## CHAPTER 10

**Acquisition and Disposition of Property, Plant, and Equipment**

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SOLUTIONS TO CODIFICATION EXERCISES

CE10-1

Master Glossary

(a) Capitalize is used to indicate that the cost would be recorded as the cost of an asset. That procedure is often referred to as deferring a cost, and the resulting asset is sometimes described as a deferred cost.

(b) Nonmonetary assets are assets other than monetary ones. Examples are inventories; investments in common stocks; and property, plant, and equipment.

(c) A nonreciprocal transfer is a transfer of assets or services in one direction, either from an entity to its owners (whether or not in exchange for their ownership interests) or to another entity, or from owners or another entity to the entity. An entity’s reacquisition of its outstanding stock is an example of a nonreciprocal transfer.

(d) A contribution is an unconditional transfer of cash or other assets to an entity or a settlement or cancellation of its liabilities in a voluntary nonreciprocal transfer by another entity acting other than as an owner. Those characteristics distinguish contributions from exchange transactions, which are reciprocal transfers in which each party receives and sacrifices approximately equal value; from investments by owners and distributions to owners, which are nonreciprocal transfers between an entity and its owners; and from other nonreciprocal transfers, such as impositions of taxes or fines and thefts, which are not voluntary transfers. In a contribution transaction, the value, if any, returned to the resource provider is incidental to potential public benefits. In an exchange transaction, the potential public benefits are secondary to the potential proprietary benefits to the resource provider. The term contribution revenue is used to apply to transactions that are part of the entity’s ongoing major or central activities (revenues), or are peripheral or incidental to the entity (gains).

CE10-2

According to FASB ASC 835-20-15-8 (Capitalization of Land Expenditures), it depends:

. . . Land that is not undergoing activities necessary to get it ready for its intended use is not a qualifying asset. If activities are undertaken for the purpose of developing land for a particular use, the expenditures to acquire the land qualify for interest capitalization while those activities are in progress. The interest cost capitalized on those expenditures is a cost of acquiring the asset that results from those activities. If the resulting asset is a structure, such as a plant or a shopping center, interest capitalized on the land expenditures is part of the acquisition cost of the structure. If the resulting asset is developed land, such as land that is to be sold as developed lots, interest capitalized on the land expenditures is part of the acquisition cost of the developed land.

CE10-3

According to FASB ASC 360-10-25-5, (Planned Major Maintenance Activities)

. . . The use of the accrue-in-advance (accrual) method of accounting for planned major maintenance activities is prohibited in annual and interim financial reporting periods.
According to FASB ASC 845-10-15-5 (Purchases and Sales of Inventory with the Same Counterparty), the accounting for these exchanges is similar to other nonmonetary exchanges:

The Purchases and Sales of Inventory with the Same Counterparty Subsections follow the same Scope and Scope Exceptions as outlined in the General Subsection of this Subtopic, see paragraph 845-10-15-1, with specific transaction exceptions noted below.

With respect to recognition, FASB ASC 845-10-30 Initial Measurement

30-15 A nonmonetary exchange whereby an entity transfers finished goods inventory in exchange for the receipt of raw materials or work-in-process inventory within the same line of business is not an exchange transaction to facilitate sales to customers for the entity transferring the finished goods, as described in paragraph 845-10-30-3(b), and, therefore, shall be recognized by that entity at fair value if both of the following conditions are met:
   a. Fair value is determinable within reasonable limits.
   b. The transaction has commercial substance (see paragraph 845-10-30-4).

30-16 All other nonmonetary exchanges of inventory within the same line of business shall be recognized at the carrying amount of the inventory transferred. That is, a nonmonetary exchange within the same line of business involving either of the following shall not be recognized at fair value:
   a. The transfer of raw materials or work-in-process inventory in exchange for the receipt of raw materials, work-in-process, or finished goods inventory
   b. The transfer of finished goods inventory for the receipt of finished goods inventory.
ANSWERS TO QUESTIONS

1. The major characteristics of plant assets are (1) that they are acquired for use in operations and not for resale, (2) that they are long-term in nature and usually subject to depreciation, and (3) that they have physical substance.

2. The company should report the asset at its historical cost of $420,000, not its current value. The main reasons for this position are (1) at the date of acquisition, cost reflects fair value; (2) historical cost involves actual, not hypothetical transactions, and as a result is extremely reliable; and (3) gains and losses should not be anticipated but should be recognized when the asset is sold.

3. (a) The acquisition costs of land may include the purchase or contract price, the broker’s commission, title search and recording fees, assumed taxes or other liabilities, and surveying, demolition (less salvage), and landscaping costs.

(b) Machinery and equipment costs may properly include freight and drayage (handling), taxes on purchase, insurance in transit, installation, and expenses of testing and breaking-in.

(c) If a building is purchased, all repair charges, alterations, and improvements necessary to ready the building for its intended use should be included as a part of the acquisition cost. Building costs in addition to the amount paid to a contractor may include excavation, permits and licenses, architect’s fees, interest accrued on funds obtained for construction purposes (during construction period only) called avoidable interest, insurance premiums applicable to the construction period, temporary buildings and structures, and property taxes levied on the building during the construction period.

4. (a) Land.
(b) Land.
(c) Land.
(d) Machinery. The only controversy centers on whether fixed overhead should be allocated as a cost to the machinery.
(e) Land Improvements, may be depreciated.
(f) Building.
(g) Building, provided the benefits in terms of information justify the additional cost involved in providing the information (FASB Statement No. 34).
(h) Land.
(i) Land.

5. (a) The position that no fixed overhead should be capitalized assumes that the construction of plant (fixed) assets will be timed so as not to interfere with normal operations. If this were not the case, the savings anticipated by constructing instead of purchasing plant assets would be nullified by reduced profits on the product that could have been manufactured and sold. Thus, construction of plant assets during periods of low activity will have a minimal effect on the total amount of overhead costs. To capitalize a portion of fixed overhead as an element of the cost of constructed assets would, under these circumstances, reduce the amount assignable to operations and therefore overstate net income in the construction period and understate net income in subsequent periods because of increased depreciation charges.

(b) Capitalizing overhead at the same rate as is charged to normal operations is defended by those who believe that all manufacturing overhead serves a dual purpose during plant asset construction periods. Any attempt to assign construction activities less overhead than the normal rate implies costing favors and results in the misstatement of the cost of both plant assets and finished goods.
Questions Chapter 10 (Continued)

6. (a) Disagree. Organization and promotion expenses should be expensed.
   
   (b) Agree. Architect's fees for plans actually used in construction of the building should be charged to the building account as part of the cost.
   
   (c) Agree. **FASB Statement No. 34** recommends that avoidable interest or actual interest cost, whichever is lower, be capitalized as part of the cost of acquiring an asset if a significant period of time is required to bring the asset to a condition or location necessary for its intended use. Interest costs are capitalized starting with the first expenditure related to the asset and capitalization would continue until the asset is substantially completed and ready for its intended use. Property taxes during construction should also be charged to the building account.
   
   (d) Disagree. Interest revenue is not considered to be related to the interest received as part of the acquisition cost of the building.

7. Since the land for the plant site will be used in the operations of the firm, it is classified as property, plant, and equipment. The other tract is being held for speculation. It is classified as an investment.

8. A common accounting justification is that all costs associated with the construction of an asset, including interest, should be capitalized in order that the costs can be matched to the revenues which the new asset will help generate.

9. Assets that do not qualify for interest capitalization are (1) assets that are in use or ready for their intended use, and (2) assets that are not being used in the earnings activities of the firm.

10. The avoidable interest is determined by multiplying (an) interest rate(s) by the weighted-average amount of accumulated expenditures on qualifying assets. For the portion of weighted-average accumulated expenditures which is less than or equal to any amounts borrowed specifically to finance construction of the assets, the capitalization rate is the specific interest rate incurred. For the portion of weighted-average accumulated expenditures which is greater than specific debt incurred, the interest rate is a weighted average of all other interest rates incurred.

    The amount of interest to be capitalized is the avoidable interest, or the actual interest incurred, whichever is lower.

    As indicated in the chapter, an alternative to the specific rate is to use an average borrowing rate.

11. The total interest cost incurred during the period should be disclosed, indicating the portion capitalized and the portion charged to expense.

    Interest revenue from temporarily invested excess funds should not be offset against interest cost when determining the amount of interest to be capitalized. The interest revenue would be reported in the same manner customarily used to report any other interest revenue.

12. (a) **Assets acquired by issuance of capital stock**—when property is acquired by issuance of securities such as common stock, the cost of the property is not measured by par or stated value of such stock. If the stock is actively traded on the market, then the market value of the stock is a fair indication of the cost of the property because the market value of the stock is a good measure of the current cash equivalent price. If the market value of the common stock is not determinable, then the market value of the property should be established and used as the basis for recording the asset and issuance of common stock.
Questions Chapter 10 (Continued)

(b) **Assets acquired by gift or donation**—when assets are acquired in this manner a strict cost concept would dictate that the valuation of the asset be zero. However, in this situation, accountants record the asset at its fair market value. The credit would be made to Contribution Revenue or “donated capital.” Contributions received should be credited to revenue unless the contribution is from a governmental unit. Even in that case, we believe that the credit should be to contribution revenue.

(c) **Cash discount**—when assets are purchased subject to a cash discount, the question of how the discount should be handled occurs. If the discount is taken, it should be considered a reduction in the asset cost. Different viewpoints exist, however, if the discount is not taken. One approach is that the discount must be considered a reduction in the cost of the asset. The rationale for this approach is that the terms of these discounts are so attractive that failure to take the discount must be considered a loss because management is inefficient. The other view is that failure to take the discount should not be considered a loss, because the terms may be unfavorable or the company might not be prudent to take the discount. Presently both methods are employed in practice. The former approach is conceptually correct.

(d) **Deferred payments**—assets should be recorded at the present value of the consideration exchanged between contracting parties at the date of the transaction. In a deferred payment situation, there is an implicit (or explicit) interest cost involved, and the accountant should be careful not to include this amount in the cost of the asset.

(e) **Lump sum or basket purchase**—sometimes a group of assets are acquired for a single lump sum. When a situation such as this exists, the accountant must allocate the total cost among the various assets on the basis of their relative fair market value.

(f) **Trade or exchange of assets**—when one asset is exchanged for another asset, the accountant is faced with several issues in determining the value of the new asset. The basic principle involved is to record the new asset at the fair market value of the new asset or the fair market value of what is given up to acquire the new asset, whichever is more clearly evident. However, the accountant must also be concerned with whether the exchange has commercial substance and whether monetary consideration is involved in the transaction. The commercial substance issue rests on whether the expected cash flows on the assets involved are significantly different. In addition, monetary consideration may affect the amount of gain recognized on the exchange under consideration.

