dean accordingly accounted for this lease transaction as a capital lease. The lease payments were determined to have a present value of $\$ 1,342,016$ at an effective interest rate of $8 \%$. With respect to this capitalized lease, Dean should record for 2013
a. lease expense of $\$ 200,000$.
b. interest expense of $\$ 89,468$ and depreciation expense of $\$ 76,136$.
c. interest expense of $\$ 107,361$ and depreciation expense of $\$ 89,468$.
d. interest expense of $\$ 91,362$ and depreciation expense of $\$ 134,202$.

Use the following information for questions 54 through 59. (Annuity tables on page 21-25.)
On January 1, 2013, Yancey, Inc. signs a 10-year noncancelable lease agreement to lease a storage building from Holt Warehouse Company. Collectibility of lease payments is reasonably predictable and no important uncertainties surround the amount of costs yet to be incurred by the lessor. The following information pertains to this lease agreement.
(a) The agreement requires equal rental payments at the end of each year.
(b) The fair value of the building on January 1,2013 is $\$ 4,000,000$; however, the book value to Holt is $\$ 3,300,000$.
(c) The building has an estimated economic life of 10 years, with no residual value. Yancey depreciates similar buildings on the straight-line method.
(d) At the termination of the lease, the title to the building will be transferred to the lessee.
(e) Yancey's incremental borrowing rate is $11 \%$ per year. Holt Warehouse Co. set the annual rental to insure a $10 \%$ rate of return. The implicit rate of the lessor is known by Yancey, Inc.
(f) The yearly rental payment includes $\$ 10,000$ of executory costs related to taxes on the property.
54. What is the amount of the minimum annual lease payment? (Rounded to the nearest dollar.)
a. $\$ 250,981$
b. $\$ 640,981$
c. $\$ 650,981$
d. $\$ 660,981$
55. What is the amount of the total annual lease payment?
a. $\$ 250,981$
b. $\$ 640,981$
c. $\$ 650,981$
d. $\$ 660,981$
56. From the lessee's viewpoint, what type of lease exists in this case?
a. Sales-type lease
b. Sale-leaseback
c. Capital lease
d. Operating lease
57. From the lessor's viewpoint, what type of lease is involved?
a. Sales-type lease
b. Sale-leaseback
c. Direct-financing lease
d. Operating lease
58. Yancey, Inc. would record depreciation expense on this storage building in 2013 of (Rounded to the nearest dollar.)
a. \$0.
b. $\$ 330,000$.
c. $\$ 400,000$.
d. $\$ 650,981$.

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59. If the lease were nonrenewable, there was no purchase option, title to the building does not pass to the lessee at termination of the lease and the lease were only for eight years, what type of lease would this be for the lessee?
a. Sales-type lease
b. Direct-financing lease
c. Operating lease
d. Capital lease
60. Metcalf Company leases a machine from Vollmer Corp. under an agreement which meets the criteria to be a capital lease for Metcalf. The six-year lease requires payment of $\$ 170,000$ at the beginning of each year, including $\$ 25,000$ per year for maintenance, insurance, and taxes. The incremental borrowing rate for the lessee is $10 \%$; the lessor's implicit rate is $8 \%$ and is known by the lessee. The present value of an annuity due of 1 for six years at $10 \%$ is 4.79079 . The present value of an annuity due of 1 for six years at $8 \%$ is 4.99271 . Metcalf should record the leased asset at
a. $\$ 848,760$.
b. $\$ 814,435$.
c. $\$ 723,943$.
d. $\$ 694,665$.
61. On December 31, 2013, Lang Corporation leased a ship from Fort Company for an eightyear period expiring December 30, 2021. Equal annual payments of $\$ 400,000$ are due on December 31 of each year, beginning with December 31, 2013. The lease is properly classified as a capital lease on Lang 's books. The present value at December 31, 2013 of the eight lease payments over the lease term discounted at $10 \%$ is $\$ 2,347,370$. Assuming all payments are made on time, the amount that should be reported by Lang Corporation as the total obligation under capital leases on its December 31, 2014 balance sheet is
a. $\$ 2,182,108$.
b. $\$ 2,000,318$.
c. $\$ 1,742,107$.
d. $\$ 2,400,000$.

Use the following information for questions 62 and 63.
On January 1, 2013, Sauder Corporation signed a five-year noncancelable lease for equipment. The terms of the lease called for Sauder to make annual payments of $\$ 200,000$ at the beginning of each year for five years with title to pass to Sauder at the end of this period. The equipment has an estimated useful life of 7 years and no salvage value. Sauder uses the straight-line method of depreciation for all of its fixed assets. Sauder accordingly accounts for this lease transaction as a capital lease. The minimum lease payments were determined to have a present value of $\$ 833,972$ at an effective interest rate of $10 \%$.
62. In 2013, Sauder should record interest expense of
a. $\$ 63,397$.
b. $\$ 116,604$.
c. $\$ 83,396$.
d. $\$ 136,604$.
63. In 2014, Sauder should record interest expense of
a. $\$ 43,396$.
b. $\$ 49,732$.
c. $\$ 63,396$.
d. $\$ 69,736$.
64. On December 31, 2013, Kuhn Corporation leased a plane from Bell Company for an eight-year period expiring December 30, 2021. Equal annual payments of $\$ 225,000$ are due on December 31 of each year, beginning with December 31, 2013. The lease is properly classified as a capital lease on Kuhn's books. The present value at December 31, 2013 of the eight lease payments over the lease term discounted at $10 \%$ is $\$ 1,320,396$. Assuming the first payment is made on time, the amount that should be reported by Kuhn Corporation as the lease liability on its December 31, 2013 balance sheet is
a. $\$ 1,320,396$.
b. $\$ 1,227,435$.
c. $\$ 1,188,357$.
d. $\$ 1,095,396$.

## Use the following information for questions 65 and 66.

On January 1, 2013, Ogleby Corporation signed a five-year noncancelable lease for equipment. The terms of the lease called for Ogleby to make annual payments of $\$ 120,000$ at the end of each year for five years with title to pass to Ogleby at the end of this period. The equipment has an estimated useful life of 7 years and no salvage value. Ogleby uses the straight-line method of depreciation for all of its fixed assets. Ogleby accordingly accounts for this lease transaction as a capital lease. The minimum lease payments were determined to have a present value of $\$ 454,896$ at an effective interest rate of $10 \%$.
65. With respect to this capitalized lease, for 2013 Ogleby should record
a. rent expense of $\$ 120,000$.
b. interest expense of $\$ 45,490$ and depreciation expense of $\$ 90,978$.
c. interest expense of $\$ 45,490$ and depreciation expense of $\$ 64,985$.
d. interest expense of $\$ 60,000$ and depreciation expense of $\$ 90,978$.
66. With respect to this capitalized lease, for 2014 Ogleby should record
a. interest expense of $\$ 45,490$ and depreciation expense of $\$ 64,985$.
b. interest expense of $\$ 40,938$ and depreciation expense of $\$ 64,985$.
c. interest expense of $\$ 38,039$ and depreciation expense of $\$ 64,985$.
d. interest expense of $\$ 28,938$ and depreciation expense of $\$ 64,985$.
67. Emporia Corporation is a lessee with a capital lease. The asset is recorded at $\$ 630,000$ and has an economic life of 8 years. The lease term is 5 years. The asset is expected to have a fair value of $\$ 210,000$ at the end of 5 years, and a fair value of $\$ 70,000$ at the end of 8 years. The lease agreement provides for the transfer of title of the asset to the lessee at the end of the lease term. What amount of depreciation expense would the lessee record for the first year of the lease?
a. $\$ 126,000$
b. $\$ 112,000$
c. $\$ 84,000$
d. $\$ 70,000$

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68. Pisa, Inc. leased equipment from Tower Company under a four-year lease requiring equal annual payments of $\$ 129,057$, with the first payment due at lease inception. The lease does not transfer ownership, nor is there a bargain purchase option. The equipment has a 4 -year useful life and no salvage value. If Pisa, Inc.'s incremental borrowing rate is $10 \%$ and the rate implicit in the lease (which is known by Pisa, Inc.) is $8 \%$, what is the amount recorded for the leased asset at the lease inception?

|  | PV Annuity Due |  | PV Ordinary Annuity |
| :--- | :---: | :---: | :---: |
| 8\%, 4 periods | 3.57710 |  | 3.31213 |
| 10\%, 4 periods | 3.48685 |  | 3.16986 |

a. $\$ 461,650$
b. $\$ 409,092$
c. $\$ 427,453$
d. $\$ 450,000$
69. Pisa, Inc. leased equipment from Tower Company under a four-year lease requiring equal annual payments of $\$ 129,057$, with the first payment due at lease inception. The lease does not transfer ownership, nor is there a bargain purchase option. The equipment has a 4 -year useful life and no salvage value. Pisa, Inc.'s incremental borrowing rate is $10 \%$ and the rate implicit in the lease (which is known by Pisa, Inc.) is $8 \%$. Assuming that this lease is properly classified as a capital lease, what is the amount of interest expense recorded by Pisa, Inc. in the first year of the asset's life?

