EXERCISE 22-1 (15-20 minutes)

(a) This is a capital lease to Burke since the lease term (5 years) is greater than 75% of the economic life (6 years) of the leased asset. The lease term is 83.33% (5 ÷ 6) of the asset’s economic life.

(b) Computation of present value of minimum lease payments:
$8,668 \times 4.16986^* = $36,144

*Present value of an annuity due of 1 for 5 periods at 10%.

(c) 1/1/01
Leased Machine Under Capital Leases .................................................... 36,144
Obligations Under Capital Leases ................................................................. 36,144
Obligations Under Capital Leases ........ 8,668
Cash.................................................... 8,668

12/31/01
Depreciation Expense ......................... 7,229
Accumulated Depreciation—Capital Leases .............................................. 7,229
($36,144 ÷ 5 = $7,229)

Interest Expense................................. 2,748
Interest Payable ................................. 2,748
[(36,144 – 8,668) \times .10]

1/1/02
Obligations Under Capital Leases ...... 5,920
Interest Payable ................................. 2,748
Cash.................................................... 8,668
EXERCISE 22-2 (20-25 minutes)

(a) To Delaney, the lessee, this lease is a capital lease because the terms satisfy the following criteria:

1. The lease term is greater than 75% of the economic life of the leased asset; that is, the lease term is $83\% (50/60)$ of the economic life.

2. The present value of the minimum lease payments is greater than 90% of the fair value of the leased asset; that is, the present value of $8,555$ (see below) is 98% of the fair value of the leased asset:

\[
\frac{8,555}{8,725}
\]

(b) The minimum lease payments in the case of a guaranteed residual value by the lessee include the guaranteed residual value. The present value therefore is:

Monthly payment of $200 for 50 months.......................... $7,840
Residual value of $1,180................................................. 715
Present value of minimum lease payments..................... $8,555

(c) Leased Property Under Capital Leases............... 8,555
Obligations Under Capital Leases ......................... 8,555

(d) Depreciation Expense............................................ 147.50
Accumulated Depreciation—Capital Leases ...................... 147.50
\[\frac{(8,555 – 1,180)}{50 \text{ months}} = 147.50\]

(e) Obligations Under Capital Leases .................. 114.45
Interest Expense (1% X $8,555)............................... 85.55
Cash............................................................... 200.00
EXERCISE 22-3 (20-30 minutes)

Capitalized amount of the lease:

- Yearly payment $72,000.00
- Executory costs 2,470.51
- Minimum annual lease payment $69,529.49

Present value of minimum lease payments
$69,529.49 X 6.32825 = $440,000.00

1/1/02 Leased Building Under Capital Leases ............................................. 440,000.00
Obligations Under Capital Leases .................................................. 440,000.00

1/1/02 Executory Costs—Property Taxes ............................................... 2,470.51
Obligations Under Capital Leases .................................................. 69,529.49
Cash ............................................. 72,000.00

12/31/02 Depreciation Expense .................................................. 44,000.00
Accumulated Depreciation—Capital Leases ...................................... 44,000.00
($440,000 ÷ 10)

12/31/02 Interest Expense (See Schedule 1) ...................................... 44,456.46
Interest Payable ................................................................. 44,456.46

1/1/03 Executory Costs—Property Taxes ............................................... 2,470.51
Interest Payable ................................................................. 44,456.46
Obligations Under Capital Leases .................................................. 25,073.03
Cash ............................................. 72,000.00
12/31/03  Depreciation Expense.......................  44,000.00
          Accumulated Depreciation—
          Capital Leases.......................  44,000.00

12/31/03  Interest Expense .........................  41,447.70
          Interest Payable........................  41,447.70

EXERCISE 22-3 (Continued)

Schedule 1       LAHEY PAPER CO.
Lease Amortization Schedule
                  (Lessee)