13. The cost of such assets includes the purchase price, freight and handling charges incurred, insurance on the equipment while in transit, cost of special foundations if required, assembly and installation costs, and costs of conducting trial runs. Costs thus include all expenditures incurred in acquiring the equipment and preparing it for use. When plant assets are purchased subject to cash discounts for prompt payment, the question of how the discount should be handled arises. The appropriate view is that the discount, whether taken or not, is considered a reduction in the cost of the asset. The rationale for this approach is that the real cost of the asset is the cash or cash equivalent price of the asset. Similarly, assets purchased on long-term payment plans should be accounted for at the present value of the consideration exchanged between the contracting parties at the date of the transaction.

14. \[
\frac{\text{Fair market value of land}}{\text{Fair market value of building and land}} \times \text{Cost} = \text{Cost allocated to land}
\]

\[
\frac{\$500,000}{\$2,500,000} \times \$2,200,000 = \$440,000
\]

\[
(\text{Bldg.} = \frac{\$2,000,000}{\$2,500,000} \times \$2,200,000 = \$1,760,000)
\]

Cost allocated to the land is therefore $440,000.
Cost allocated to building is $1,760,000 ($2,200,000 – $440,000).
Questions Chapter 10 (Continued)

15. $10,000 + $4,058 = $14,058

16. Ordinarily accounting for the exchange of nonmonetary assets should be based on the fair value of
the asset given up or the fair value of the asset received, whichever is clearly more evident. Thus
any gains and losses on the exchange should be recognized immediately. If the fair value of either
asset is not reasonably determinable, the book value of the asset given up is usually used as the
basis for recording the nonmonetary exchange. This approach is always employed when the
exchange has commercial substance. The general rule is modified when exchanges lack commer-
cial substance. In this case, the enterprise is not considered to have completed the earnings
process and therefore a gain should not be recognized. However, a loss should be recognized
immediately. In certain situations, gains on an exchange that lacks commercial substance may be
recorded when monetary consideration is received. When monetary consideration is received, it is
assumed that a portion of the earnings process is completed, and therefore, a partial gain is
recognized.

17. In accordance with SFAS No. 153 which requires losses to be recognized immediately, the entry
should be:

<table>
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<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
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<td>Heavy Duty Truck (new)</td>
<td>39,000</td>
</tr>
<tr>
<td>Accumulated Depreciation on Heavy Duty Truck</td>
<td>9,800*</td>
</tr>
<tr>
<td>Loss on Disposal of Heavy Duty Truck</td>
<td>7,200**</td>
</tr>
<tr>
<td>Heavy Duty Truck (old)</td>
<td>30,000</td>
</tr>
<tr>
<td>Cash</td>
<td>26,000</td>
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*[(30,000 – $6,000) X 49 months/120 months = $9,800]
**(Book value $20,200 – $13,000 trade-in = $7,200 loss)

18. Ordinarily such expenditures include (1) the recurring costs of servicing necessary to keep
property in good operating condition, (2) cost of renewing structural parts of major plant units, and
(3) costs of major overhauling operations which may or may not extend the life beyond original
expectation.

The first class of expenditures represents the day-to-day service and in general in chargeable to
operations as incurred. These expenditures should not be charged to the asset accounts.

The second class of expenditures may or may not affect the recorded cost of property. If the asset
is rigidly defined as a distinct unit, the renewal of parts does not usually disturb the asset accounts;
however, these costs may be capitalized and apportioned over several fiscal periods on some
equitable basis. If the property is conceived in terms of structural elements subject to separate
replacement, such expenditures should be charged to the plant asset accounts.

The third class of expenditures, major overhauls, is usually entered through the asset accounts
because replacement of important structural elements is usually involved. Other than maintenance
charges mentioned above are those expenditures which add some physical aspect not a part of
the asset at the time of its original acquisition. These expenditures may be capitalized in the asset
account.

An expenditure which extends the life but not the usefulness of the asset is often charged to the
accumulated depreciation account. A more appropriate treatment requires retiring from the asset
and accumulated depreciation accounts the appropriate amounts (original cost from the asset
account ) and to capitalize in the asset account the new cost. Often it is difficult to determine the
original cost of the item being replaced. For this reason the replacement or renewal is charged to
the accumulated depreciation account.

19. (a) Additions. Additions represent entirely new units or extensions and enlargements of old units.
Expenditures for additions are capitalized by charging either old or new asset accounts
depending on the nature of the addition.
Questions Chapter 10 (Continued)

(b) **Major Repairs.** Expenditures to replace parts or otherwise to restore assets to their previously efficient operating condition are regarded as repairs. To be considered a major repair, several periods must benefit from the expenditure. The cost should be handled as an addition, improvement or replacement depending on the type of major repair made.

(c) **Improvements.** An improvement does not add to existing plant. Expenditures for such betterments represent increases in the quality of existing plant by rearrangements in plant layout or the substitution of improved components for old components so that the facilities have increased productivity, greater capacity, or longer life. The cost of improvement is accounted for by charges to the appropriate property accounts and the elimination of the cost and accumulated depreciation associated with the replaced components, if any.

**Replacements.** Replacements involve an “in kind” substitution of a new asset or part for an old asset or part. Accounting for major replacements requires entries to retire the old asset or part and to record the cost of the new asset or part. Minor replacements are treated as period costs.

20. The cost of installing the machinery should be capitalized, but the extra month’s wages paid to the dismissed employees should not, as this payment did not add any value to the machinery.

The extra wages should be charged off immediately as an expense; the wages could be shown as a separate item in the income statement for disclosure purposes.

21. (a) Overhead of a business which builds its own equipment. Some accountants have maintained that the equipment account should be charged only with the additional overhead caused by such construction. However, a more realistic figure for cost of equipment results if the plant asset account is charged for overhead applied on the same basis and at the same rate as used for production (see Question 5).

(b) Cash discounts on purchases of equipment. Some accountants treat all cash discounts as financial or other revenue, regardless of whether they arise from the payment of invoices for merchandise or plant assets. Others take the position that only the net amount paid for plant assets should be capitalized on the basis that the discount represents a reduction of price and is not income. The latter position seems more logical in light of the fact that plant assets are purchased for use and not for sale and that they are written off to expense over a long period of time.

(c) Interest paid during construction of a building. **FASB Statement No. 34** recommends that avoidable or actual interest cost, whichever is lower, be capitalized as part of the cost of acquiring an asset if a significant period of time is required to bring the asset to a condition and location necessary for its intended use.

(d) Cost of a safety device installed on a machine. This is an addition to the machine and should be capitalized in the machinery account if material.

(e) Freight on equipment returned before installation, for replacement by other equipment of greater capacity. If ordering the first equipment was an error, whether due to judgment or otherwise, the freight should be regarded as a loss. However, if information became available after the order was placed which indicated purchase of the new equipment was more advantageous, the cost of the return freight may be viewed as a necessary cost of the new equipment.
Questions Chapter 10 (Continued)

(f) Cost of moving machinery to a new location. Normally, only the cost of one installation should be capitalized for any piece of equipment. Thus the original installation and any accumulated depreciation relating thereto should be removed from the accounts and the new installation costs (i.e., cost of moving) should be capitalized. In cases where this is not possible and the cost of moving is substantial, it is capitalized and depreciated appropriately over the period during which it makes a contribution to operations.

(g) Cost of plywood partitions erected in the remodeling of the office. This is a part of the remodeling cost and may be capitalized if the remodeling itself is of such a nature that it is an addition to the building and not merely a replacement or repair.

(h) Replastering of a section of the building. This seems more in the nature of a repair than anything else and as such should be treated as expense.

(i) Cost of a new motor for one of the trucks. This probably extends the useful life of the truck. As such it may be viewed as an extraordinary repair and charged against the accumulated depreciation on the truck. The remaining service life of the truck should be estimated and depreciation adjusted to write off the new book value, less salvage, over the remaining useful life. A more appropriate treatment is to remove the cost of the old motor and related depreciation and add the cost of the new motor if possible.

22. The authors believe it is difficult to justify an Allowance for Repairs account under any circumstances, except possibly for interim statements. It is difficult to justify the “Allowance for Repairs” as a liability under any conditions because no past transaction has occurred which will result in future payments to satisfy an existing obligation. Furthermore, as a liability we might ask the question—whom do you owe? Placement in the stockholders’ equity section is also illogical because no addition to the stockholders’ investment has taken place. The only reasonable method of presentation appears to be as a contra account to the asset involved. Even this approach is highly questionable.

23. This approach is not correct since at the very minimum the investor should be aware that certain assets are used in the business which are not reflected in the main body of the financial statements. Either the company should keep these assets on the balance sheet or they should be recorded at salvage value and the resulting gain recognized. In either case, there should be a clear indication that these assets are fully depreciated, but are still being used in the business.

24. Gains or losses on plant asset retirements should be shown in the income statement along with other items that arise from customary business activities.
BRIEF EXERCISE 10-1

$27,000 + $1,400 + $10,200 = $38,600

BRIEF EXERCISE 10-2

\[
\begin{array}{cccc}
\text{Date} & \text{Amount} & \text{Capitalization Period} & \text{Weighted-Average Accumulated Expenditures} \\
3/1 & $1,800,000 & 10/12 & $1,500,000 \\
6/1 & 1,200,000 & 7/12 & 700,000 \\
12/31 & 3,000,000 & 0 & 0 \\
& $6,000,000 & & $2,200,000 \\
\end{array}
\]

BRIEF EXERCISE 10-3

\[
\begin{array}{ccc}
\text{Principal} & \text{Interest} \\
10\%, 5\text{-year note} & $2,000,000 & $200,000 \\
11\%, 4\text{-year note} & 3,500,000 & 385,000 \\
& $5,500,000 & $585,000 \\
\end{array}
\]

Weighted-average interest rate = \( \frac{\$585,000}{\$5,500,000} = 10.64\% \)

BRIEF EXERCISE 10-4

\[
\begin{array}{ccc}
\text{Weighted-Average Accumulated Expenditures} & \times & \text{Interest Rate} & = & \text{Avoidable Interest} \\
$1,000,000 & & 12\% & = & $120,000 \\
1,200,000 & & 10.64\% & = & 127,680 \\
$2,200,000 & & & = & $247,680 \\
\end{array}
\]
BRIEF EXERCISE 10-5

Truck ($80,000 X .68301) ................................................... 54,641
Discount on Notes Payable ............................................. 25,359
Notes Payable .............................................................. 80,000

BRIEF EXERCISE 10-6

<table>
<thead>
<tr>
<th></th>
<th>Fair Value</th>
<th>% of Total</th>
<th>Cost</th>
<th>Recorded Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>$  60,000</td>
<td>60/360</td>
<td>$315,000</td>
<td>$  52,500</td>
</tr>
<tr>
<td>Building</td>
<td>220,000</td>
<td>220/360</td>
<td>$315,000</td>
<td>192,500</td>
</tr>
<tr>
<td>Equipment</td>
<td>80,000</td>
<td>80/360</td>
<td>$315,000</td>
<td>70,000</td>
</tr>
<tr>
<td><em>Total</em></td>
<td><em>$360,000</em></td>
<td></td>
<td><em>$315,000</em></td>
<td></td>
</tr>
</tbody>
</table>

BRIEF EXERCISE 10-7

Land (2,000 X $40) ................................................... 80,000
Common Stock (2,000 X $10) ................................. 20,000
Paid-in Capital in Excess of Par  ....................... 60,000

BRIEF EXERCISE 10-8

Computer ............................................................. 3,300
Accumulated Depreciation .......................... 18,000
Truck .......................................................... 20,000
Cash ..........................................................  500
Gain on Disposal of Truck ...............................  800
BRIEF EXERCISE 10-9

Computer ($3,300 – $800) ...................................... 2,500
Accumulated Depreciation ...................................... 18,000
  Truck .................................................................. 20,000
  Cash .................................................................. 500

BRIEF EXERCISE 10-10

Office Equipment .................................................... 5,000
Accumulated Depreciation ...................................... 3,000
Loss on Disposal of Machine .................................. 4,000
  Machine .......................................................... 9,000
  Cash .................................................................. 3,000

BRIEF EXERCISE 10-11

Truck ........................................................................ 37,000
Accumulated Depreciation ...................................... 27,000
Loss on Disposal of Truck ...................................... 2,000
  Truck .................................................................. 30,000
  Cash .................................................................. 36,000

BRIEF EXERCISE 10-12

Truck ........................................................................ 35,000
Accumulated Depreciation ...................................... 17,000
Loss on Disposal of Truck ...................................... 1,000
  Truck .................................................................. 20,000
  Cash .................................................................. 33,000
BRIEF EXERCISE 10-13

Only cost (c) is expensed when incurred.