|  | $\frac{P V}{}$ Annuity Due |  |
| :--- | :---: | :---: |
| 3.57710 |  | 3.31213 |
| $8 \%, 4$ periods Ordinary Annuity |  |  |
| $10 \%, 4$ periods | 3.48685 |  |

a. \$0
b. $\$ 36,931$
c. $\$ 26,607$
d. $\$ 34,197$
70. Pisa, Inc. leased equipment from Tower Company under a four-year lease requiring equal annual payments of $\$ 129,057$, with the first payment due at lease inception. The lease does not transfer ownership, nor is there a bargain purchase option. The equipment has a 4 year useful life and no salvage value. Pisa, Inc.'s incremental borrowing rate is $10 \%$ and the rate implicit in the lease (which is known by Pisa, Inc.) is $8 \%$. Assuming that this lease is properly classified as a capital lease, what is the amount of principal reduction recorded when the second lease payment is made in Year 2?
PV Annuity Due
PV Ordinary Annuity
3.57710
3.31213
$3.48685 \quad 3.16986$
$8 \%, 4$ periods
$10 \%, 4$ periods
a. $\$ 129,057$
b. $\$ 92,125$
c. $\$ 94,860$
d. $\$ 102,450$
71. Pisa, Inc. leased equipment from Tower Company under a four-year lease requiring equal annual payments of $\$ 129,057$, with the first payment due at lease inception. The lease does not transfer ownership, nor is there a bargain purchase option. The equipment has a 4 -year useful life and no salvage value. Pisa, Inc.'s incremental borrowing rate is $10 \%$ and the rate implicit in the lease (which is known by Pisa, Inc.) is $8 \%$. Pisa, Inc. uses the straight-line method to depreciate similar assets. What is the amount of depreciation expense recorded by Pisa, Inc. in the first year of the asset's life?
$\frac{\text { PV Annuity Due }}{357710} \quad$ PV Ordinary Annuity
8\%, 4 periods $\quad 3.57710 \quad 3.31213$
$10 \%, 4$ periods 3.486853 .16986
a. \$0 because the asset is depreciated by Tower Company.
b. $\$ 106,863$
c. $\$ 115,413$
d. $\$ 112,500$
72. Haystack, Inc. manufactures machinery used in the mining industry. On January 2, 2013 it leased equipment with a cost of $\$ 400,000$ to Silver Point Co. The 5 -year lease calls for a $10 \%$ down payment and equal annual payments at the end of each year. The equipment has an expected useful life of 5 years. Silver Point's incremental borrowing rate is $10 \%$, and it depreciates similar equipment using the double-declining balance method. The selling price of the equipment is $\$ 650,000$, and the rate implicit in the lease is $8 \%$, which is known to Silver Point Co. What is the amount of interest expense recorded by Silver Point Co. for the year ended December 31, 2013?

PV Annuity Due PV Ordinary Annuity
8\%, 5 periods
4.31213
3.99271

PV Single Sum
. 68508
10\%, 5 periods
4.16986
3.79079
. 62092
a. $\$ 58,500$
b. $\$ 46,800$
c. $\$ 52,000$
d. $\$ 65,000$
73. Haystack, Inc. manufactures machinery used in the mining industry. On January 2, 2013 it leased equipment with a cost of $\$ 400,000$ to Silver Point Co. The 5-year lease calls for a $10 \%$ down payment and equal annual payments of $\$ 146,518$ at the end of each year. The equipment has an expected useful life of 5 years. Silver Point's incremental borrowing rate is $10 \%$, and it depreciates similar equipment using the double-declining balance method. The selling price of the equipment is $\$ 650,000$, and the rate implicit in the lease is $8 \%$, which is known to Silver Point Co. What is the book value of the leased asset at December 31, 2013?
a. $\$ 650,000$
b. $\$ 520,000$
c. $\$ 390,000$
d. $\$ 416,000$
74. Haystack, Inc. manufactures machinery used in the mining industry. On January 2, 2013 it leased equipment with a cost of $\$ 400,000$ to Silver Point Co. The 5 -year lease calls for a $10 \%$ down payment and equal annual payments at the end of each year. The equipment has an expected useful life of 5 years. If the selling price of the equipment is $\$ 650,000$, and the rate implicit in the lease is $8 \%$, what are the equal annual payments?

|  | PV Annuity Due | PV Ordinary Annuity | PV Single Sum |
| :---: | :---: | :---: | :---: |
| 8\%, 5 periods | 4.31213 | 3.99271 | . 68508 |
| 10\%, 5 periods | 4.16986 | 3.79079 | . 62092 |

a. $\$ 146,517$
b. $\$ 135,662$
c. $\$ 151,644$
d. $\$ 162,796$

Use the following information for questions 75 through 80. (Annuity tables on page 21-25.)
Alt Corporation enters into an agreement with Yates Rentals Co. on January 1, 2013 for the purpose of leasing a machine to be used in its manufacturing operations. The following data pertain to the agreement:
(a) The term of the noncancelable lease is 3 years with no renewal option. Payments of $\$ 310,426$ are due on December 31 of each year.
(b) The fair value of the machine on January 1, 2013, is $\$ 800,000$. The machine has a remaining economic life of 10 years, with no salvage value. The machine reverts to the lessor upon the termination of the lease.
(c) Alt depreciates all machinery it owns on a straight-line basis.
(d) Alt's incremental borrowing rate is $10 \%$ per year. Alt does not have knowledge of the $8 \%$ implicit rate used by Yates.
(e) Immediately after signing the lease, Yates finds out that Alt Corp. is the defendant in a suit which is sufficiently material to make collectibility of future lease payments doubtful.
75. What type of lease is this from Alt Corporation's viewpoint?
a. Operating lease
b. Capital lease
c. Sales-type lease
d. Direct-financing lease
76. If Alt accounts for the lease as an operating lease, what expenses will be recorded as a consequence of the lease during the fiscal year ended December 31, 2013?
a. Depreciation Expense
b. Rent Expense
c. Interest Expense
d. Depreciation Expense and Interest Expense
77. If the present value of the future lease payments is $\$ 800,000$ at January 1,2013 , what is the amount of the reduction in the lease liability for Alt Corp. in the second full year of the lease if Alt Corp. accounts for the lease as a capital lease? (Rounded to the nearest dollar.)
a. $\$ 230,426$
b. $\$ 246,426$
c. $\$ 253,469$
d. $\$ 266,140$
78. From the viewpoint of Yates, what type of lease agreement exists?
a. Operating lease
b. Capital lease
c. Sales-type lease
d. Direct-financing lease
79. If Yates records this lease as a direct-financing lease, what amount would be recorded as Lease Receivable at the inception of the lease?
a. $\$ 310,426$
b. $\$ 771,982$
c. $\$ 800,000$
d. $\$ 931,276$
80. Which of the following lease-related revenue and expense items would be recorded by Yates if the lease is accounted for as an operating lease?
a. Rent Revenue
b. Interest Income
c. Depreciation Expense
d. Rent Revenue and Depreciation Expense
81. Hook Company leased equipment to Emley Company on July 1, 2012, for a one-year period expiring June 30, 2013, for $\$ 60,000$ a month. On July 1, 2013, Hook leased this piece of equipment to Terry Company for a three-year period expiring June 30, 2016, for $\$ 75,000$ a month. The original cost of the equipment was $\$ 4,800,000$. The equipment, which has been continually on lease since July 1, 2008, is being depreciated on a straightline basis over an eight-year period with no salvage value. Assuming that both the lease to Emley and the lease to Terry are appropriately recorded as operating leases for accounting purposes, what is the amount of income (expense) before income taxes that each would record as a result of the above facts for the year ended December 31, 2013?

|  | Hook |  | Emley |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  | Terry |  |  |
| a. | $\$ 210,000$ |  | $\$(360,000)$ |  |
| b. | $\$ 210,000$ |  | $\$(460,000)$ |  |
| c. | $\$ 810,000$ |  | $\$(60,000)$ |  |
| d. | $\$ 810,000$ |  | $\$(750,000)$ |  |
| d |  | $\$ 60,000)$ |  | $\$(450,000)$ |
|  |  |  |  |  |

## Use the following information for questions 82 and 83.

Hull Co. leased equipment to Riggs Company on May 1, 2013. At that time the collectibility of the minimum lease payments was not reasonably predictable. The lease expires on May 1, 2014. Riggs could have bought the equipment from Hull for $\$ 4,000,000$ instead of leasing it. Hull's accounting records showed a book value for the equipment on May 1, 2010, of $\$ 3,500,000$. Hull's depreciation on the equipment in 2013 was $\$ 450,000$. During 2013, Riggs paid $\$ 900,000$ in rentals to Hull for the 8 -month period. Hull incurred maintenance and other related costs under the terms of the lease of $\$ 80,000$ in 2013. After the lease with Riggs expires, Hull will lease the equipment to another company for two years.
82. Ignoring income taxes, the amount of expense incurred by Riggs from this lease for the year ended December 31, 2013, should be
a. $\$ 370,000$.
b. $\$ 450,000$.
c. $\$ 820,000$.
d. $\$ 900,000$.