<table>
<thead>
<tr>
<th>Date</th>
<th>Annual Payment</th>
<th>Less Executory Costs</th>
<th>Interest (12%) on Unpaid Obligation</th>
<th>Reduction of Lease Obligation</th>
<th>Balance of Lease Obligation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/1/02</td>
<td>$69,529.49</td>
<td>$0</td>
<td>$0</td>
<td>$69,529.49</td>
<td>$440,000.00</td>
</tr>
<tr>
<td>1/1/02</td>
<td>$69,529.49</td>
<td>$44,456.46</td>
<td>25,073.03</td>
<td>345,397.48</td>
<td></td>
</tr>
<tr>
<td>1/1/03</td>
<td>69,529.49</td>
<td>41,447.70</td>
<td>28,081.79</td>
<td>317,315.69</td>
<td></td>
</tr>
</tbody>
</table>

EXERCISE 22-4 (20-25 minutes)

Computation of annual payments

Cost (fair market value) of leased asset to lessor $160,000.00
Less: Present value of salvage value
    (residual value in this case)
    $16,000 X .82645
    (Present value of 1 at 10% for 2 periods)
Amount to be recovered through lease payments $146,776.80

Two periodic lease payments $146,776.80 ÷ 1.73554* $84,571.26

*Present value of an ordinary annuity of 1 for 2 periods at 10%

Computation of lease payments receivable

Annual payments ($84,571.26 X 2) $169,142.52
Salvage value (residual value) 16,000.00
Lease payments receivable $185,142.52

**Computation of unearned interest revenue**

Gross investment by lessee $185,142.52
Asset cost (fair value) 160,000.00
Unearned interest revenue $25,142.52

**CASTLE LEASING COMPANY (Lessor)**

**Lease Amortization Schedule**

<table>
<thead>
<tr>
<th>Date</th>
<th>Annual Payment Less Executory Costs</th>
<th>Interest on Net Investment</th>
<th>Net Investment Recovery</th>
<th>Net Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/1/02</td>
<td>160,000.00</td>
<td></td>
<td></td>
<td>$160,000.00</td>
</tr>
<tr>
<td>12/31/02</td>
<td>$84,571.26</td>
<td>$16,000.00</td>
<td>$68,571.26</td>
<td>91,428.74</td>
</tr>
<tr>
<td>12/31/03</td>
<td>84,571.26</td>
<td>9,142.52*</td>
<td>75,428.74</td>
<td>16,000.00</td>
</tr>
</tbody>
</table>

*Difference of $.35 due to rounding.*

(a) 1/1/02 Lease Payments Receivable .... 185,142.52
    Equipment............................ 160,000.00
    Unearned Interest Revenue—Leases........... 25,142.52

12/31/02 Cash ($84,571.26 + $5,000)...... 89,571.26
    Executory Costs
    Payable............................... 5,000.00
    Lease Payments
    Receivable............................ 84,571.26
    Unearned Interest Revenue—Leases.............. 16,000.00
    Interest Revenue—Leases.................... 16,000.00

12/31/03 Cash............................................. 89,571.26
Executory Costs
Payable ............................  5,000.00
Lease Payments
Receivable ..........................  84,571.26

Unearned Interest Revenue—Leases ..............................  9,142.52
Interest Revenue—Leases .................................  9,142.52

EXERCISE 22-4 (Continued)

(b) 12/31/03  Cash..................................................  16,000.00
Lease Payments
Receivable ..........................  16,000.00

EXERCISE 22-6 (15-20 minutes)

(a)  (1) Computation of gross investment:
$35,013 \times 8 = \$280,104

(2) Computation of unearned interest revenue:
Gross investment ..........................  $280,104
Less: Fair market value of machine  200,001*
Unearned interest revenue ..................  $ 80,103

*$35,013 \times 5.7122

(b) 1/1/01  Lease Payments Receivable ..........  280,104
Cost of Goods Sold .........................  160,000
Sales ..........................................  200,001
Inventory ....................................  160,000
Unearned Interest Revenue—Leases .................  80,103

1/1/01  Cash..........................................................  35,013
Lease Payments Receivable ......  35,013

12/31/01  Unearned Interest Revenue—
EXERCISE 22-8 (20-30 minutes)

(a) The lease agreement has a bargain purchase option and thus meets the criteria to be classified as a capital lease from the viewpoint of the lessee. The present value of the minimum lease payments exceeds 90% of the fair value of the assets.