BRIEF EXERCISE 10-14

(a) Depreciation Expense ($2,400 X 8/12) ...................... 1,600
Accumulated Depreciation ........................................ 1,600

(b) Cash ............................................................................. 10,500
Accumulated Depreciation ($8,400 + $1,600) ........ 10,000
Machinery ........................................................... 20,000
Gain on Disposal of Machinery ............................... 500

BRIEF EXERCISE 10-15

(a) Depreciation Expense ($2,400 X 8/12) ...................... 1,600
Accumulated Depreciation ........................................ 1,600

(b) Cash ............................................................................. 5,200
Loss on Disposal of Machinery ................................. 4,800
Accumulated Depreciation ($8,400 + $1,600) ........ 10,000
Machinery ........................................................... 20,000
EXERCISE 10-1 (15–20 minutes)

<table>
<thead>
<tr>
<th>Item</th>
<th>Land</th>
<th>Improvements</th>
<th>Building</th>
<th>Other Accounts ($275,000) Notes Payable</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b)</td>
<td></td>
<td></td>
<td></td>
<td>$275,000</td>
</tr>
<tr>
<td>(c)</td>
<td></td>
<td>$10,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d)</td>
<td></td>
<td>7,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e)</td>
<td></td>
<td></td>
<td>6,000</td>
<td></td>
</tr>
<tr>
<td>(f)</td>
<td></td>
<td></td>
<td>(1,000)</td>
<td></td>
</tr>
<tr>
<td>(g)</td>
<td></td>
<td></td>
<td>25,000</td>
<td></td>
</tr>
<tr>
<td>(h)</td>
<td></td>
<td>250,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i)</td>
<td></td>
<td>9,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(j)</td>
<td></td>
<td></td>
<td>$4,000</td>
<td></td>
</tr>
<tr>
<td>(k)</td>
<td></td>
<td>11,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(l)</td>
<td></td>
<td>(5,000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(m)</td>
<td></td>
<td></td>
<td>13,000</td>
<td></td>
</tr>
<tr>
<td>(n)</td>
<td></td>
<td>19,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(o)</td>
<td></td>
<td>14,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(p)</td>
<td></td>
<td></td>
<td>3,000</td>
<td></td>
</tr>
</tbody>
</table>

EXERCISE 10-2 (10–15 minutes)

The allocation of costs would be as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Land</th>
<th>Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>$450,000</td>
<td></td>
</tr>
<tr>
<td>Razing costs</td>
<td>42,000</td>
<td></td>
</tr>
<tr>
<td>Salvage</td>
<td>(6,300)</td>
<td></td>
</tr>
<tr>
<td>Legal fees</td>
<td>1,850</td>
<td></td>
</tr>
<tr>
<td>Survey</td>
<td>$2,200</td>
<td></td>
</tr>
<tr>
<td>Plans</td>
<td>65,000</td>
<td></td>
</tr>
<tr>
<td>Title insurance</td>
<td>1,500</td>
<td></td>
</tr>
<tr>
<td>Liability insurance</td>
<td>900</td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>2,740,000</td>
<td></td>
</tr>
<tr>
<td>Interest</td>
<td>170,000</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$489,050</td>
<td>$2,978,100</td>
</tr>
</tbody>
</table>
### EXERCISE 10-3 (10–15 minutes)

1. **Truck #1** ................................................................. 13,900  
   Cash......................................................................... 13,900

2. **Truck #2** ................................................................. 18,364*  
   Discount on Notes Payable ......................................... 1,636  
   Cash......................................................................... 2,000  
   Notes Payable......................................................... 18,000  
   \[ *PV \text{ of } \$18,000 \text{ @ } 10\% \text{ for } 1 \text{ year } = \]  
   \[ \$18,000 \times .90909 = \$16,364 \]  
   \[ \$16,364 + \$2,000 = \$18,364 \]\n
3. **Truck #3** ................................................................. 15,200  
   Cost of Goods Sold .................................................. 12,000  
   Inventory .................................................................. 12,000  
   Sales........................................................................ 15,200  

   [Note to instructor: The selling (retail) price of the computer system appears to be a better gauge of the fair value of the consideration given than is the list price of the truck as a gauge of the fair value of the consideration received (truck). Vehicles are very often sold at a price below the list price.]

4. **Truck #4** ................................................................. 13,000  
   Common Stock......................................................... 10,000  
   Paid-in Capital in Excess of Par  
   \[(1,000 \text{ shares } \times \$13 = \$13,000; \]  
   \[ \$13,000 \text{ less } \$10,000 \text{ par value}) \] ............ 3,000
EXERCISE 10-4 (20–25 minutes)

Purchase

Cash paid for equipment, including sales tax of $5,000 ...... $105,000
Freight and insurance while in transit ................................... 2,000
Cost of moving equipment into place at factory ................... 3,100
Wage cost for technicians to test equipment ....................... 6,000
Special plumbing fixtures required for new equipment....... 8,000
Total cost ................................................................................... $124,100

The insurance premium paid during the first year of operation on this equipment should be reported as insurance expense, and not be capitalized. Repair cost incurred in the first year of operations related to this equipment should be reported as repair and maintenance expense, and not be capitalized. Both these costs relate to periods subsequent to purchase.

Construction

Material and purchased parts ($200,000 X .99) ..................... $198,000
Labor costs ............................................................................... 190,000
Overhead costs ......................................................................... 50,000
Cost of installing equipment ................................................... 4,400
Total cost ................................................................................... $442,400

Note that the cost of material and purchased parts is reduced by the amount of cash discount not taken because the equipment should be reported at its cash equivalent price. The imputed interest on funds used during construction related to stock financing should not be capitalized or expensed. This item is an opportunity cost that is not reported.

Profit on self-construction should not be reported. Profit should only be reported when the asset is sold.
## EXERCISE 10-5 (30–40 minutes)

<table>
<thead>
<tr>
<th>Description</th>
<th>Land</th>
<th>Buildings</th>
<th>M &amp; E</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract fees</td>
<td>$520</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Architect's fees</td>
<td>$3,170</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash paid for land and old building</td>
<td>92,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removal of old building</td>
<td></td>
<td></td>
<td></td>
<td>14,500</td>
</tr>
<tr>
<td>($20,000 – $5,500)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest on loans during construction</td>
<td></td>
<td></td>
<td>7,400</td>
<td></td>
</tr>
<tr>
<td>Excavation before construction</td>
<td></td>
<td></td>
<td></td>
<td>19,000</td>
</tr>
<tr>
<td>Machinery purchased</td>
<td>$63,700</td>
<td>$1,300</td>
<td>—Misc. expense (Discount Lost)</td>
<td></td>
</tr>
<tr>
<td>Freight on machinery</td>
<td></td>
<td></td>
<td>1,340</td>
<td></td>
</tr>
<tr>
<td>Storage charges caused by noncompletion of building</td>
<td></td>
<td></td>
<td>2,180</td>
<td>—Misc. expense (Loss)</td>
</tr>
<tr>
<td>New building</td>
<td>485,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment by city</td>
<td>1,600</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hauling charges—machinery</td>
<td></td>
<td></td>
<td>620</td>
<td>—Misc. expense</td>
</tr>
<tr>
<td>Installation—machinery</td>
<td></td>
<td></td>
<td>2,000</td>
<td>(Loss)</td>
</tr>
<tr>
<td>Landscaping</td>
<td>5,400</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$114,020</strong></td>
<td><strong>$514,570</strong></td>
<td><strong>$67,040</strong></td>
<td><strong>$4,100</strong></td>
</tr>
</tbody>
</table>

## EXERCISE 10-6 (15–20 minutes)

1. **Land** ................................................................. **127,500**
   **Buildings** .......................................................... **297,500**
   **Equipment** .......................................................... **255,000**
   **Cash** ................................................................. **680,000**

\[
\frac{680,000 \times \frac{150,000}{800,000}}{680,000 \times \frac{350,000}{800,000}} = \frac{680,000 \times 300,000}{800,000} = 127,500 \text{ Land }
\]

\[
\frac{680,000 \times \frac{350,000}{800,000}}{680,000 \times \frac{300,000}{800,000}} = \frac{680,000 \times 300,000}{800,000} = 297,500 \text{ Buildings }
\]

\[
\frac{680,000 \times \frac{300,000}{800,000}}{680,000 \times \frac{300,000}{800,000}} = \frac{680,000 \times 300,000}{800,000} = 255,000 \text{ Equipment }
\]
EXERCISE 10-6 (Continued)

2. Store Equipment ........................................... 25,000
   Cash .................................................. 2,000
   Note Payable ........................................ 23,000

3. Office Equipment ........................................... 19,600
   Accounts Payable ($20,000 X .98) ............. 19,600

4. Land ............................................................. 27,000
   Contribution Revenue ................................ 27,000

5. Warehouse ................................................... 600,000
   Cash .................................................. 600,000

EXERCISE 10-7 (20–25 minutes)

(a) Avoidable Interest

<table>
<thead>
<tr>
<th>Accumulated Expenditures</th>
<th>Interest Rate</th>
<th>Avoidable Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2,000,000</td>
<td>12%</td>
<td>$240,000</td>
</tr>
<tr>
<td>1,800,000</td>
<td>10.38%</td>
<td>186,840</td>
</tr>
<tr>
<td>$3,800,000</td>
<td></td>
<td>$426,840</td>
</tr>
</tbody>
</table>

Weighted-average interest rate computation

<table>
<thead>
<tr>
<th>Principal</th>
<th>Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,600,000</td>
<td>$160,000</td>
</tr>
<tr>
<td>1,000,000</td>
<td>110,000</td>
</tr>
<tr>
<td>$2,600,000</td>
<td>$270,000</td>
</tr>
</tbody>
</table>

\[
\frac{\text{Total Interest}}{\text{Total Principal}} = \frac{\$270,000}{\$2,600,000} = 10.38\% 
\]
EXERCISE 10-7 (Continued)

(b) Actual Interest

<table>
<thead>
<tr>
<th></th>
<th>Actual Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction loan</td>
<td>$2,000,000 X 12% =</td>
</tr>
<tr>
<td>Short-term loan</td>
<td>$1,600,000 X 10% =</td>
</tr>
<tr>
<td>Long-term loan</td>
<td>$1,000,000 X 11% =</td>
</tr>
<tr>
<td>Total</td>
<td></td>
</tr>
</tbody>
</table>

Because avoidable interest is lower than actual interest, use avoidable interest.