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83. The income before income taxes derived by Hull from this lease for the year ended December 31, 2013, should be
a. $\$ 370,000$.
b. $\$ 450,000$.
c. $\$ 820,000$.
d. $\$ 900,000$.
84. On January 2, 2013, Gold Star Leasing Company leases equipment to Brick Co. with 5 equal annual payments of $\$ 80,000$ each, payable beginning December 31, 2013. Brick Co. agrees to guarantee the $\$ 50,000$ residual value of the asset at the end of the lease term. Brick's incremental borrowing rate is $10 \%$, however it knows that Gold Star's implicit interest rate is $8 \%$. What journal entry would Gold Star make at January 2, 2013 assuming this is a direct-financing lease?

|  | PV Annuity Due | PV Ordinary Annuity | PV Single Sum |
| :---: | :---: | :---: | :---: |
| 8\%, 5 periods | 4.31213 | 3.99271 | . 68508 |
| 10\%, 5 periods | 4.16986 | 3.79079 | . 62092 |


| a.Lease Receivable <br> Equipment | 450,000 |  |
| :--- | :--- | :--- |
| b. Lease Receivable | 319,416 | 450,000 |
| Loss <br> Equipment | 130,584 | 450,000 |
| c. Lease Receivable | 334,310 | 334,310 |
| Equipment | 353,671 | 353,671 |

85. Mays Company has a machine with a cost of $\$ 600,000$ which also is its fair value on the date the machine is leased to Park Company. The lease is for 6 years and the machine is estimated to have an unguaranteed residual value of $\$ 60,000$. If the lessor's interest rate implicit in the lease is $12 \%$, the six beginning-of-the-year lease payments would be
a. $\$ 138,541$.
b. $\$ 123,698$.
c. $\$ 117,270$.
d. $\$ 100,000$.
86. On January 2, 2013, Gold Star Leasing Company leases equipment to Brick Co. with 5 equal annual payments of $\$ 80,000$ each, payable beginning December 31, 2013. Brick Co. agrees to guarantee the $\$ 50,000$ residual value of the asset at the end of the lease term. Brick's incremental borrowing rate is $10 \%$, however it knows that Gold Star's implicit interest rate is $8 \%$. What journal entry would Brick Co. make at December 31, 2013 to record the first lease payment?

|  | PV Annuity Due | PV Ordinary Annuity | PV Single Sum |
| :---: | :---: | :---: | :---: |
| 8\%, 5 periods | 4.31213 | 3.99271 | . 68508 |
| 10\%, 5 periods | 4.16986 | 3.79079 | . 62092 |


| a. Lease Liability | 80,000 |  |
| :--- | :--- | :---: |
| Cash | 80,000 |  |
| b. Lease Liability | 51,706 |  |
| Interest Expense | 28,294 |  |
| $\quad$ Cash | 80,000 |  |
| c. Lease Liability | 46,570 |  |
| Interest Expense | $33,43080,000$ |  |
| $\quad$ Cash | 80,000 |  |
| d. Lease Liability | 16,570 |  |
| Interest Expense | 33,430 |  |
| $\quad$ Cash | 50,000 |  |

87. On January 2, 2012, Gold Star Leasing Company leases equipment to Brick Co. with 5 equal annual payments of $\$ 80,000$ each, payable beginning December 31, 2012. Brick Co. agrees to guarantee the $\$ 50,000$ residual value of the asset at the end of the lease term. Brick's incremental borrowing rate is $10 \%$, however it knows that Gold Star's implicit interest rate is $8 \%$. What journal entry would Brick Co. make at December 31, 2013 to record the second lease payment?

|  | PV Annuity Due | PV Ordinary Annuity | PV Single Sum |
| :---: | :---: | :---: | :---: |
| 8\%, 5 periods | 4.31213 | 3.99271 | . 68508 |
| 10\%, 5 periods | 4.16986 | 3.79079 | . 62092 |

a. Lease Liability 80,000

Cash 80,000
b. Lease Liability 51,226

Interest Expense 28,774
Cash 80,000
c. Lease Liability 55,843

Interest Expense 24,157
Cash
80,000
d. Lease Liability 47,520

Interest Expense 32,480
Cash 80,000

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88. Geary Co. leased a machine to Dains Co. Assume the lease payments were made on the basis that the residual value was guaranteed and Geary gets to recognize all the profits, and at the end of the lease term, before the lessee transfers the asset to the lessor, the leased asset and obligation accounts have the following balances:

| Leased equipment | $\$ 400,000$ |
| :--- | ---: |
| Less accumulated depreciation--capital lease | $\underline{384,000}$ |
|  | $\underline{\$ 16,000}$ |
| Interest payable | $\underline{\$ 1,520}$ |
| Lease liability | $\underline{14,480}$ |
|  | $\underline{\underline{\$ 16,000}}$ |

If, at the end of the lease, the fair value of the residual value is $\$ 7,800$, what gain or loss should Geary record?
a. $\$ 6,680$ gain
b. $\$ 6,280$ loss
c. $\$ 8,200$ loss
d. $\$ 7,800$ gain
89. Harter Company leased machinery to Stine Company on July 1, 2013, for a ten-year period expiring June 30, 2023. Equal annual payments under the lease are $\$ 125,000$ and are due on July 1 of each year. The first payment was made on July 1, 2013. The rate of interest used by Harter and Stine is $9 \%$. The cash selling price of the machinery is $\$ 875,000$ and the cost of the machinery on Harter's accounting records was $\$ 775,000$. Assuming that the lease is appropriately recorded as a sale for accounting purposes by Harter, what amount of interest revenue would Harter record for the year ended December 31, 2013?
a. $\$ 78,750$
b. $\$ 67,500$
c. $\$ 33,750$
d. \$0
90. Pye Company leased equipment to the Polan Company on July 1, 2013, for a ten-year period expiring June 30, 2023. Equal annual payments under the lease are $\$ 120,000$ and are due on July 1 of each year. The first payment was made on July 1, 2013. The rate of interest contemplated by Pye and Polan is $9 \%$. The cash selling price of the equipment is $\$ 840,000$ and the cost of the equipment on Pye's accounting records was $\$ 744,000$. Assuming that the lease is appropriately recorded as a sale for accounting purposes by Eby, what is the amount of profit on the sale and the interest revenue that Pye would record for the year ended December 31, 2013?
a. \$96,000 and \$75,600
b. $\$ 96,000$ and $\$ 64,800$
c. $\$ 96,000$ and $\$ 32,400$
d. \$0 and \$0

Use the following information for questions 91 and 92.
Metro Company, a dealer in machinery and equipment, leased equipment to Sands, Inc., on July 1, 2013. The lease is appropriately accounted for as a sale by Metro and as a purchase by Sands. The lease is for a 10-year period (the useful life of the asset) expiring June 30, 2023. The first of 10 equal annual payments of $\$ 828,000$ was made on July 1, 2013. Metro had purchased the equipment for $\$ 5,200,000$ on January 1, 2013, and established a list selling price of $\$ 7,200,000$ on the equipment. Assume that the present value at July 1, 2013, of the rent payments over the lease term discounted at $8 \%$ (the appropriate interest rate) was $\$ 6,000,000$.
91. Assuming that Sands, Inc. uses straight-line depreciation, what is the amount of depreciation and interest expense that Sands should record for the year ended December 31, 2013?
a. $\$ 300,000$ and $\$ 206,880$
b. $\$ 300,000$ and $\$ 240,000$
c. $\$ 360,000$ and $\$ 206,880$
d. $\$ 360,000$ and $\$ 240,000$
92. What is the amount of profit on the sale and the amount of interest income that Metro should record for the year ended December 31, 2013?
a. \$0 and \$206,880
b. $\$ 800,000$ and $\$ 206,880$
c. $\$ 800,000$ and $\$ 240,000$
d. $\$ 1,200,000$ and $\$ 480,000$
93. Roman Company leased equipment from Koenig Company on July 1, 2013, for an eightyear period expiring June 30, 2021. Equal annual payments under the lease are $\$ 500,000$ and are due on July 1 of each year. The first payment was made on July 1, 2013. The rate of interest contemplated by Roman and Koenig is $8 \%$. The cash selling price of the equipment is $\$ 3,103,125$ and the cost of the equipment on Koenig's accounting records was $\$ 2,750,000$. Assuming that the lease is appropriately recorded as a sale for accounting purposes by Koenig, what is the amount of profit on the sale and the interest income that Koenig would record for the year ended December 31, 2013?
a. \$0 and \$0
b. \$0 and \$104,125
c. $\$ 353,125$ and $\$ 104,125$
d. $\$ 353,125$ and $\$ 124,125$