(b) The lease agreement has a bargain purchase option. The collectibility of the lease payments is reasonably predictable, and there are no important uncertainties surrounding the costs yet to be incurred by the lessor. The lease, therefore, qualifies as a capital-type lease from the viewpoint of the lessor. Due to the fact that the initial amount of net investment (which in this case equals the present value of the minimum lease payments, $91,000) exceeds the lessor’s cost ($65,000), the lease is a sales-type lease.

EXERCISE 22-8 (Continued)

(c) Net investment calculation:

\[
\begin{align*}
&\text{Annual rental payment} \\
&\times \text{PV of annuity due of 1 for } n=5, i=10\% \\
&\text{PV of periodic rental payments} \\
&\text{Bargain purchase option} \\
&\times \text{PV of 1 for } n=5, i=10\% \\
&\text{PV of bargain purchase option} \\
&\text{PV of periodic rental payments} \\
&\text{PV of bargain purchase option} \\
&\text{Net investment at inception of lease}
\end{align*}
\]
DENISE RODE COMPANY (Lessee)
Lease Amortization Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Annual Lease Payment</th>
<th>Interest (10%) on Unpaid Obligation</th>
<th>Reduction of Lease Obligation</th>
<th>Balance Lease Obligation</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/1/01</td>
<td>$ 21,227.65</td>
<td>$21,227.65</td>
<td>$91,000.00</td>
<td></td>
</tr>
<tr>
<td>5/1/01</td>
<td>$ 6,977.24</td>
<td>14,250.41</td>
<td>55,521.94</td>
<td></td>
</tr>
<tr>
<td>5/1/02</td>
<td>5,552.19</td>
<td>15,675.46</td>
<td>39,846.48</td>
<td></td>
</tr>
<tr>
<td>5/1/03</td>
<td>3,984.65</td>
<td>17,243.00</td>
<td>22,603.48</td>
<td></td>
</tr>
<tr>
<td>5/1/04</td>
<td>2,260.35</td>
<td>18,967.30</td>
<td>3,636.18</td>
<td></td>
</tr>
<tr>
<td>4/30/06</td>
<td>4,000.00</td>
<td>363.82*</td>
<td>3,636.18*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$110,138.25</td>
<td>$19,138.25</td>
<td>$91,000.00</td>
<td></td>
</tr>
</tbody>
</table>

*Rounding error is 20 cents.

(d) 5/1/01 Leased Equipment Under Capital Leases.......................... 91,000.00
     Obligations Under Capital Leases ..................................... 91,000.00

EXERCISE 22-8 (Continued)

Obligations Under Capital Leases ................................. 21,227.65
     Cash................................. 21,227.65

12/31/01 Interest Expense ....................... 4,651.49
     Interest Payable ................... 4,651.49
     ($6,977.24 X 8/12 =
Depreciation Expense ................. 6,066.67
Accumulated Depreciation — Capital Leases .............. 6,066.67
($91,000.00 ÷ 10 = $9,100.00; $9,100.00 × 8/12 = $6,066.67)

1/1/02 Interest Payable ......................... 4,651.49
Interest Expense ......................... 4,651.49

5/1/02 Interest Expense ......................... 6,977.24
Obligations Under Capital Leases ................. 14,250.41
Cash ........................................ 21,227.65

12/31/02 Interest Expense ......................... 3,701.46
Interest Payable ......................... 3,701.46
($5,552.19 × 8/12 = $3,701.46)

12/31/02 Depreciation Expense ......................... 9,100.00
Accumulated Depreciation — Capital Leases .............. 9,100.00
($91,000.00 ÷ 10 years = $9,100.00)

(Note to instructor: Because a bargain purchase option was involved, the leased asset is depreciated over its economic life rather than over the lease term.)