Cost $5,200,000
Interest capitalized 426,840
Total cost $5,626,840

Depreciation Expense = $5,626,840 – $300,000 = $177,561

EXERCISE 10-8 (20–25 minutes)

(a) Computation of Weighted-Average Accumulated Expenditures

<table>
<thead>
<tr>
<th>Expenditures</th>
<th>Date</th>
<th>Amount</th>
<th>X</th>
<th>Capitalization Period</th>
<th>Weighted-Average Accumulated Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>March 1</td>
<td>$360,000</td>
<td>10/12</td>
<td>$300,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>June 1</td>
<td>600,000</td>
<td>7/12</td>
<td>350,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>July 1</td>
<td>1,500,000</td>
<td>6/12</td>
<td>750,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>December 1</td>
<td>1,200,000</td>
<td>1/12</td>
<td>100,000</td>
<td></td>
</tr>
</tbody>
</table>

$3,660,000
$1,500,000

Computation of Avoidable Interest

Weighted-Average Accumulated Expenditures X Interest Rate = Avoidable Interest

<table>
<thead>
<tr>
<th></th>
<th>X Interest Rate</th>
<th>Avoidable Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,500,000</td>
<td>12% (Construction loan)</td>
<td>$180,000</td>
</tr>
</tbody>
</table>

Computation of Actual Interest

Actual interest

<table>
<thead>
<tr>
<th></th>
<th>$3,000,000 X 12%</th>
<th>$360,000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$4,000,000 X 11%</td>
<td>440,000</td>
</tr>
<tr>
<td></td>
<td>$1,600,000 X 10%</td>
<td>160,000</td>
</tr>
</tbody>
</table>

$960,000

Note: Use avoidable interest for capitalization purposes because it is lower than actual interest.
EXERCISE 10-8 (Continued)

(b)  Building ................................................................. 180,000

Interest Expense* ....................................................... 780,000

Cash ($360,000 + $440,000 + $160,000)...... 960,000

*Actual interest for year $ 960,000

Less:  Amount capitalized   (180,000)

Interest expense debit $ 780,000

EXERCISE 10-9 (20–25 minutes)

(a)  Computation of Weighted-Average Accumulated Expenditures

<table>
<thead>
<tr>
<th>Expenditures</th>
<th></th>
<th>Capitalization</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>Amount</td>
<td>X</td>
<td>Period</td>
<td>Weighted-Average</td>
</tr>
<tr>
<td>July 31</td>
<td>$300,000</td>
<td>3/12</td>
<td>$75,000</td>
<td>$75,000</td>
</tr>
<tr>
<td>November 1</td>
<td>100,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$75,000</td>
</tr>
</tbody>
</table>

Interest revenue $100,000 X 10% X 3/12 = $2,500

Avoidable interest

Weighted-Average Accumulated Expenditures X Interest Rate = Avoidable Interest

$75,000 X 12% = $9,000

Actual Interest

$400,000 X 12% X 5/12 = $20,000

$30,000 X 8% = 2,400

$22,400

Interest capitalized $ 9,000
EXERCISE 10-9 (Continued)

(b)  
(1) 7/31  Cash  ................................................... 400,000  
     Note Payable  .......................................... 400,000  
     Machine  ................................................... 300,000  
     Trading Securities  ............................ 100,000  
     Cash  .......................................... 400,000  

(2) 11/1  Cash  ................................................... 102,500  
     Interest Revenue  
     ($100,000 X 10% X 3/12) ...... 2,500  
     Trading Securities  ................... 100,000  
     Machine  ................................................... 100,000  
     Cash  .......................................... 100,000  

(3) 12/31  Machine  ................................................... 9,000  
     Interest Expense  
     ($22,400 – $9,000)  ......................... 13,400  
     Cash ($30,000 X 8%)  ................ 2,400  
     Interest Payable  
     ($400,000 X 12% X 5/12) ...... 20,000  

EXERCISE 10-10 (20–25 minutes)

Situation I. $90,000—The requirement is the amount Columbia should report as capitalized interest at 12/31/10. The amount of interest eligible for capitalization is

Weighted-Average Accumulated Expenditures X Interest Rate = Avoidable Interest

Since Columbia has outstanding debt incurred specifically for the construction project, in an amount greater than the weighted-average accumulated expenditures of $900,000, the interest rate of 10% is used for capitalization purposes. Therefore, the avoidable interest is $90,000, which is less than the actual interest.

$900,000 X .10 = $90,000
Finally, per GAAP (FASB ASC 835-20-30-10), the interest earned of $250,000 is irrelevant to the question addressed in this problem because such interest earned on the unexpended portion of the loan is not to be offset against the amount eligible for capitalization.

Situation II. $39,000—The requirement is total interest costs to be capitalized. GAAP identifies assets which qualify for interest capitalization: assets constructed for an enterprise’s own use and assets intended for sale or lease that are produced as discrete projects. Inventories that are routinely produced in large quantities on a repetitive basis do not qualify for interest capitalization. Therefore, only $30,000 and $9,000 are capitalized.

Situation III. $330,000—The requirement is to determine the amount of interest to be capitalized on the financial statements at April 30, 2011. The GAAP requirements are met: (1) expenditures for the asset have been made, (2) activities that are necessary to get the asset ready for its intended use are in progress, and (3) interest cost is being incurred. The amount to be capitalized is determined by applying an interest rate to the weighted-average amount of accumulated expenditures for the asset during the period. Because the $6,000,000 of expenditures incurred for the year ended April 30, 2011, were incurred evenly throughout the year, the weighted-average amount of expenditures for the year is $3,000,000, ($6,000,000 ÷ 2). Therefore, the amount of interest to be capitalized is $330,000 ($3,000,000 X 11%). In any period the total amount of interest cost to be capitalized shall not exceed the total amount of interest cost incurred by the enterprise. (Total interest is $1,100,000). Finally, the interest earned of $650,000 is irrelevant to the question addressed in this problem because such interest earned on the unexpended portion of the loan is not to be offset against the amount eligible for capitalization.
EXERCISE 10-11 (10–15 minutes)

(a) Equipment ............................................................. 15,000
    Accounts Payable .................................................. 15,000
    Accounts Payable .................................................. 15,000
    Equipment ($15,000 X .02) ....................................... 300
    Cash .............................................................. 14,700

(b) Equipment (new) ................................................... 14,600*
    Loss on Disposal of Equipment ..................................... 1,600**
    Accumulated Depreciation ($8,000 – $6,000) .... 6,000
    Accounts Payable .................................................. 14,200
    Equipment (old) .................................................. 8,000

  **Cost  $  8,000
    Accumulated depreciation  6,000
    Book value  2,000
    Fair market value  400
    Loss  $  1,600

*Cost ($14,200 + $400)  $14,600

    Accounts Payable .................................................. 14,200
    Cash .............................................................. 14,200

(c) Equipment ($16,200 X .91743) ..................................... 14,862
    Discount on Notes Payable ......................................... 1,338
    ($16,200 – $14,862) ............................................. 1,338
    Notes Payable .................................................. 16,200

    Interest Expense .................................................. 1,338
    Notes Payable .................................................. 16,200
    Discount on Notes Payable ......................................... 1,338
    Cash .............................................................. 16,200
EXERCISE 10-12 (15–20 minutes)

(a) Land................................................................. 81,000
Contribution Revenue................................. 81,000

(b) Land................................................................. 180,000
Buildings....................................................... 630,000
Common Stock ($50 X 14,000)................. 700,000
Paid-in Capital in Excess of Par*............. 110,000

*Since the market value of the stock is not determinable, the market
value of the property is used as the basis for recording the asset and
issuance of the stock.

(c) Machinery .................................................... 41,700
Materials ....................................................... 12,500
Direct Labor.................................................. 16,000
Factory Overhead......................................... 13,200*

*Fixed overhead applied (60% X $16,000) $ 9,600
Additional overhead 2,700
Factory supplies used 900
$13,200

EXERCISE 10-13 (20–25 minutes)

1. Land................................................................. 375,000
Building......................................................... 1,125,000
Machinery and Equipment......................... 750,000
Common Stock (12,500 X $100).............. 1,250,000
Paid-in Capital in Excess of Par.............. 1,000,000
($2,250,000 – $1,250,000)

The cost of the property, plant and equipment is $2,250,000 (12,500 X
$180). This cost is allocated based on appraised values as follows:

Land \[ \frac{400,000}{2,400,000} \times 2,250,000 = 375,000 \]

Building \[ \frac{1,200,000}{2,400,000} \times 2,250,000 = 1,125,000 \]

Machinery & Equipment \[ \frac{800,000}{2,400,000} \times 2,250,000 = 750,000 \]
EXERCISE 10-13 (Continued)

2. Buildings ($105,000 plus $161,000) .................... 266,000
   Machinery and Equipment .............................. 135,000
   Land Improvements ..................................... 122,000
   Land .................................................................... 18,000
   Cash .................................................................... 541,000

3. Machinery and Equipment ................................. 284,900
   Cash .................................................................... 284,900
   ($10,500 plus $274,400, which is 98% of $280,000.)