## Use the following information for questions 94 through 98.

Gage Co. purchases land and constructs a service station and car wash for a total of \$360,000. At January 2, 2012, when construction is completed, the facility and land on which it was constructed are sold to a major oil company for $\$ 400,000$ and immediately leased from the oil company by Gage. Fair value of the land at time of the sale was $\$ 40,000$. The lease is a 10 -year, noncancelable lease. Gage uses straight-line depreciation for its other various business holdings. The economic life of the facility is 15 years with zero salvage value. Title to the facility and land will pass to Gage at termination of the lease. A partial amortization schedule for this lease is as follows:

Jan. 2, 2012
Dec. 31, 2012
Dec. 31, 2013
Dec. 31, 2014

Payments
\$65,098.13
65,098.13
65,098.13

Interest
\$40,000.00
37,490.19
34,729.39

Amortization
\$25,098.13
27,607.94
30,368.74

Balance \$400,000.00
374,901.87
347,293.93
316,925.19
94. From the viewpoint of the lessor, what type of lease is involved above?
a. Sales-type lease
b. Sale-leaseback
c. Direct-financing lease
d. Operating lease

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95. What is the discount rate implicit in the amortization schedule presented above?
a. $12 \%$
b. $10 \%$
c. $8 \%$
d. $6 \%$
96. The total lease-related expenses recognized by the lessee during 2013 is which of the following? (Rounded to the nearest dollar.)
a. $\$ 64,000$
b. $\$ 65,098$
c. $\$ 73,490$
d. $\$ 61,490$
97. What is the amount of the lessee's liability to the lessor after the December 31, 2014 payment? (Rounded to the nearest dollar.)
a. $\$ 400,000$
b. $\$ 374,902$
c. $\$ 347,294$
d. $\$ 316,925$
*98. The total lease-related income recognized by the lessee during 2013 is which of the following?
a. \$-0-
b. $\$ 2,667$
c. $\$ 4,000$
d. $\$ 40,000$
*99. On June 30, 2013, Falk Co. sold equipment to an unaffiliated company for $\$ 1,400,000$. The equipment had a book value of $\$ 1,260,000$ and a remaining useful life of 10 years. That same day, Falk leased back the equipment at $\$ 14,000$ per month for 5 years with no option to renew the lease or repurchase the equipment. Falk's rent expense for this equipment for the year ended December 31, 2013, should be
a. $\$ 168,000$.
b. $\$ 84,000$.
c. $\$ 70,000$.
d. $\$ 56,000$.

Multiple Choice Answers-Computational

| Item | Ans | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
| ---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 52. | b | 59. | d | 66. | c | 73. | c | 80. | d | 87. | c | 94. | c |
| 53. | c | 60. | c | 67. | d | 74. | a | 81. | a | 88. | c | 95. | b |
| 54. | c | 61. | c | 68. | a | 75. | b | 82. | d | 89. | c | 96. | d |
| 55. | d | 62. | a | 69. | c | 76. | b | 83. | a | 90. | c | 97. | d |
| 56. | c | 63. | b | 70. | d | 77. | c | 84. | d | 91. | a | $* 98$. | b |
| 57. | a | 64. | d | 71. | c | 78. | a | 85. | b | 92. | b | $* 99$. | b |
| 58. | c | 65. | c | 72. | b | 79. | c | 86. | b | 93. | c |  |  |

Future Value of Ordinary Annuity of 1

| Period | 5\% | 6\% | 8\% | 10\% | 12\% |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 |
| 2 | 2.05000 | 2.06000 | 2.08000 | 2.10000 | 2.12000 |
| 3 | 3.15250 | 3.18360 | 3.24640 | 3.31000 | 3.37440 |
| 4 | 4.31013 | 4.37462 | 4.50611 | 4.64100 | 4.77933 |
| 5 | 5.52563 | 5.63709 | 5.86660 | 6.10510 | 6.35285 |
| 6 | 6.80191 | 6.97532 | 7.33592 | 7.71561 | 8.11519 |
| 7 | 8.14201 | 8.39384 | 8.92280 | 9.48717 | 10.08901 |
| 8 | 9.54911 | 9.89747 | 10.63663 | 11.43589 | 12.29969 |
| 9 | 11.02656 | 11.49132 | 12.48756 | 13.57948 | 14.77566 |
| 10 | 12.57789 | 13.18079 | 14.48656 | 15.93743 | 17.54874 |

Present Value of an Ordinary Annuity of 1

| Period | 5\% | 6\% | 8\% | 10\% | 12\% |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | . 95238 | . 94340 | . 92593 | . 90909 | . 89286 |
| 2 | 1.85941 | 1.83339 | 1.78326 | 1.73554 | 1.69005 |
| 3 | 2.72325 | 2.67301 | 2.57710 | 2.48685 | 2.40183 |
| 4 | 3.54595 | 3.46511 | 3.31213 | 3.16986 | 3.03735 |
| 5 | 4.32948 | 4.21236 | 3.99271 | 3.79079 | 3.60478 |
| 6 | 5.07569 | 4.91732 | 4.62288 | 4.35526 | 4.11141 |
| 7 | 5.78637 | 5.58238 | 5.20637 | 4.86842 | 4.56376 |
| 8 | 6.46321 | 6.20979 | 5.74664 | 5.33493 | 4.96764 |
| 9 | 7.10782 | 6.80169 | 6.24689 | 5.75902 | 5.32825 |
| 10 | 7.72173 | 7.36009 | 6.71008 | 6.14457 | 5.65022 |

## MULTIPLE CHOICE-CPA Adapted

100. Lease $A$ does not contain a bargain purchase option, but the lease term is equal to 90 percent of the estimated economic life of the leased property. Lease B does not transfer ownership of the property to the lessee by the end of the lease term, but the lease term is equal to 75 percent of the estimated economic life of the leased property. How should the lessee classify these leases?

Lease A
a. Operating lease
b. Operating lease
c. Capital lease
d. Capital lease

## Lease B

Capital lease
Operating lease
Capital lease
Operating lease
101. On December 31, 2013, Burton, Inc. leased machinery with a fair value of $\$ 1,050,000$ from Cey Rentals Co. The agreement is a six-year noncancelable lease requiring annual payments of $\$ 200,000$ beginning December 31, 2013. The lease is appropriately accounted for by Burton as a capital lease. Burton's incremental borrowing rate is $11 \%$. Burton knows the interest rate implicit in the lease payments is $10 \%$.

The present value of an annuity due of 1 for 6 years at $10 \%$ is 4.7908 .
The present value of an annuity due of 1 for 6 years at $11 \%$ is 4.6959 .

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In its December 31, 2013 balance sheet, Burton should report a lease liability of
a. $\$ 758,160$.
b. $\$ 850,000$.
c. $\$ 939,180$.
d. $\$ 958,160$.
102. On December 31, 2012, Harris Co. leased a machine from Catt, Inc. for a five-year period. Equal annual payments under the lease are $\$ 840,000$ (including $\$ 40,000$ annual executory costs) and are due on December 31 of each year. The first payment was made on December 31, 2012, and the second payment was made on December 31, 2013. The five lease payments are discounted at $10 \%$ over the lease term. The present value of minimum lease payments at the inception of the lease and before the first annual payment was $\$ 3,336,000$. The lease is appropriately accounted for as a capital lease by Harris. In its December 31, 2013 balance sheet, Harris should report a lease liability of
a. $\$ 2,536,000$.
b. $\$ 2,496,000$.
c. $\$ 2,282,400$.
d. $\$ 1,989,600$
103. A lessee had a ten-year capital lease requiring equal annual payments. The reduction of the lease liability in year 2 should equal
a. the current liability shown for the lease at the end of year 1.
b. the current liability shown for the lease at the end of year 2.
c. the reduction of the lease liability in year 1.
d. one-tenth of the original lease liability.