EXERCISE 22-9 (20-30 minutes)

Note: The lease agreement has a bargain purchase option. The collectibility of the lease payments is reasonably predictable, and there are no important uncertainties surrounding the costs yet to be incurred by
the lessor. The lease, therefore, qualifies as a capital lease from the viewpoint of the lessor.

Due to the fact that the initial amount of net investment (which in this case equals the present value of the minimum lease payments, $91,000) exceeds the lessor’s cost ($65,000), the lease is a sales-type lease.

(a) Gross investment = Minimum lease payments + any unguaranteed residual value.

The minimum lease payments associated with this lease are the periodic annual rents plus the bargain purchase option. There is no residual value relevant to the lessor’s accounting in this lease.

Computation:
5 X $21,227.65 = $106,138.25
+ 4,000.00
$110,138.25 Gross investment at inception

(b) The net investment equals the present value of the components of the gross investment computation.

Net investment calculation:
$21,227.65 Annual rental payment
X 4.16986 PV of annuity due of 1 for n = 5, i = 10%
$88,516.32 PV of periodic rental payments

$ 4,000.00 Bargain purchase option
X .62092 PV of 1 for n = 5, i = 10%
$ 2,483.68 PV of bargain purchase option

$88,516.32 PV of periodic rental payments
+ 2,483.68 PV of bargain purchase option
$91,000.00 Net investment at inception

EXERCISE 22-9 (Continued)

(c) MOONEY LEASING COMPANY (Lessor)
### Lease Amortization Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Annual Lease Payment Plus BPO</th>
<th>Interest (10%) on Net Investment</th>
<th>Net Investment Recovery</th>
<th>Balance Net Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/1/01</td>
<td>$21,227.65</td>
<td>$21,227.65</td>
<td>$91,000.00</td>
<td>69,772.35</td>
</tr>
<tr>
<td>5/1/02</td>
<td>21,227.65</td>
<td>6,977.24</td>
<td>14,250.41</td>
<td>55,521.94</td>
</tr>
<tr>
<td>5/1/03</td>
<td>21,227.65</td>
<td>5,552.19</td>
<td>15,675.46</td>
<td>39,846.48</td>
</tr>
<tr>
<td>5/1/04</td>
<td>21,227.65</td>
<td>3,984.65</td>
<td>17,243.00</td>
<td>22,603.48</td>
</tr>
<tr>
<td>5/1/05</td>
<td>21,227.65</td>
<td>2,260.35</td>
<td>18,967.30</td>
<td>3,636.18</td>
</tr>
<tr>
<td>4/30/06</td>
<td>4,000.00</td>
<td>363.82*</td>
<td>3,636.18</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$100,138.25</td>
</tr>
</tbody>
</table>

*Rounding error is 20 cents.

(d) 5/1/01

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lease Payments</td>
<td></td>
</tr>
<tr>
<td>Receivable</td>
<td>110,138.25</td>
</tr>
<tr>
<td>Cost of Goods Sold</td>
<td>65,000.00</td>
</tr>
<tr>
<td>Sales</td>
<td>91,000.00</td>
</tr>
<tr>
<td>Unearned Interest Revenue—Leases</td>
<td>19,138.25</td>
</tr>
<tr>
<td>Inventory</td>
<td>65,000.00</td>
</tr>
<tr>
<td>Cash</td>
<td>21,227.65</td>
</tr>
</tbody>
</table>

Lease Payments Receivable................. 21,227.65

12/31/01

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unearned Interest Revenue—Leases</td>
<td>4,651.49</td>
</tr>
<tr>
<td>Interest Revenue—Leases</td>
<td>4,651.49</td>
</tr>
<tr>
<td>($6,977.24 X 8/12 = $4,651.49)</td>
<td></td>
</tr>
</tbody>
</table>