EXERCISE 10-14 (15–20 minutes)

(a) Equipment ............................................................. 648,860*
    Discount on Notes Payable ................................. 251,140
    Notes Payable ..................................................... 900,000
    *PV of $180,000 annuity @ 12% for 5 years
    ($180,000 X 3.60478) = $648,860

(b) Interest Expense ................................................... 77,863*
    Notes Payable ..................................................... 180,000
    Discount on Notes Payable ............................... 77,863
    Cash .................................................................... 180,000
    *(12% X $648,860)

<table>
<thead>
<tr>
<th>Year</th>
<th>Note Payment</th>
<th>12% Interest</th>
<th>Reduction of Principal</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2/10</td>
<td></td>
<td></td>
<td></td>
<td>$648,860</td>
</tr>
<tr>
<td>12/31/10</td>
<td>$180,000</td>
<td>$77,863</td>
<td>$102,137</td>
<td>546,723</td>
</tr>
<tr>
<td>12/31/11</td>
<td>180,000</td>
<td>65,607</td>
<td>114,393</td>
<td>432,330</td>
</tr>
</tbody>
</table>
EXERCISE 10-14 (Continued)

(c) Interest Expense .................................................. 65,607  
Notes Payable ...................................................... 180,000  
Discount on Notes Payable .................................. 65,607  
Cash .............................................................. 180,000

(d) Depreciation Expense ............................................ 64,886*  
Accumulated Depreciation .......................... 64,886  
*($648,860 ÷ 10)

EXERCISE 10-15 (15–20 minutes)

(a) Equipment .......................................................... 105,815.80*  
Discount on Notes Payable ............................. 24,184.20  
Cash ............................................................. 30,000.00  
Notes Payable .................................................. 100,000.00  
*PV of $20,000 annuity @ 10% for 5 years ($20,000 X 3.79079) $  75,815.80  
Down payment .................................................. 30,000.00  
Capitalized value of equipment $105,815.80

(b) Notes Payable .......................................................... 20,000.00  
Interest Expense (see schedule) .................. 7,581.58  
Cash .............................................................. 20,000.00  
Discount on Notes Payable .......................... 7,581.58

<table>
<thead>
<tr>
<th>Year</th>
<th>Note Payment</th>
<th>10% Interest</th>
<th>Reduction of Principal</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/31/09</td>
<td>$75,815.80</td>
<td></td>
<td></td>
<td>$75,815.80</td>
</tr>
<tr>
<td>12/31/10</td>
<td>$20,000.00</td>
<td>$7,581.58</td>
<td>$12,418.42</td>
<td>63,397.38</td>
</tr>
<tr>
<td>12/31/11</td>
<td>20,000.00</td>
<td>6,339.74</td>
<td>13,660.26</td>
<td>49,737.12</td>
</tr>
</tbody>
</table>
EXERCISE 10-15 (Continued)

(c) Notes Payable ....................................................... 20,000.00
Interest Expense ................................................... 6,339.74
Cash ........................................................................ 20,000.00
Discount on Notes Payable ...................... 6,339.74

EXERCISE 10-16 (25–35 minutes)

LOGAN INDUSTRIES
Acquisition of Assets 1 and 2

Use appraised values to break-out the lump-sum purchase

<table>
<thead>
<tr>
<th>Description</th>
<th>Appraisal</th>
<th>Percentage</th>
<th>Lump-Sum</th>
<th>Value on Books</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machinery</td>
<td>$ 90,000</td>
<td>90/120</td>
<td>$104,000</td>
<td>$78,000</td>
</tr>
<tr>
<td>Office Equipment</td>
<td>30,000</td>
<td>30/120</td>
<td>104,000</td>
<td>26,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$120,000</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Machinery ........................................................... 78,000
Office Equipment .................................................. 26,000
Cash ...................................................................... 104,000

Acquisition of Asset 3

Use the cash price as a basis for recording the asset with a discount recorded on the note.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machinery</td>
<td>35,900</td>
</tr>
<tr>
<td>Discount on Notes Payable ($40,000 – $35,900)</td>
<td>4,100</td>
</tr>
<tr>
<td>Cash</td>
<td>10,000</td>
</tr>
<tr>
<td>Notes Payable</td>
<td>30,000</td>
</tr>
</tbody>
</table>
EXERCISE 10-16 (Continued)

Acquisition of Asset 4

Since the exchange lacks commercial substance, a gain will be recognized in the proportion of cash received ($10,000/$80,000) times the $16,000 gain (FMV of $80,000 minus BV of $64,000). The gain recognized will then be $2,000 with $14,000 of it being unrecognized and used to reduce the basis of the asset acquired.

Machinery ($70,000 – $14,000)............................ 56,000
Accumulated Depreciation.............................. 36,000
Cash................................................................. 10,000
Machinery .................................................... 100,000
Gain on Disposal of Machinery................. 2,000

Acquisition of Asset 5

In this case the Office Equipment should be placed on Logan’s books at the fair market value of the stock. The difference between the stock’s par value and its fair value should be credited to Paid-in Capital in Excess of Par.

Office Equipment (100 X $11 per share)............ 1,100
Common Stock ............................................. 800
Paid-in Capital in Excess of Par.................. 300*

*(11 – 8) X 100 Shares.
### Schedule of Weighted-Average Accumulated Expenditures

<table>
<thead>
<tr>
<th>Date</th>
<th>Amount</th>
<th>Capitalization Period</th>
<th>Weighted-Average Accumulated Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 1</td>
<td>$180,000</td>
<td>9/12</td>
<td>$135,000</td>
</tr>
<tr>
<td>February 1</td>
<td>$120,000</td>
<td>9/12</td>
<td>90,000</td>
</tr>
<tr>
<td>June 1</td>
<td>$360,000</td>
<td>5/12</td>
<td>150,000</td>
</tr>
<tr>
<td>September 1</td>
<td>$480,000</td>
<td>2/12</td>
<td>80,000</td>
</tr>
<tr>
<td>November 1</td>
<td>$100,000</td>
<td>0/12</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,240,000</strong></td>
<td></td>
<td><strong>$455,000</strong></td>
</tr>
</tbody>
</table>

Note that the capitalization is only 9 months in this exercise.

### Avoidable Interest

<table>
<thead>
<tr>
<th>Weighted-Average Accumulated Expenditures</th>
<th>Interest Rate</th>
<th>Avoidable Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>$455,000</td>
<td>X</td>
<td>12%</td>
</tr>
</tbody>
</table>

Since the weighted-average expenditures are less than the amount of specific borrowing, the specific borrowing rate is used.

**Land Cost** $180,000

**Building Cost** $1,114,600 ($1,060,000 + $54,600)

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>$180,000</td>
</tr>
<tr>
<td>Building</td>
<td>$1,114,600</td>
</tr>
<tr>
<td>Cash</td>
<td>$1,240,000</td>
</tr>
<tr>
<td>Interest Expense</td>
<td>$54,600</td>
</tr>
</tbody>
</table>
EXERCISE 10-17 (10–15 minutes)

Alatorre Corporation

Machine ($320 + $85) ............................................. 405
Accumulated Depreciation .................................. 140
Loss on Disposal of Machine .............................. 65*
  Machine .......................................................... 290
  Cash ............................................................. 320

*Computation of loss:
  Book value of old machine ($290 – $140) $150
  Fair value of old machine (85)
  Loss on exchange $  65

Mills Business Machine Company

Cash ................................................................. 320
Inventory .......................................................... 85
Cost of Goods Sold ............................................. 270
  Sales ............................................................ 405
  Inventory ....................................................... 270
EXERCISE 10-18 (20–25 minutes)

(a) Exchange has commercial substance:

Depreciation Expense .......................................... 800
Accumulated Depreciation—Melter .............. 800
($12,700 – $700 = $12,000;
$12,000 ÷ 5 = $2,400;
$2,400 X 4/12 = $800)

Melter ............................................................ 15,200**
Accumulated Depreciation—Melter ............ 8,000
Gain on Disposal of Plant Assets ............... 500*
Melter ............................................................ 12,700
Cash .............................................................. 10,000

*Cost of old asset $12,700
Accumulated depreciation
($7,200 + $800) (8,000)
Book value 4,700
Fair value of old asset (5,200)
Gain (on disposal of plant asset) $ 500

**Cash paid $10,000
Fair value of old melter 5,200
Cost of new melter $15,200
EXERCISE 10-18 (Continued)

(b) Exchange lacks commercial substance:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depreciation Expense</td>
<td>800</td>
</tr>
<tr>
<td>Accumulated Depreciation—Melter</td>
<td>800</td>
</tr>
<tr>
<td>Melter</td>
<td>15,200**</td>
</tr>
<tr>
<td>Accumulated Depreciation—Melter</td>
<td>8,000</td>
</tr>
<tr>
<td>Gain on Disposal of Plant Assets</td>
<td>500</td>
</tr>
<tr>
<td>Melter</td>
<td>12,700</td>
</tr>
<tr>
<td>Cash</td>
<td>10,000</td>
</tr>
</tbody>
</table>

**Cash paid $10,000
Fair value of old asset 5,200
Cost of new asset $15,200

Note that the entries are the same for both (a) and (b). The gain is not deferred because cash boot is greater than 25%, which makes the transaction monetary in nature.
EXERCISE 10-19 (15–20 minutes)

(a) Exchange lacks commercial substance.

Santana Company:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment</td>
<td>11,000</td>
</tr>
<tr>
<td>Accumulated Depreciation</td>
<td>19,000</td>
</tr>
<tr>
<td>Equipment</td>
<td>28,000</td>
</tr>
<tr>
<td>Cash</td>
<td>2,000</td>
</tr>
</tbody>
</table>

Valuation of equipment

<table>
<thead>
<tr>
<th>Description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Book value of equipment given</td>
<td>$  9,000</td>
</tr>
<tr>
<td>Cash paid</td>
<td>2,000</td>
</tr>
<tr>
<td>New equipment</td>
<td>$11,000</td>
</tr>
</tbody>
</table>

OR

<table>
<thead>
<tr>
<th>Description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair value received</td>
<td>$15,500</td>
</tr>
<tr>
<td>Less: Gain deferred</td>
<td>4,500*</td>
</tr>
<tr>
<td>New equipment</td>
<td>$11,000</td>
</tr>
</tbody>
</table>

*Fair value of old equipment $13,500

Book value of old equipment    (9,000)

Gain on disposal $  4,500

Note: Cash paid is less than 25%, the transaction is nonmonetary, so the gain is deferred.

Delaware Company:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>2,000</td>
</tr>
<tr>
<td>Equipment</td>
<td>13,500</td>
</tr>
<tr>
<td>Accumulated Depreciation—Equipment</td>
<td>10,000</td>
</tr>
<tr>
<td>Loss on Disposal of Plant Assets</td>
<td>2,500*</td>
</tr>
<tr>
<td>Equipment</td>
<td>28,000</td>
</tr>
</tbody>
</table>

*Computation of loss:

<table>
<thead>
<tr>
<th>Description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Book value of old equipment</td>
<td>$18,000</td>
</tr>
<tr>
<td>Fair value of old equipment</td>
<td>15,500</td>
</tr>
<tr>
<td>Loss on disposal of equipment</td>
<td>$  2,500</td>
</tr>
</tbody>
</table>
EXERCISE 10-19 (Continued)

(b) Exchange has commercial substance

Santana Company

<table>
<thead>
<tr>
<th>Account</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment</td>
<td>15,500*</td>
<td></td>
</tr>
<tr>
<td>Accumulated Depreciation—Equipment</td>
<td>19,000</td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td>28,000</td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td>Gain on Disposal of Equipment</td>
<td>4,500**</td>
<td></td>
</tr>
</tbody>
</table>

*Cost of new equipment:
- Cash paid $2,000
- Fair value of old equipment $13,500
- Cost of new equipment $15,500

**Computation of gain on disposal of equipment:
- Fair value of old equipment $13,500
- Book value of old equipment ($28,000 – $19,000) $9,000
- Gain on disposal of equipment $4,500

Delaware Company

<table>
<thead>
<tr>
<th>Account</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td>13,500*</td>
<td></td>
</tr>
<tr>
<td>Accumulated Depreciation—Equipment (Old)</td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td>Loss on Disposal of Equipment</td>
<td>2,500**</td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td>28,000</td>
<td></td>
</tr>
</tbody>
</table>

*Cost of new equipment:
- Fair value of equipment $15,500
- Less: Cash received $2,000
- Cost of new equipment $13,500

**Computation of loss on disposal of equipment:
- Book value of old equipment ($28,000 – $10,000) $18,000
- Fair value of equipment (Old) 15,500
- Loss on disposal of equipment $2,500
EXERCISE 10-20 (15–20 minutes)

(a) Exchange has commercial substance

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic Equipment</td>
<td>53,900</td>
</tr>
<tr>
<td>Accumulated Depreciation—Equipment</td>
<td>20,000*</td>
</tr>
<tr>
<td>Gain on Disposal of Equipment</td>
<td>3,800</td>
</tr>
<tr>
<td>Equipment</td>
<td>62,000</td>
</tr>
<tr>
<td>Cash ($7,000 + $1,100)</td>
<td>8,100</td>
</tr>
</tbody>
</table>

*$62,000 – $42,000.