Use the following information for questions 104 and 105.
On January 2, 2013, Hernandez, Inc. signed a ten-year noncancelable lease for a heavy duty drill press. The lease stipulated annual payments of $\$ 250,000$ starting at the end of the first year, with title passing to Hernandez at the expiration of the lease. Hernandez treated this transaction as a capital lease. The drill press has an estimated useful life of 15 years, with no salvage value. Hernandez uses straight-line depreciation for all of its plant assets. Aggregate lease payments were determined to have a present value of $\$ 1,500,000$, based on implicit interest of $10 \%$.
104. In its 2013 income statement, what amount of interest expense should Hernandez report from this lease transaction?
a. \$0
b. $\$ 93,750$
c. $\$ 125,000$
d. $\$ 150,000$
105. In its 2013 income statement, what amount of depreciation expense should Hernandez report from this lease transaction?
a. $\$ 250,000$
b. $\$ 200,000$
c. $\$ 150,000$
d. $\$ 100,000$
106. In a lease that is recorded as a sales-type lease by the lessor, interest revenue
a. should be recognized in full as revenue at the lease's inception.
b. should be recognized over the period of the lease using the straight-line method.
c. should be recognized over the period of the lease using the effective interest method.
d. does not arise.
107. Torrey Co. manufactures equipment that is sold or leased. On December 31, 2013, Torrey leased equipment to Dalton for a five-year period ending December 31, 2018, at which date ownership of the leased asset will be transferred to Dalton. Equal payments under the lease are \$440,000 (including \$40,000 executory costs) and are due on December 31 of each year. The first payment was made on December 31, 2013. Collectibility of the remaining lease payments is reasonably assured, and Torrey has no material cost uncertainties. The normal sales price of the equipment is $\$ 1,540,000$, and cost is $\$ 1,200,000$. For the year ended December 31, 2013, what amount of income should Torrey realize from the lease transaction?
a. $\$ 340,000$
b. $\$ 440,000$
c. $\$ 460,000$
d. $\$ 660,000$
*108. Jamar Co. sold its headquarters building at a gain, and simultaneously leased back the building. The lease was reported as a capital lease. At the time of the sale, the gain should be reported as
a. operating income.
b. an extraordinary item, net of income tax.
c. a separate component of stockholders' equity.
d. a deferred gain.
*109. On December 31, 2013, Haden Corp. sold a machine to Ryan and simultaneously leased it back for one year. Pertinent information at this date follows:

| Sales price | $\$ 900,000$ |
| :--- | ---: |
| Carrying amount | 825,000 |
| Present value of reasonable lease rentals |  |
| $(\$ 7,500$ for 12 months @ 12\%) | 85,000 |
| Estimated remaining useful life | 12 years |

In Haden's December 31, 2013 balance sheet, the deferred profit from the sale of this machine should be
a. $\$ 85,000$.
b. $\$ 75,000$.
c. $\$ 10,000$.
d. $\$ 0$.

## Multiple Choice Answers-CPA Adapted

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 100. | c | 102. | d | 104. | d | 106. | c | $* 108$ | d |
| 101. | a | 103. | a | 105. | d | 107. | a | $* 109$ | d |

## DERIVATIONS - Computational

## No. Answer Derivation

52. b $\$ 90,000+\left(\frac{\$ 660,000}{10} \times \frac{1}{12}\right)=\$ 95,500$.
53. $\quad$ C $\quad \$ 1,342,016 \times .08=\$ 107,361, \$ 1,342,016 \div 15=\$ 89,468$.
54. $\quad$ c $\quad \$ 4,000,000 \div 6.14457=\$ 650,981$ (PV of Ordinary Annuity Table).
55. d $\$ 650,981+\$ 10,000=\$ 660,981$.
56. C Conceptual.
57. a Conceptual, FV exceeds cost.
58. C $\quad \$ 4,000,000 \div 10=\$ 400,000$.
59. d $8 / 10=.8>75 \%$ of economic life.
60. $\quad \mathrm{C} \quad(\$ 170,000-\$ 25,000) \times 4.99271=\$ 723,943$.
61. C $\$ 2,347,370-\$ 400,000=\$ 1,947,370 \times .10=\$ 194,737$ $\$ 1,947,370-(\$ 400,000-\$ 194,737)=\$ 1,742,107$.
62. $\mathrm{a} \quad(\$ 833,972-\$ 200,000) \times .10=\$ 63,397$.
63. b $\quad[\$ 633,972-(\$ 200,000-\$ 63,397)] \times .10=\$ 49,732$.
64. d $\$ 1,320,396-\$ 225,000=\$ 1,095,396$.
65. C $\$ 454,896 \times .10=\$ 45,490 ;(\$ 454,896-0) \div 7=\$ 64,985$.
66. $\mathrm{c} \quad[\$ 454,896-(\$ 120,000-\$ 45,490)] \times .10=\$ 38,039$.
67. d $(\$ 630,000-\$ 70,000) \div 8=\$ 70,000$.
$68 \quad \mathrm{a} \quad \$ 129,057 \times 3.57710=\$ 461,650$.
68. $\quad$ C $\$ 129,057 \times 3.57710=\$ 461,650$
$(\$ 461,650-\$ 129,057) \times .08=\$ 26,607$.
69. d $\$ 129,057 \times 3.57710=\$ 461,650$
$\$ 129,057-[(\$ 461,650-\$ 129,057) \times .08]=\$ 102,450$.
70. $C \quad \$ 129,057 \times 3.57710=\$ 461,650$
$(\$ 461,650-0) \div 4=\$ 115,413$.
71. b $(\$ 650,000 \times .90) \div 3.99271=\$ 146,517$
$\$ 146,517 \times 3.99271=\$ 585,000$
$\$ 585,000 \times .08=\$ 46,800$.

## DERIVATIONS - Computational (cont.)

| No. <br> 73. | Answer | Derivation |
| ---: | :---: | :--- |
| 74. | a | $(\$ 650,000-(650,000 \times .40)=\$ 390,000$ |
| 75. | b | $\$ 310,426 \times 2.48685=\$ 771,983 ;$ |
|  |  | $\frac{\$ 771,983}{}=96 \%>90 \%$. |
|  |  | $\$ 800,000$ |

76. b Conceptual.
77. $\quad \mathrm{C} \quad \$ 800,000-[\$ 310,426-(\$ 800,000 \times .1)]=\$ 569,574$. $\$ 310,426-(\$ 569,574 \times .1)=\$ 253,469$.
78. a Fails to meet Group II requirements.
79. $c \quad$ Fair value $=\$ 800,000$.
80. d Conceptual.
81. a Hook: $(\$ 60,000 \times 6)+(\$ 75,000 \times 6)-(4,800,000 \div 8)=\$ 210,000$

Emley: $\quad(\$ 60,000) \times 6=\$(360,000)$
Terry: $\quad(\$ 75,000) \times 6=\$(450,000)$.
82. d \$900,000.
83. $\mathrm{a} \quad \$ 900,000-\$ 80,000-\$ 450,000=\$ 370,000$.
84. d $(\$ 80,000 \times 3.99271)+(\$ 50,000 \times .68508)=\$ 353,671$.
85. b $\quad[\$ 600,000-(\$ 60,000 \times .50663)] \div 4.60478=\$ 123,698$.
86. b $(\$ 80,000 \times 3.99271)+(\$ 50,000 \times .68508)=\$ 353,671$.
$\$ 80,000-(\$ 353,671 \times .08)=\$ 51,706$.
87. C $(\$ 80,000 \times 3.99271)+(\$ 50,000 \times .68508)=\$ 353,671$
$\$ 80,000-(\$ 353,671 \times .08)=\$ 51,706$
$(\$ 353,671-\$ 51,706) \times .08=\$ 24,157$ Interest exp.
88. $\mathrm{C} \quad \$ 7,800-\$ 16,000=(\$ 8,200)$.
89. $\quad$ c $\quad(\$ 875,000-\$ 125,000) \times .09 \times 6 / 12=\$ 33,750$.
90. $\quad$. $\$ 840,000-\$ 744,000=\$ 96,000 ;(\$ 840,000-\$ 120,000) \times .09 \times 6 / 12=$ \$32,400.

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## DERIVATIONS - Computational (cont.)