5/1/02

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>21,227.65</td>
</tr>
</tbody>
</table>

Lease Payments Receivable................. 21,227.65
EXERCISE 22-9 (Continued)

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/1/02</td>
<td>Unearned Interest Revenue—Leases</td>
<td>2,325.75</td>
</tr>
<tr>
<td></td>
<td>Interest Revenue—Leases................</td>
<td>2,325.75</td>
</tr>
<tr>
<td></td>
<td>($6,977.24 — $4,651.49)</td>
<td></td>
</tr>
<tr>
<td>12/31/02</td>
<td>Unearned Interest Revenue—Leases</td>
<td>3,701.46</td>
</tr>
<tr>
<td></td>
<td>Interest Revenue—Leases................</td>
<td>3,701.46</td>
</tr>
<tr>
<td></td>
<td>($5,552.19 X 8/12 = $3,701.46)</td>
<td></td>
</tr>
<tr>
<td>5/1/03</td>
<td>Cash</td>
<td>21,227.65</td>
</tr>
<tr>
<td></td>
<td>Lease Payments</td>
<td>21,227.65</td>
</tr>
<tr>
<td></td>
<td>Receivable</td>
<td></td>
</tr>
<tr>
<td>12/31/03</td>
<td>Unearned Interest Revenue—Leases</td>
<td>2,656.43</td>
</tr>
<tr>
<td></td>
<td>Interest Revenue—Leases................</td>
<td>2,656.43</td>
</tr>
<tr>
<td></td>
<td>($3,984.65 X 8/12 = $2,656.43)</td>
<td></td>
</tr>
</tbody>
</table>

*EXERCISE 22-15 (20-30 minutes)*

Hein Do Corporation (Lessee)*

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/1/01</td>
<td>Cash</td>
<td>680,000.00</td>
</tr>
<tr>
<td></td>
<td>Computer</td>
<td>600,000.00</td>
</tr>
<tr>
<td></td>
<td>Unearned Profit on Sale-Leaseback</td>
<td>80,000.00</td>
</tr>
<tr>
<td></td>
<td>Leased Computer Under Capital Leases</td>
<td>680,000.00</td>
</tr>
<tr>
<td></td>
<td>Obligations Under Capital</td>
<td></td>
</tr>
</tbody>
</table>
Leases .............................................. 680,000.00
($110,666.81 X 6.14457)

Throughout 2001
Executory Costs ...................................... 9,000.00
Accounts Payable or Cash ......................... 9,000.00

12/31/01 Unearned Profit on Sale-Leaseback...
Depreciation Expense** ......................... 8,000.00
($80,000 ÷ 10)

12/31/01 Depreciation Expense ................. 68,000.00
Accumulated Depreciation ..................... 68,000.00
($680,000 ÷ 10)

Interest Expense ................................. 68,000.00
Obligations Under Capital
Leases ............................................... 42,666.81
Cash .................................................. 110,666.81

*Lease should be treated as a capital lease because present value of minimum lease payments equals the fair value of the computer. Also, the lease term is greater than 75% of the economic life of the asset, and title transfers at the end of the lease.

**The credit could also be to a revenue account.

*EXERCISE 22-15 (Continued)

Note to instructor:

1. The present value of an ordinary annuity at 10% for 10 periods should be used to capitalize the asset. In this case, Hein Do would use the implicit rate of the lessor because it is lower than its own incremental borrowing rate and known to Hein Do.