Valuation of equipment

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>$7,000</td>
</tr>
<tr>
<td>Installation cost</td>
<td>1,100</td>
</tr>
<tr>
<td>Market value of used equipment</td>
<td>45,800</td>
</tr>
<tr>
<td>Cost of new equipment</td>
<td>$53,900</td>
</tr>
</tbody>
</table>

Computation of gain

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of old asset</td>
<td>$62,000</td>
</tr>
<tr>
<td>Accumulated depreciation</td>
<td>20,000</td>
</tr>
<tr>
<td>Book value</td>
<td>42,000</td>
</tr>
<tr>
<td>Fair market value of old asset</td>
<td>45,800</td>
</tr>
<tr>
<td>Gain on disposal of equipment</td>
<td>$3,800</td>
</tr>
</tbody>
</table>

(b) Fair value not determinable

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic Equipment</td>
<td>50,100*</td>
</tr>
<tr>
<td>Accumulated Depreciation—Equipment</td>
<td>20,000</td>
</tr>
<tr>
<td>Equipment</td>
<td>62,000</td>
</tr>
<tr>
<td>Cash</td>
<td>8,100</td>
</tr>
</tbody>
</table>

*Basis of new equipment

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Book value of old equipment</td>
<td>$42,000</td>
</tr>
<tr>
<td>Cash paid (including installation costs)</td>
<td>8,100</td>
</tr>
<tr>
<td>Basis of new equipment</td>
<td>$50,100</td>
</tr>
</tbody>
</table>
EXERCISE 10-21 (20–25 minutes)

(a) Any addition to plant assets is capitalized because a new asset has been created. This addition increases the service potential of the plant.

(b) Expenditures that do not increase the service benefits of the asset are expensed. Painting costs are considered ordinary repairs because they maintain the existing condition of the asset or restore it to normal operating efficiency.

(c) The approach to follow is to remove the book value of the old roof and substitute the cost of the new roof. It is assumed that the expenditure increases the future service potential of the asset.

(d) Conceptually, the book value of the old electrical system should be removed. However, practically it is often difficult if not impossible to determine this amount. In this case, one of two approaches is followed. One approach is to capitalize the replacement on the theory that sufficient depreciation was taken on the old system to reduce the carrying amount to almost zero. A second approach is to debit Accumulated Depreciation on the theory that the replacement extends the useful life of the asset and thereby recaptures some or all of the past depreciation. In our present situation, the problem specifically states that the useful life is not extended and therefore debiting Accumulated Depreciation is inappropriate. Thus, this expenditure should be added to the cost of the plant facility.

(e) See discussion in (d) above. In this case, because the useful life of the asset has increased, a debit to Accumulated Depreciation would appear to be the most appropriate.
EXERCISE 10-22 (15–20 minutes)

1/30  Accumulated Depreciation—Buildings.............. 95,200*
      Loss on Disposal of Plant Assets...................... 21,900**
      Buildings.............................................. 112,000
      Cash.................................................. 5,100

*(5% X $112,000 = $5,600; $5,600 X 17 = $95,200)
**($112,000 – $95,200) + $5,100

3/10  Cash ($2,900 – $300).......................... 2,600
      Accumulated Depreciation—Machinery .......... 11,200*
      Loss on Disposal of Plant Assets............... 2,200**
      Machinery......................................... 16,000

*(70% X $16,000 = $11,200)
**($16,000 – $11,200) + $300 – $2,900

3/20  Machinery.............................................. 3,000
      Cash.................................................. 3,000

5/18  Machinery.............................................. 5,500
      Accumulated Depreciation—Machinery .......... 2,400*
      Loss on Disposal of Plant Assets............... 1,600**
      Machinery............................................. 4,000
      Cash................................................ 5,500

*(60% X $4,000 = $2,400)
**($4,000 – $2,400)

6/23  Building Maintenance and Repairs Expense .... 6,900
      Cash................................................ 6,900
### EXERCISE 10-23 (10–15 minutes)

(a) C  
(b) E, assuming immaterial  
(c) C  
(d) C  
(e) C  
(f) E  
(g) C  
(h) C

### EXERCISE 10-24 (20–25 minutes)

#### (a) Depreciation Expense (8/12 X $72,000) .......... 48,000  
Accumulated Depreciation—Machine...... 48,000  
Loss on Disposal of Machine  
($1,300,000 – $408,000) – $630,000 .......... 262,000  
Cash .......................................................... 630,000  
Accumulated Depreciation—Machine  
($360,000 + $48,000) .................................. 408,000  
Machine ...................................................... 1,300,000

#### (b) Depreciation Expense (3/12 X $72,000) .......... 18,000  
Accumulated Depreciation—Machine...... 18,000  
Cash .......................................................... 1,040,000  
Accumulated Depreciation—Machine  
($360,000 + $18,000) ................................. 378,000  
Machine ...................................................... 1,300,000  
Gain on Disposal of Machine  
[$1,040,000 – ($1,300,000 – $378,000)] ..... 118,000
EXERCISE 10-24 (Continued)

(c) Depreciation Expense (7/12 X $72,000) .......... 42,000  
Accumulated Depreciation—Machine .... 42,000

Contribution Expense ......................................... 1,100,000  
Accumulated Depreciation—Machine
($360,000 + $42,000) ......................................... 402,000
Machine .............................................................. 1,300,000  
Gain on Disposal of Machine ...................... 202,000*

*$1,100,000 – $1,300,000 + $402,000

EXERCISE 10-25 (15–20 minutes)

April 1 Cash .......................................................... 410,000
Accumulated Depreciation—Building .... 160,000
Land ................................................................. 60,000
Building .......................................................... 280,000
Gain on Disposal of Plant Assets ....... 230,000*

*Computation of gain:
Book value of land  $ 60,000
Book value of building
($280,000 – $160,000)  120,000
Book value of land and building 180,000
Cash received  410,000
Gain on disposal  $230,000

Aug. 1 Land ............................................................ 90,000
Building ............................................................ 380,000
Cash ................................................................. 470,000
TIME AND PURPOSE OF PROBLEMS

Problem 10-1  (Time 35–40 minutes)
Purpose—to provide a problem involving the proper classification of costs related to property, plant, and equipment. Property, plant, and equipment must be segregated into land, buildings, leasehold improvements, and machinery and equipment for purposes of the analysis. Such costs as demolition costs, real estate commissions, imputed interest, minor and major repair work, and royalty payments are presented. An excellent problem for reviewing the first part of this chapter.

Problem 10-2  (Time 40–55 minutes)
Purpose—to provide a problem involving the proper classification of costs related to property, plant, and equipment. Such costs as land, freight and unloading, installation, parking lots, sales and use taxes, and machinery costs must be identified and appropriately classified. An excellent problem for reviewing the first part of this chapter.

Problem 10-3  (Time 35–45 minutes)
Purpose—to provide a problem involving the proper classification of costs related to land and buildings. Typical transactions involve allocation of the cost of removal of a building, legal fees paid, general expenses, cost of organization, special tax assessments, etc. A good problem for providing a broad perspective as to the types of costs expensed and capitalized.

Problem 10-4  (Time 35–40 minutes)
Purpose—to provide a problem involving the method of handling the disposition of certain properties. The dispositions include a condemnation, demolition, trade-in, contribution and sale to a stockholder. The problem therefore involves a number of situations and provides a good overview of the accounting treatment accorded property dispositions.

Problem 10-5  (Time 20–30 minutes)
Purpose—to provide the student with a problem in which schedules must be prepared on the costs of acquiring land and the costs of constructing a building. Interest costs are included.

Problem 10-6  (Time 25–35 minutes)
Purpose—to provide the student with a problem to determine costs to include in the value of land and plant, including interest capitalization.

Problem 10-7  (Time 20–30 minutes)
Purpose—to provide the student with a problem to compute capitalized interest and to present disclosures related to capitalized interest.

Problem 10-8  (Time 35–45 minutes)
Purpose—to provide the student with a problem involving the exchange of machinery. Four different exchange transactions are possible, and journal entries are required for each possible transaction. The exchange transactions cover the receipt and disposition of cash as well as the purchase of a machine from a dealer of machinery.

Problem 10-9  (Time 30–40 minutes)
Purpose—to provide a problem on the accounting treatment for exchanges of assets that have and do not have commercial substance involving gain situations.

Problem 10-10  (Time 30–40 minutes)
Purpose—to provide the student with another problem involving the exchange of productive assets. This problem is unusual because the size of the boot is greater than 25%. As a result, the entire transaction is monetary in nature and all gains and losses are recognized.