No. Answer Derivation
91.
$\left(\frac{\$ 6,000,000}{10} \times \frac{1}{2}\right)=\$ 300,000$.
$(\$ 6,000,000-\$ 828,000) \times .04=\$ 206,880$.
92. b $\$ 6,000,000-\$ 5,200,000=\$ 800,000$.
$(\$ 6,000,000-\$ 828,000) \times .04=\$ 206,880$.
93. C $\$ 3,103,125-\$ 2,750,000=\$ 353,125$.
$(\$ 3,103,125-\$ 500,000) \times .04=\$ 104,125$.
94. c Conceptual.
95. b $\frac{\$ 40,000}{\$ 400,000}=10 \%$ or $\frac{\$ 400,000}{\$ 65,098.13}=6.1446^{*}$
*6.1446 = PV factor of ordinary annuity of \$1 for 10 years at $10 \%$.
96. d $[(\$ 400,000-\$ 40,000) \div 15]+\$ 37,490=\$ 61,490$.
97. d $\$ 316,925$ (See amortization table.)
*98. b $\quad(\$ 400,000-\$ 360,000) \div 15=\$ 2,667$.
*99. b $\$ 14,000 \times 6=\$ 84,000$.

## DERIVATIONS - CPA Adapted

No. Answer Derivation
100. c Conceptual.
101. a $(\$ 200,000 \times 4.7908)-\$ 200,000=\$ 758,160$.
102. d $\$ 3,336,000-\$ 840,000+\$ 40,000=\$ 2,536,000$ (2012).
\$2,536,000 - [\$800,000 - (\$2,536,000 × .10)] = \$1,989,600 (2013).
103. a Conceptual.
104. d $\$ 1,500,000 \times .10=\$ 150,000$.
105. d $\$ 1,500,000 \div 15=\$ 100,000$.
106. c Conceptual.
107. a $\$ 1,540,000-\$ 1,200,000=\$ 340,000$.
*108. d Conceptual.

## DERIVATIONS — CPA Adapted (cont.)

No. Answer Derivation
*109. d $\frac{\$ 85,000}{\$ 900,000}=9.44 \%,<10 \%$ of $F V$ of asset $\therefore$ it is a minor leaseback.

## EXERCISES

Ex. 21-110—Capital lease (Essay).
Explain the procedures used by the lessee to account for a capital lease.

## Solution 21-110

When the capital lease method is used, the lessee treats the lease transactions as if the asset were being purchased. The asset and liability are recorded at the lower of (1) the present value of the minimum lease payments (excluding executory costs) or (2) the fair value of the asset at the inception of the lease.

The present value of the lease payments is computed using the lessee's incremental borrowing rate, unless the implicit rate used by the lessor is lower and the lessee has knowledge of it.

The effective-interest method is used to allocate each lease payment between interest expense and a reduction of the lease liability.

If the lease transfers ownership or contains a bargain purchase option, the asset is amortized in a manner consistent with the lessee's normal depreciation policy on assets owned, over the economic life of the asset and allowing for residual value. If the lease does not transfer ownership or contain a bargain purchase option, the leased asset is amortized over the lease term.

Ex. 21-111—Capital lease amortization and journal entries.
Hughey Co. as lessee records a capital lease of machinery on January 1, 2013. The seven annual lease payments of $\$ 525,000$ are made at the end of each year. The present value of the lease payments at $10 \%$ is $\$ 2,556,000$. Hughey uses the effective-interest method of amortization and sum-of-the-years'-digits depreciation (no residual value).

Instructions (Round to the nearest dollar.)
(a) Prepare an amortization table for 2013 and 2014.
(b) Prepare all of Hughey's journal entries for 2013.

## Solution 21-111

(a)

| Date |
| :--- |
| $1 / 1 / 13$ |
| $12 / 31 / 13$ |
| $12 / 31 / 14$ |


| $\begin{array}{c}\text { Annual } \\ \text { Payments }\end{array}$ |
| ---: |
| $\$ 525,000$ |
| 525,000 |

Reduction

| 10\% Interest |  | Of Liability |  |  |
| :---: | ---: | ---: | ---: | ---: |
|  |  |  | Lease Liability |  |
| $\$ 255,600$ |  | $\$ 269,400$ |  | $2,286,000$ |
| 228,660 |  | 296,340 |  | $1,990,260$ |

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## Solution 21-111 (cont.)



## Ex. 21-112—Operating lease.

Maris Co. purchased a machine on January 1, 2013, for $\$ 1,200,000$ for the express purpose of leasing it. The machine is expected to have a five-year life, no salvage value, and be depreciated on a straight-line monthly basis. On April 1, 2013, under a cancelable lease, Maris leased the machine to Dunbar Company for $\$ 360,000$ a year for a four-year period ending March 31, 2017. Maris incurred total maintenance and other related costs under the provisions of the lease of $\$ 15,000$ relating to the year ended December 31, 2013. Harley paid $\$ 360,000$ to Maris on April 1, 2013.

Instructions [Assume the operating method is appropriate for parts (a) and (b).]
(a) Under the operating method, what should be the income before income taxes derived by Maris Co. from this lease for the year ended December 31, 2013 ?
(b) What should be the amount of rent expense incurred by Dunbar from this lease for the year ended December 31, 2013 ?

## Solution 21-112

(a) Revenue 4/1/13—12/31/13 (\$360,000 $\times 9 / 12) \quad \$ 270,000$

Expenses:
Depreciation (\$240,000 $\times 9 / 12$ ) \$180,000
Maintenance, etc. $\quad 15,000$
195,000
Income before taxes
\$ 75,000
(b) Rent expense, 4/1/13—12/31/13 $(\$ 360,000 \times 9 / 12)=\$ 270,000$.

Ex. 21-113—Lease criteria for classification by lessor.
What are the criteria that must be satisfied for a lessor to classify a lease as a direct-financing or sales-type lease?

## Solution 21-113

In order for a lessor to classify a lease as a direct-financing or a sales-type lease, the lease at the date of inception must satisfy one or more of the following Group I criteria (a, b, c, and d) and both of the following Group II criteria ( a and b ):

## Group I

(a) The lease transfers ownership of the property to the lessee.
(b) The lease contains a bargain purchase option.

Solution 21-113 (cont.)
(c) The lease term is equal to $75 \%$ or more of the estimated economic life of the leased property.
(d) The present value of the minimum lease payments (excluding executory costs) equals or exceeds $90 \%$ of the fair value of the leased property.

## Group II

(a) Collectibility of the payments required from the lessee is reasonably predictable.
(b) No important uncertainties surround the amount of unreimbursable costs yet to be incurred by the lessor under the lease.

## Ex. 21-114—Direct-financing lease (essay).

Explain the procedures used to account for a direct-financing lease.

## Solution 21-114

The lessor records the present value of the minimum lease payments (excluding executory costs) plus the present value of the unguaranteed residual value (a guaranteed residual value is included in the minimum lease payments) as Lease Receivable and removes the asset from the books.

The lessor records payments received as a reduction in Lease Receivable and Interest Revenue. Interest revenue is recognized by using the effective-interest method. The implicit interest rate is applied to the declining balance of the Lease Receivable balance. The implicit rate is the rate of interest that will discount the minimum lease payments (excluding executory costs) and the unguaranteed residual value to the fair value of the asset at the inception of the lease.

Ex. 21-115—Lessor accounting—sales-type lease.
Hayes Corp. is a manufacturer of truck trailers. On January 1, 2013, Hayes Corp. leases ten trailers to Lester Company under a six-year noncancelable lease agreement. The following information about the lease and the trailers is provided:

1. Equal annual payments that are due on December 31 each year provide Hayes Corp. with an $8 \%$ return on net investment (present value factor for 6 periods at $8 \%$ is 4.62288).
2. Titles to the trailers pass to Lester at the end of the lease.
3. The fair value of each trailer is $\$ 50,000$. The cost of each trailer to Hayes Corp. is $\$ 45,000$. Each trailer has an expected useful life of nine years.
4. Collectibility of the lease payments is reasonably predictable and there are no important uncertainties surrounding the amount of costs yet to be incurred by Hayes Corp.

## Instructions

(a) What type of lease is this for the lessor? Discuss.
(b) Calculate the annual lease payment. (Round to nearest dollar.)
(c) Prepare a lease amortization schedule for Hayes Corp. for the first three years.
(d) Prepare the journal entries for the lessor for 2013 and 2014 to record the lease agreement, the receipt of the lease rentals, and the recognition of income (assume the use of a perpetual inventory method and round all amounts to the nearest dollar).