2. The unearned profit on the sale-leaseback should be amortized on the same basis that the asset is being depreciated.
### Partial Lease Amortization Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Annual Lease Payment</th>
<th>Interest (10%)</th>
<th>Amortization</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/1/01</td>
<td>$110,666.81</td>
<td>$68,000.00</td>
<td>$42,666.81</td>
<td>$680,000.00</td>
</tr>
<tr>
<td>12/31/01</td>
<td></td>
<td></td>
<td></td>
<td>637,333.19</td>
</tr>
</tbody>
</table>

#### Liquidity Finance Co. (Lessor)*

- **1/1/01**
  - Computer .................................. 680,000.00
  - Cash ..................................... 680,000.00

- **Lease Payments**
  - Receivable .............................. 1,106,668.10
  - ($110,666.81 X 10)
  - Unearned Interest
    - Revenue—Leases............. 426,668.10
    - Computer ......................... 680,000.00

- **12/31/01**
  - Cash............................................. 110,666.81

- **Unearned Interest Revenue—Leases**
  - ........................................... 68,000.00

*EXERCISE 22-15 (Continued)*

*Lease should be treated as a direct financing lease because the present value of the minimum lease payments equals the fair value of the computer, and (1) collectibility of the payments is reasonably assured, (2) no important uncertainties surround the costs yet to be incurred by the lessor, and (3) the cost to the lessor equals the fair market value of the asset at the inception of the lease.*
(a) This is a capital lease to Potter since the lease term is greater than 75% of the economic life of the leased asset. The lease term is 78% (7 ÷ 9) of the asset’s economic life.

This is a capital lease to Stine because collectibility of the lease payments is reasonably predictable, there are no important uncertainties surrounding the costs yet to be incurred by the lessor, and the lease term is greater than 75% of the asset’s economic life. Since the fair value ($560,000) of the equipment exceeds the lessor’s cost ($420,000), the lease is a sales-type lease.

(b) Calculation of annual rental payment:

\[
\frac{560,000 - (80,000 \times 0.51316)}{5.35526^{**}} = 96,904
\]

*Present value of $1 at 10% for 7 periods.
**Present value of an annuity due at 10% for 7 periods.

(c) Computation of present value of minimum lease payments:

\[
\text{PV of annual payments: } 96,904 \times 5.23054^{*} = 506,860
\]

\[
\text{PV of guaranteed residual value: } 80,000 \times 0.48166^{**} = 38,533
\]

\[
545,393
\]

*Present value of an annuity due at 11% for 7 periods.
**Present value of $1 at 11% for 7 periods.

(d) 1/1/01 Leased Machinery Under Capital Leases .................................................. 545,393
Obligations Under Capital Leases ...............................................  545,393
Obligations Under Capital Leases .......  96,904
Cash ..........................................................  96,904

PROBLEM 22-1 (Continued)

12/31/01  Depreciation Expense .................................................  66,485
Accumulated Depreciation ............  66,485
($545,393 – $80,000) ÷ 7

Interest Expense .........................................................  49,334
Interest Payable ..................................................  49,334
($545,393 – $96,904) X .11

1/1/02  Obligations Under Capital Leases ............  47,570
Interest Payable ..................................................  49,334
Cash ..........................................................  96,904

12/31/02  Depreciation Expense .................................................  66,485
Accumulated Depreciation ............  66,485

Interest Expense .........................................................  44,101
Interest Payable ..................................................  44,101
[($545,393 – $96,904 – $47,570) X .11]

(e)  1/1/01  Lease Payments Receivable .....................  758,328
[($96,904 X 7) + $80,000]
Cost of Goods Sold .................................  420,000
Sales ..........................................................  560,000
Inventory ......................................................  420,000
Unearned Interest Revenue—Leases .................................  198,328

Cash ..........................................................  96,904
Lease Payments Receivable ............  96,904
12/31/01  Unearned Interest Revenue—
    Leases ............................................. 46,310
    Interest Revenue—Leases................. 46,310
    [($560,000 – $96,904) X .10]

1/1/02    Cash......................................................... 96,904
    Lease Payments Receivable ........ 96,904

PROBLEM 22-1 (Continued)

12/31/02  Unearned Interest Revenue—
    Leases .................................................. 41,250
    Interest Revenue...................... 41,250
    [($560,000 – $96,904 – $50,594)
      X .10]