Problem 10-11  (Time 35–45 minutes)
Purpose—to provide a property, plant, and equipment problem consisting of three transactions that have to be recorded—(1) an asset purchased on a deferred payment contract, (2) a lump-sum purchase, and (3) a nonmonetary exchange.
(a) REAGAN COMPANY
Analysis of Land Account
for 2010

Balance at January 1, 2010 .................. $ 230,000

Land site number 621
Acquisition cost ................................ $850,000
Commission to real estate agent .......... 51,000
Clearing costs .................................. $35,000
Less: Amounts recovered .................. 13,000 22,000
Total land site number 621........... 923,000

Land site number 622
Land value ...................................... 300,000
Building value................................. 120,000
Demolition cost ................................. 41,000
Total land site number 622........... 461,000
Balance at December 31, 2010 ............ $1,614,000

REAGAN COMPANY
Analysis of Buildings Account
for 2010

Balance at January 1, 2010 .................. $ 890,000

Cost of new building constructed
on land site number 622
Construction costs .......................... $330,000
Excavation fees .............................. 38,000
Architectural design fees ................. 11,000
Building permit fee ........................ 2,500 381,500
Balance at December 31, 2010 ............ $1,271,500
PROBLEM 10-1 (Continued)

REAGAN COMPANY
Analysis of Leasehold Improvements Account for 2010

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance at January 1, 2010</td>
<td>$660,000</td>
</tr>
<tr>
<td>Office space</td>
<td>89,000</td>
</tr>
<tr>
<td>Balance at December 31, 2010</td>
<td>$749,000</td>
</tr>
</tbody>
</table>

REAGAN COMPANY
Analysis of Machinery and Equipment Account for 2010

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance at January 1, 2010</td>
<td>$875,000</td>
</tr>
<tr>
<td>Cost of the new machines acquired</td>
<td></td>
</tr>
<tr>
<td>Invoice price</td>
<td>$87,000</td>
</tr>
<tr>
<td>Freight costs</td>
<td>3,300</td>
</tr>
<tr>
<td>Installation costs</td>
<td>2,400</td>
</tr>
<tr>
<td></td>
<td>92,700</td>
</tr>
<tr>
<td>Balance at December 31, 2010</td>
<td>$967,700</td>
</tr>
</tbody>
</table>

(b) Items in the fact situation which were not used to determine the answer to (a) above are as follows:
1. Interest imputed on common stock financing is not permitted by GAAP and thus does not appear in any financial statement.
2. Land site number 623, which was acquired for $650,000, should be included in Reagan’s balance sheet as land held for resale (investment section).
3. Royalty payments of $17,500 should be included as a normal operating expense in Reagan’s income statement.
(a) LOBO CORPORATION

Analysis of Land Account
2010

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance at January 1, 2010</td>
<td>$300,000</td>
</tr>
<tr>
<td>Plant facility acquired from Mendota Company—portion of fair value allocated to land <em>(Schedule 1)</em></td>
<td>$185,000</td>
</tr>
<tr>
<td>Balance at December 31, 2010</td>
<td>$485,000</td>
</tr>
</tbody>
</table>

LOBO CORPORATION

Analysis of Land Improvements Account
2010

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance at January 1, 2010</td>
<td>$140,000</td>
</tr>
<tr>
<td>Parking lots, streets, and sidewalks</td>
<td>$95,000</td>
</tr>
<tr>
<td>Balance at December 31, 2010</td>
<td>$235,000</td>
</tr>
</tbody>
</table>

LOBO CORPORATION

Analysis of Buildings Account
2010

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance at January 1, 2010</td>
<td>$1,100,000</td>
</tr>
<tr>
<td>Plant facility acquired from Mendota Company—portion of fair value allocated to building <em>(Schedule 1)</em></td>
<td>$555,000</td>
</tr>
<tr>
<td>Balance at December 31, 2010</td>
<td>$1,655,000</td>
</tr>
</tbody>
</table>
PROBLEM 10-2 (Continued)

LOBO CORPORATION
Analysis of Machinery and Equipment Account
2010

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance at January 1, 2010</td>
<td>$ 960,000</td>
</tr>
<tr>
<td>Cost of new machinery and equipment acquired</td>
<td></td>
</tr>
<tr>
<td>Invoice price</td>
<td>$400,000</td>
</tr>
<tr>
<td>Freight and unloading costs</td>
<td>13,000</td>
</tr>
<tr>
<td>Sales taxes</td>
<td>20,000</td>
</tr>
<tr>
<td>Installation costs</td>
<td>26,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>459,000</strong></td>
</tr>
<tr>
<td><strong>$1,419,000</strong></td>
<td></td>
</tr>
</tbody>
</table>

Deduct cost of machines disposed of

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine scrapped June 30, 2010</td>
<td>$ 80,000*</td>
</tr>
<tr>
<td>Machine sold July 1, 2010</td>
<td>44,000*</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>124,000</strong></td>
</tr>
<tr>
<td><strong>Balance at December 31, 2010</strong></td>
<td><strong>$1,295,000</strong></td>
</tr>
</tbody>
</table>

*The accumulated depreciation account can be ignored for this part of the problem.
PROBLEM 10-2 (Continued)

Schedule 1

Computation of Fair Value of Plant Facility Acquired from Mendota Company and Allocation to Land and Building

20,000 shares of Lobo common stock at $37 quoted market price on date of exchange (20,000 X $37) $740,000

Allocation to land and building accounts in proportion to appraised values at the exchange date:

<table>
<thead>
<tr>
<th></th>
<th>Amount</th>
<th>Percentage of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>230,000</td>
<td>25</td>
</tr>
<tr>
<td>Building</td>
<td>690,000</td>
<td>75</td>
</tr>
<tr>
<td>Total</td>
<td>920,000</td>
<td>100</td>
</tr>
</tbody>
</table>

Land ($740,000 X 25%) $185,000
Building ($740,000 X 75%) 555,000
Total $740,000

(b) Items in the fact situation that were not used to determine the answer to (a) above, are as follows:

1. The tract of land, which was acquired for $150,000 as a potential future building site, should be included in Lobo’s balance sheet as an investment in land.

2. The $110,000 and $320,000 book values respective to the land and building carried on Mendota’s books at the exchange date are not used by Lobo.

3. The $12,080 loss (Schedule 2) incurred on the scrapping of a machine on June 30, 2010, should be included in the other expenses and losses section in Lobo’s income statement. The $67,920 accumulated depreciation (Schedule 3) should be deducted from the Accumulated Depreciation—Machinery and Equipment account in Lobo’s balance sheet.
PROBLEM 10-2 (Continued)

4. The $3,000 loss on sale of a machine on July 1, 2010 (Schedule 4) should be included in the other expenses and losses section of Lobo’s income statement. The $21,000 accumulated depreciation (Schedule 4) should be deducted from the Accumulated Depreciation—Machinery and Equipment account in Lobo’s balance sheet.

Schedule 2

Loss on Scrapping of Machine  
June 30, 2010

Cost, January 1, 2002.......................................................... $80,000
Accumulated depreciation (double-declining-balance method, 10-year life) January 1, 2002, to June 30, 2010 (Schedule 3) ........................................................................................................ 67,920
Asset book value June 30, 2010 ........................................... $12,080
Loss on scrapping of machine ............................................. $12,080
### Schedule 3

#### Accumulated Depreciation Using Double-Declining-Balance Method

**June 30, 2010**  
(Double-declining-balance rate is 20%)

<table>
<thead>
<tr>
<th>Year</th>
<th>Book Value at Beginning of Year</th>
<th>Depreciation Expense</th>
<th>Accumulated Depreciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>$80,000</td>
<td>$16,000</td>
<td>$16,000</td>
</tr>
<tr>
<td>2003</td>
<td>64,000</td>
<td>12,800</td>
<td>28,800</td>
</tr>
<tr>
<td>2004</td>
<td>51,200</td>
<td>10,240</td>
<td>39,040</td>
</tr>
<tr>
<td>2005</td>
<td>40,960</td>
<td>8,192</td>
<td>47,232</td>
</tr>
<tr>
<td>2006</td>
<td>32,768</td>
<td>6,554</td>
<td>53,786</td>
</tr>
<tr>
<td>2007</td>
<td>26,214</td>
<td>5,243</td>
<td>59,029</td>
</tr>
<tr>
<td>2008</td>
<td>20,971</td>
<td>4,194</td>
<td>63,223</td>
</tr>
<tr>
<td>2009</td>
<td>16,777</td>
<td>3,355</td>
<td>66,578</td>
</tr>
<tr>
<td>2010 (6 months)</td>
<td>13,422</td>
<td>1,342</td>
<td>67,920</td>
</tr>
</tbody>
</table>

### Schedule 4

#### Loss on Sale of Machine

**July 1, 2010**

- **Cost, January 1, 2007** .......................................................... $44,000
- **Depreciation (straight-line method, salvage value of $2,000, 7-year life) January 1, 2007, to July 1, 2010 [3 1/2 years ($44,000 – $2,000) ÷ 7]** .......... (21,000)
- **Asset book value July 1, 2010** ................................................. $23,000
- **Asset book value** ................................................................. $23,000
- **Proceeds from sale** ............................................................ (20,000)
- **Loss on sale** ........................................................................ $ 3,000
PROBLEM 10-3

(a) 1. Land (Schedule A) ................................................. 188,700
    Building (Schedule B) ........................................... 136,250
    Insurance Expense (6 months X $95) ..................... 570
    Prepaid Insurance (16 months X $95) ..................... 1,520
    Organization Expense ......................................... 610
    Retained Earnings ............................................. 53,800
    Salary Expense ................................................. 32,100
    Land and Building ........................................... 399,950
    Additional Paid-in Capital
      (800 shares X $17) ........................................... 13,600

Schedule A

Amount Consists of:

- Acquisition Cost
  ($80,000 + [800 X $117]) ...................................... $173,600
- Removal of Old Building ..................................... 9,800
- Legal Fees (Examination of title) ......................... 1,300
- Special Tax Assessment ...................................... 4,000
  Total ................................................................ $188,700

Schedule B

Amount Consists of:

- Legal Fees (Construction contract) .............. $ 1,860
- Construction Costs (First payment) ............ 60,000
- Construction Costs (Second payment) ....... 40,000
- Insurance (2 months)
  ([2,280 ÷ 24] = $95 X 2 = $190) ................. 190
- Plant Superintendent’s Salary ...................... 4,200
- Construction Costs (Final payment) ............ 30,000
  Total ................................................................. $136,250

2. Land and Building ............................................. 4,000

  Depreciation Expense ........................................... 2,637
  Accumulated Depreciation—Building .......... 1,363
Schedule C

Depreciation taken ........................................ $  4,000
Depreciation that should be taken
(1% X $136,250)........................................... (1,363)
Depreciation adjustment ...............................  $  2,637

(b)  Plant, Property, and Equipment:

Land ........................................................................ $188,700
Building ..................................................................... $136,250
Less:  Accumulated depreciation ................. 1,363 134,887
Total ................................................................. $323,587
The following accounting treatment appears appropriate for these items:

Land—The loss on the condemnation of the land of $9,000 ($40,000 – $31,000) should be reported as an extraordinary item on the income statement. If condemnations are either usual or recurring, then an ordinary or unusual classification is more appropriate. The $35,000 land purchase has no income statement effect.

Building—There is no recognized gain or loss on the demolition of the building. The entire purchase cost ($15,000), decreased by the demolition proceeds ($3,600), is allocated to land.

Warehouse—The gain on the destruction of the warehouse should be reported as an extraordinary item, assuming that it is unusual and infrequent. The gain is computed as follows:

\[
\begin{align*}
\text{Insurance proceeds} & \quad \ldots \quad \text{\$74,000} \\
\text{Deduct: Cost} & \quad \ldots \quad \text{\$70,000} \\
\text{Less: Accumulated depreciation} & \quad \ldots \quad \text{\$16,000} \\
\text{Realized gain} & \quad \ldots \quad \text{\$20,000}
\end{align*}
\]

Some contend that a portion of this gain should be deferred because the proceeds are reinvested in similar assets. We do not believe such an approach should be permitted. Deferral of the gain in this situation is not permitted under GAAP.