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## Solution 21-115

(a) It is a sales-type lease to the lessor, Hayes Corp. Hayes's (the manufacturer) profit upon sale is $\$ 50,000$, which is recognized in the year of sale (2013). It is not an operating lease because title to the assets passes to the lessee, the present value $(\$ 500,000)$ of the minimum lease payments equals or exceeds $90 \%(\$ 450,000)$ of the fair value of the leased trailers, collectibility is reasonably assured, and no important uncertainties surround the amount of unreimbursable costs yet to be incurred by the lessor. The remaining accounting treatment is similar to that accorded a direct-financing lease.
(b) $(\$ 50,000 \times 10) \div 4.62288=\$ 108,158$.
(c)

Lease Amortization Schedule (Lessor)

| Date | Annual Lease Rental | Interest on Lease Receivable | Lease Receivable Recovery | Lease Receivable |
| :---: | :---: | :---: | :---: | :---: |
| 1/1/13 |  |  |  | \$500,000 |
| 12/31/13 | \$108,158 | \$40,000 | \$68,158 | 431,842 |
| 12/31/14 | 108,158 | 34,547 | 73,611 | 358,231 |
| 12/31/15 | 108,158 | 28,658 | 79,500 | 278,731 |

(d)

January 1, 2013

| Lease Receivable | 500,000 |  |
| :---: | :---: | :---: |
| Cost of Goods Sold | 450,000 |  |
| Sales Revenue |  | 500,000 |
| Inventory |  | 450,000 |

Cash
December 31, 2013

*Ex. 21-116—Lessee and lessor accounting (sale-leaseback).
On January 1, 2013, Morris Company sells land to Lopez Corporation for \$8,000,000, and immediately leases the land back. The following information relates to this transaction:

1. The term of the noncancelable lease is 20 years and the title transfers to Morris Company at the end of the lease term.
2. The land has a cost basis of $\$ 6,720,000$ to Morris.
3. The lease agreement calls for equal rental payments of $\$ 814,816$ at the end of each year.
4. The land has a fair value of $\$ 8,000,000$ on January $1,2013$.
5. The incremental borrowing rate of Morris Company is $10 \%$. Morris is aware that Lopez Corporation set the annual rentals to ensure a rate of return of $8 \%$.
6. Morris Company pays all executory costs which total \$255,000 in 2013.
*Ex. 21-116 (cont.)
7. Collectibility of the rentals is reasonably predictable, and there are no important uncertainties surrounding the costs yet to be incurred by the lessor.

## Instructions

(a) Prepare the journal entries for the entire year 2013 on the books of Morris Company to reflect the above sale and lease transactions (include a partial amortization schedule and round all amounts to the nearest dollar.)
(b) Prepare the journal entries for the entire year 2013 on the books of Lopez Corporation to reflect the above purchase and lease transactions.

## *Solution 21-116

(a)

Morris Company (Lessee)
January 1, 2013
Cash. $\qquad$
Land ............................................................................... $6,720,000$
Unearned Profit on Sale-Leaseback ................................ 1,280,000

Leased Land .............................................................................. 8,000,000
Lease Liability
Throughout 2013
Executory Costs (Insurance and Taxes) ...................................... 255,000
Accounts Payable and Cash ............................................ 255,000
December 31, 2013
Unearned Profit on Sale-Leaseback ............................................ 64,000
Revenue from Sale-Leaseback (\$1,280,000 $\div 20$ )............ 64,000
Interest Expense ........................................................................ 640,000
Lease Liability .............................................................................. 174,816
Cash
814,816

| Date | Partial Lease Amortization Schedule |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Annual Lease Payment | Interest 8\% | Reduction of Lease Liability | Balance |
| 1/1/13 |  |  |  | \$8,000,000 |
| 12/31/13 | \$814,816 | \$640,000 | \$174,816 | 7,825,184 |

(b)

## Lopez Corporation (Lessor) January 1, 2013

Land ............................................................................................ 8,000,000
Cash ............................................................................... 8, 8,000,000

Lease Receivable.......................................................................... 8,000,000
Land
8,000,000
December 31, 2013
Cash $\qquad$

## 21-36 Test Bank for Intermediate Accounting, Fourteenth Edition

*Ex. 21-117—Sale-leaseback.
On January 1, 2013, Hester Co. sells machinery to Beck Corp. at its fair value of \$960,000 and leases it back. The machinery had a carrying value of $\$ 840,000$, the lease is for 10 years and the implicit rate is $10 \%$. The lease payments of $\$ 142,000$ start on January 1, 2013. Hester uses straight-line depreciation and there is no residual value.

## Instructions

(a) Prepare all of Hester's entries for 2013.
(b) Prepare all of Beck's entries for 2013.

## *Solution 21-117

(a)
Hester Co. (Lessee)January 1, 2013
Cash ..... 960,000
Machinery ..... 840,000
Unearned Profit on Sale-Leaseback ..... 120,000
Leased Machinery ..... 960,000Lease Liability960,000
Lease Liability ..... 142,000Cash.
$\qquad$December 31, 2013
Depreciation Expense ..... 96,000
Accumulated Depreciation-Capital Lease ..... 96,000
Unearned Profit on Sale-Leaseback ..... 12,000Depreciation Expense.12,000
Interest Expense [10\% × (\$960,000 - \$142,000)] ..... 81,800
Interest Payable81,800
(b)
Beck Corp. (Lessor)
January 1, 2013
Machinery ..... 960,000
Cash
960,000
Lease Receivable
Machinery
142,000
Cash ..... 142,000Lease Receivable
142,000
December 31, 2013
Interest Receivable ..... 81,800Interest Revenue81,800

## PROBLEMS

Pr. 21-118—Lessee accounting—capital lease.
Eubank Company, as lessee, enters into a lease agreement on July 1, 2012, for equipment. The following data are relevant to the lease agreement:

1. The term of the noncancelable lease is 4 years, with no renewal option. Payments of $\$ 845,378$ are due on June 30 of each year.
2. The fair value of the equipment on July 1, 2012 is $\$ 2,800,000$. The equipment has an economic life of 6 years with no salvage value.
3. Eubank depreciates similar machinery it owns on the sum-of-the-years'-digits basis.
4. The lessee pays all executory costs.
5. Eubank's incremental borrowing rate is $10 \%$ per year. The lessee is aware that the lessor used an implicit rate of $8 \%$ in computing the lease payments (present value factor for 4 periods at $8 \%, 3.31213$; at $10 \%, 3.16986$.

## Instructions

(a) Indicate the type of lease Eubank Company has entered into and what accounting treatment is applicable.
(b) Prepare the journal entries on Eubank's books that relate to the lease agreement for the following dates: (Round all amounts to the nearest dollar. Include a partial amortization schedule.)

1. July 1, 2012.
2. December 31, 2012.
3. June 30, 2013.
4. December 31, 2013.

## Solution 21-118

(a) Capitalized amount:
$\$ 845,378 \times$ PV of an ordinary annuity for 4 periods at $8 \%$ $\$ 845,378 \times 3.31213=\$ 2,800,000$

Because the present value of the lease payments $(\$ 2,800,000)$ equals the fair value, $\$ 2,800,000$, of the leased property, it is a capital lease and must be accounted for under the capital lease method.
(b) 1 .

July 1, 2012
Leased Equipment ................................................................. 2,800,000
Lease Liability 2,800,000
2.

December 31, 2012
Depreciation Expense
560,000
Accumulated Depreciation-Capital Leases $[(\$ 2,800,000 \times 4 / 10) \times 6 / 12]$

560,000
Interest Expense (\$224,000 $\times 6 / 12$ )....................................... 112,000
Interest Payable
112,000

21-38 Test Bank for Intermediate Accounting, Fourteenth Edition
Solution 21-118 (cont.)
Lease Amortization Schedule

| Date | Annual Lease Payment | Interest on Unpaid Liability | Reduction of Lease Liability |  | Balance of Lease Liability |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7/1/12 |  |  |  |  | \$2,800,000 |
| 6/30/13 | \$845,378 | \$224,000 | \$621,378 |  | 2,178,622 |
| 6/30/14 | 845,378 | 174,290 | 671,088 |  | 1,507,534 |
| 3. $\begin{aligned} & \text { Intere } \\ & \text { Lease }\end{aligned}$ |  | June 30, 2013 |  |  |  |
|  | Expense |  |  | 224,000621,378 |  |
|  | Liability |  |  |  |  |
|  | Cash ..................... <br> (Interest payable reversed 1/1/13) | try assumed to h |  |  | 845,378 |
| 4. |  | December 31, 2013 |  | 980,000 | 0 980,000 |
|  | iation Expense |  |  |  |  |
|  | Accumulated Depr [(\$2,800,000 × (\$2,800,000 $\times 3$ | $\begin{aligned} & \text { ation-Capital Lea } \\ & \times 6 / 12 \text { plus } \\ & \times 6 / 12] \end{aligned}$ | $\qquad$ |  |  |
| Interest Expense ( $\$ 174,290 \times 6 / 12$ ) Interest Payable |  |  |  | 87,145 | $5 \quad 87,145$ |

Pr. 21-119—Lessee accounting-capital lease.
Krause Company on January 1, 2013, enters into a five-year noncancelable lease, with four renewal options of one year each, for equipment having an estimated useful life of 10 years and a fair value to the lessor, Daly Corp., at the inception of the lease of $\$ 3,000,000$. Krause's incremental borrowing rate is $8 \%$. Krause uses the straight-line method to depreciate its assets. The lease contains the following provisions:

1. Rental payments of $\$ 219,000$ including $\$ 19,000$ for property taxes, payable at the beginning of each six-month period.
2. A termination penalty assuring renewal of the lease for a period of four years after expiration of the initial lease term.
3. An option allowing the lessor to extend the lease one year beyond the last renewal exercised by the lessee.
4. A guarantee by Krause Company that Daly Corp. will realize $\$ 100,000$ from selling the asset at the expiration of the lease. However, the actual residual value is expected to be $\$ 60,000$.

## Instructions

(a) What kind of lease is this to Krause Company?
(b) What should be considered the lease term?
(c) What are the minimum lease payments?
(d) What is the present value of the minimum lease payments? (PV factor for annuity due of 20 semi-annual payments at $8 \%$ annual rate, 14.13394; PV factor for amount due in 20 interest periods at 8\% annual rate, .45639.) (Round to nearest dollar.)
(e) What journal entries would Krause record during the first year of the lease? (Include an amortization schedule through 1/1/14 and round to the nearest dollar.)

## Solution 21-119

(a) This lease is a capital lease to Krause Company because its term (10 years-see computation in b below) exceeds $75 \%$ of the equipment's estimated useful life. In addition, the present value (see computation in d below) of the minimum lease payments (see computation in c below) exceeds $90 \%$ of the fair value of the equipment $(\$ 3,000,000)$.
(b) The lease term is:

Noncancelable period
Additional period for which termination penalty assures renewal
Period covered by lessor extension option
(c) The minimum lease payments are:

Semi-annual rental payments
Executory costs
Number of payments over lease term
Residual guarantee
Minimum lease payments
(d) The present value of the minimum lease payments is:

Factor for present value of an annuity due, 20 periods, 4\%
Semi-annual payments, net of executory costs
Factor for present value of \$1 due in 20 interest periods at 4\% . 45639
Residual guarantee $\times \underline{100,000}$
Present value of lease payments
January 1, 2013
Leased Equipment ....................................................................... 2,872,427
Lease Liability
January 1, 2013
Leases Liability............................................................................ 200,000
Property Tax Expense.................................................................. 19,000
Cash $\qquad$
July 1, 2013
Lease Liability .............................................................................. 93,103
Property Tax Expense.................................................................. 19,000
Interest Expense ......................................................................... 106,897
Cash $\qquad$ 219,000

Lease Amortization Schedule

| Date | Semi-Annual Lease Payment | Interest 4\% | Reduction of Lease Liability | Balance |
| :---: | :---: | :---: | :---: | :---: |
| $\overline{\text { Initial PV }}$ |  |  |  | \$2,872,427 |
| 1/1/13 | \$200,000 | - | \$200,000 | 2,672,427 |
| 7/1/13 | 200,000 | 106,897 | 93,103 | 2,579,324 |
| 1/1/14 | 200,000 | 103,173 | 96,827 | 2,482,497 |

Solution 21-119 (cont.)
December 31, 2013

| Depreciation Expense | 281,243* | 281,243 |
| :---: | :---: | :---: |
| Accumulated Depreciation-Capital Leases . |  |  |
| Interest Expense.. | 103,173 |  |
| Interest Payable |  | 103,173 |

Pr. 21-120—Lessor accounting—direct-financing lease.
Lucas, Inc. enters into a lease agreement as lessor on January 1, 2013, to lease an airplane to National Airlines. The term of the noncancelable lease is eight years and payments are required at the end of each year. The following information relates to this agreement:

1. National Airlines has the option to purchase the airplane for $\$ 12,000,000$ when the lease expires at which time the fair value is expected to be $\$ 20,000,000$.
2. The airplane has a cost of $\$ 51,000,000$ to Lucas, an estimated useful life of fourteen years, and a salvage value of zero at the end of that time (due to technological obsolescence).
3. National Airlines will pay all executory costs related to the leased airplane.
4. Annual year-end lease payments of $\$ 7,746,572$ allow Lucas to earn an $8 \%$ return on its investment.
5. Collectibility of the payments is reasonably predictable, and there are no important uncertainties surrounding the costs yet to be incurred by Lucas.

## Instructions

(a) What type of lease is this? Discuss.
(b) Prepare a lease amortization schedule for the lessor for the first two years (2013-2014). (Round all amounts to nearest dollar.)
(c) Prepare the journal entries on the books of the lessor to record the lease agreement, to reflect payments received under the lease, and to recognize income, for the years 2013 and 2014.

## Solution 21-120

(a) The lease is a direct-financing type lease from the lessor's point of view or a capital lease from the lessee's point of view. The lease contains a bargain purchase option which satisfies one of the criteria for classification as a direct-financing lease. The option to buy for $\$ 12,000,000$ at the termination of the lease when the asset is expected to have a fair value of $\$ 20,000,000$ constitutes a bargain purchase option. Additionally, the payments are collectible, and there are no uncertainties as to future lessor costs.
(b)

Lessor's Lease Amortization Schedule

| Lessor's Lease Amortization Schedule |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Annual | Interest on | Lease Receivable |  |
| Date | Lease Payment | Lease Receivable | Recovery | Lease Receivable |
| 1/1/13 |  |  |  | \$51,000,000 |
| 12/31/13 | \$7,746,572* | \$4,080,000 | \$3,666,572 | 47,333,428 |
| 12/31/14 | 7,746,572 | 3,786,674 | 3,959,898 | 43,373,530 |

$*[\$ 51,000,000-(\$ 12,000,000 \times .54027)] \div 5.74664=\$ 7,746,572$.

## Solution 21-120 (cont.)

January 1, 2013
(c) Lease Receivable....................................................................... 51,000,000

Airplanes
December 31, 2013
Cash......................................................................................... 7,746,572
Lease Receivable.......................................................... 3,666,572
Interest Revenue
December 31, 2014
Cash
Lease Receivable
7,746,572
Interest Revenue
3,959,898
3,786,674

## IFRS QUESTIONS

## True/False

1. IFRS requires that companies provide a year-by-year breakout of future noncancelable lease payments due in years 1 through 5 .
2. IFRS for leases is more "rules-based" than U.S. GAAP and includes many bright-line criteria to determine ownership.
3. The IFRS leasing standard is the subject of over 30 interpretations since its issuance in 1982.
4. IFRS does not provide detailed guidance for leases of natural resources, sale-leasebacks, and leveraged leases.
5. Because IFRS is very general in its provisions for lease accounting, the required disclosures for leases under IFRS are more detailed and extensive than those required under U.S. GAAP.

## Answers to True/False:

1. False
2. False
3. False
4. True
5. False

## Multiple Choice

1. Which of the following statements is true when comparing the accounting for leasing transactions under U.S. GAAP with IFRS?
a. IFRS requires that companies provide a year-by-year breakout of future noncancelable lease payments due in years 1 through 5.
b. IFRS for leases is more "rules-based" than U.S. GAAP and includes many bright-line criteria to determine ownership.
c. The IFRS leasing standard is the subject of over 30 interpretations since its issuance in 1982.
d. IFRS does not provide detailed guidance for leases of natural resources, sale-leasebacks, and leveraged leases.

## Answer to Multiple Choice:

1. d

## Short Answer

1. Briefly describe some of the similarities and differences between U.S. GAAP and IFRS with respect to the accounting for leases.
2. Both U.S. GAAP and IFRS share the same objective of recording leases by lessees and lessors according to their economic substance - that is, according to the definitions of assets and liabilities. Leasing was on the FASB's initial agenda in 1973 and GAAP rules were issued in 1976 (before the conceptual framework was developed). U.S. GAAP for leases has been the subject of more than 30 interpretations since its issuance. The IFRS standard is subject to just three interpretations. One reason for this small number of interpretations is that IFRS does not specifically address a number of leasing transactions that are covered by U.S. GAAP. Examples include lease agreements for natural resources,
sale-leasebacks, real estate leases, and leveraged leases. U.S. GAAP for leases is much more "rule-based" with specific bright-line criteria to determine if a lease arrangement transfers the risks and rewards of ownership; IFRS is more general in its provisions.
3. Briefly discuss the IASB and FASB efforts to converge their accounting guidelines for leases.
4. Lease accounting is one of the areas identified in the IASB/FASB Memorandum of Understanding and also a topic recommended by the SEC in its off-balance-sheet study for standard-setting attention. The joint project will initially primarily focus on lessee accounting. One of the first areas to be studied is, "What are the assets and liabilities to be recognized related to a lease contract?" Should the focus remain on the leased item or the right to use the leased item? This question is tied to the Boards' joint project on the conceptual framework - defining an "asset" and a "liability".