Machine—The recognized gain on the transaction would be computed as follows:

\[
\begin{align*}
\text{Fair market value of old machine} & \quad \ldots \quad \text{\$7,200} \\
\text{Deduct: Book value of old machine} & \\
\text{Cost} & \quad \ldots \quad \text{\$8,000} \\
\text{Less: Accumulated depreciation} & \quad \ldots \quad \text{\$2,800} \\
\text{Total gain} & \quad \ldots \quad \text{\$2,000}
\end{align*}
\]

\[
\text{Total gain recognized} = \frac{\$900}{\$900 + \$6,300} = \$250
\]

The gain deferred is $1,750 ($2,000 – $250)
PROBLEM 10-4 (Continued)

This gain would probably be reported in other revenues and gains. It might be reported as an unusual item if the company believes that such a situation occurs infrequently and if material. The cost of the new machine would be capitalized at $4,550.

Fair value of new machine .................................................. $6,300
Less: Gain deferred ($2,000 – $250) ..............................  1,750
Cost of new machine ........................................................  $4,550

Furniture—The contribution of the furniture would be reported as a contribution expense of $3,100 with a related gain on disposition of furniture of $950: $3,100 – ($10,000 – $7,850). The contribution expense and the related gain may be netted, if desired.

Automobile—The loss on sale of the automobile of $2,580: [$2,960 – ($9,000 – $3,460)] should probably be reported in the other expenses or losses section. It might be reported as an unusual item if the company believes that such a situation occurs infrequently.
PROBLEM 10-5

(a) BLAIR CORPORATION
Cost of Land (Site #101)
As of September 30, 2011

<table>
<thead>
<tr>
<th>Cost Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of land and old building</td>
<td>$500,000</td>
</tr>
<tr>
<td>Real estate broker’s commission</td>
<td>36,000</td>
</tr>
<tr>
<td>Legal fees</td>
<td>6,000</td>
</tr>
<tr>
<td>Title insurance</td>
<td>18,000</td>
</tr>
<tr>
<td>Removal of old building</td>
<td>54,000</td>
</tr>
<tr>
<td><strong>Cost of land</strong></td>
<td><strong>$614,000</strong></td>
</tr>
</tbody>
</table>

(b) BLAIR CORPORATION
Cost of Building
As of September 30, 2011

<table>
<thead>
<tr>
<th>Cost Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed construction contract price</td>
<td>$3,000,000</td>
</tr>
<tr>
<td>Plans, specifications, and blueprints</td>
<td>21,000</td>
</tr>
<tr>
<td>Architects’ fees</td>
<td>82,000</td>
</tr>
<tr>
<td>Interest capitalized during 2010 (Schedule 1)</td>
<td>130,000</td>
</tr>
<tr>
<td>Interest capitalized during 2011 (Schedule 2)</td>
<td>190,000</td>
</tr>
<tr>
<td><strong>Cost of building</strong></td>
<td><strong>$3,423,000</strong></td>
</tr>
</tbody>
</table>

Schedule 1

Interest Capitalized During 2010 and 2011

<table>
<thead>
<tr>
<th>Weighted-average accumulated construction expenditures</th>
<th>X</th>
<th>Interest rate</th>
<th>=</th>
<th>Interest to be capitalized</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010: $1,300,000</td>
<td></td>
<td>10%</td>
<td>=</td>
<td>$130,000</td>
</tr>
<tr>
<td>2011: $1,900,000</td>
<td></td>
<td>10%</td>
<td>=</td>
<td>$190,000</td>
</tr>
</tbody>
</table>
INTEREST CAPITALIZATION
Balance in the Land Account

Purchase Price .......................................................... $139,000
Surveying Costs .......................................................... 2,000
Title Insurance Policy ............................................... 4,000
Demolition Costs ......................................................... 3,000
Salvage ................................................................... (1,000)
Total Land Cost ......................................................... $147,000

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>Amount</td>
</tr>
<tr>
<td>1-Dec</td>
<td>$147,000</td>
</tr>
<tr>
<td>1-Dec</td>
<td>30,000</td>
</tr>
<tr>
<td>1-Dec</td>
<td>3,000</td>
</tr>
</tbody>
</table>

Interest Capitalized for 2010

<table>
<thead>
<tr>
<th>Weighted—Average Accumulated Expenditures</th>
<th>Interest Rate</th>
<th>Amount Capitalizable</th>
</tr>
</thead>
<tbody>
<tr>
<td>$15,000</td>
<td>8%</td>
<td>$1,200</td>
</tr>
</tbody>
</table>

Interest charged to Interest Expense

\[ \left( \frac{\$600,000 \times .08 \times \frac{1}{12}}{12} \right) - \$1,200 \] = $2,800
PROBLEM 10-6 (Continued)

<table>
<thead>
<tr>
<th>Date</th>
<th>Amount</th>
<th>Fraction</th>
<th>Weighted Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Jan</td>
<td>$180,000</td>
<td>6/12</td>
<td>$ 90,000</td>
</tr>
<tr>
<td>1-Jan</td>
<td>1,200</td>
<td>6/12</td>
<td>600</td>
</tr>
<tr>
<td>1-Mar</td>
<td>240,000</td>
<td>4/12</td>
<td>80,000</td>
</tr>
<tr>
<td>1-May</td>
<td>330,000</td>
<td>2/12</td>
<td>55,000</td>
</tr>
<tr>
<td>1-Jul</td>
<td>60,000</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td><strong>$811,200</strong></td>
<td></td>
<td><strong>$225,600</strong></td>
</tr>
</tbody>
</table>

Interest Capitalized for 2011

<table>
<thead>
<tr>
<th>Weighted-Average Expenditure</th>
<th>Interest Rate</th>
<th>Amount Capitalizable</th>
</tr>
</thead>
<tbody>
<tr>
<td>$225,600</td>
<td>8%</td>
<td>$18,048</td>
</tr>
</tbody>
</table>

Interest charged to Interest Expense

\[ ([($600,000 \times .08) - $18,048]) = $29,952 \]

(a) Balance in Land Account—2010 and 2011........ 147,000
(b) Balance in Building—2010 ................................. 34,200*
    Balance in Building—2011 ...................... 682,248**
(c) Balance in Interest Expense—2010................. 2,800
    Balance in Interest Expense—2011............. 29,952

*\$30,000 + $3,000 + $1,200
**\$34,200 + $240,000 + $330,000 + $60,000 + $18,048
(a) Computation of Weighted-Average Accumulated Expenditures

<table>
<thead>
<tr>
<th>Date</th>
<th>Amount</th>
<th>X</th>
<th>Capitalization Period</th>
<th>Weighted-Average Accumulated Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 30, 2010</td>
<td>$900,000</td>
<td>10/12</td>
<td>$750,000</td>
<td></td>
</tr>
<tr>
<td>January 30, 2011</td>
<td>1,500,000</td>
<td>4/12</td>
<td>500,000</td>
<td></td>
</tr>
<tr>
<td>May 30, 2011</td>
<td>1,600,000</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$4,000,000</td>
<td></td>
<td>$1,250,000</td>
<td></td>
</tr>
</tbody>
</table>

(b) Weighted-Average Accumulated Expenditures

\[
\text{Weighted-Average Accumulated Expenditures} \times 11.2\% = \text{Avoidable interest} = \$140,000
\]

Loans Outstanding During Construction Period

<table>
<thead>
<tr>
<th>Principal</th>
<th>Actual Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>*10% five-year note</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>12% ten-year bond</td>
<td>3,000,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$5,000,000</strong></td>
</tr>
</tbody>
</table>

\[
\frac{\text{Total interest}}{\text{Total principal}} = \frac{\$560,000}{\$5,000,000} = 11.2\% \text{ (weighted-average rate)}
\]

(c) (1) and (2)

Total actual interest cost \(\$560,000\)

Total interest capitalized \(\$140,000\)

Total interest expensed \(\$420,000\)
1. Holyfield Corporation
Cash ....................................................................... 23,000
Machinery .................................................................. 69,000
Accumulated Depreciation ...................................... 60,000
Loss on Disposal of Machinery .............................. 8,000*
Machinery ................................................................ 160,000

*Computation of loss: Book value $100,000
    Fair value (92,000)
    Loss $  8,000

Dorsett Company
Machinery ............................................................... 92,000
Accumulated Depreciation .................................... 45,000
Loss on Disposal of Machinery .............................. 6,000*
Cash ...................................................................... 23,000
Machinery ............................................................... 120,000

*Computation of loss: Book value $75,000
    Fair value (69,000)
    Loss $   6,000

2. Holyfield Corporation
Machinery ............................................................... 92,000
Accumulated Depreciation .................................... 60,000
Loss on Disposal of Machinery .............................. 8,000
Machinery ............................................................... 160,000

Winston Company
Machinery ($92,000 – $11,000) .............................. 81,000*
Accumulated Depreciation ................................. 71,000
Machinery ............................................................... 152,000

*Computation of gain
    deferred: Fair value $92,000
    Book value (81,000)
    Gain deferred $ 11,000
PROBLEM 10-8 (Continued)

3. **Holyfield Corporation**
   Machinery .............................................................. 95,000
   Accumulated Depreciation .................................. 60,000
   Loss on Disposal of machinery .......................... 8,000
   Machinery ...................................................... 160,000
   Cash ............................................................... 3,000

   **Liston Company**
   Machinery .............................................................. 92,000
   Accumulated Depreciation .................................. 75,000
   Cash ............................................................... 3,000
   Machinery ...................................................... 160,000
   Gain on Disposal of Machinery ................... 10,000*

   *Fair value $ 95,000
   Book value (85,000)
   Gain $ 10,000

   Because the exchange has commercial substance, the entire gain should be recognized.

4. **Holyfield Corporation**
   Machinery .............................................................. 185,000
   Accumulated Depreciation .................................. 60,000
   Loss on Disposal of machinery .......................... 8,000
   Machinery ...................................................... 160,000
   Cash ............................................................... 93,000

   **Greeley Company**
   Cash ............................................................... 93,000
   Used Machine Inventory ................................. 92,000
   Sales ............................................................ 185,000
   Cost of Goods Sold ........................................ 130,000
   Inventory .................................................... 130,000
(a) Exchange has commercial substance:

Hyde, Inc.’s Books

<table>
<thead>
<tr>
<th>Asset B</th>
<th>75,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accumulated Depreciation—Asset A</td>
<td>40,000</td>
</tr>
<tr>
<td>Asset A</td>
<td>96,000</td>
</tr>
<tr>
<td>Gain on Disposal of Plant Assets</td>
<td>4,000</td>
</tr>
<tr>
<td>Cash</td>
<td>15,000</td>
</tr>
</tbody>
</table>

Wiggins, Inc.’s Books

<table>
<thead>
<tr>
<th>Cash</th>
<th>15,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset A</td>
<td>60,000</td>
</tr>
<tr>
<td>Accumulated Depreciation—Asset B</td>
<td>47,000</td>
</tr>
<tr>
<td>Asset B</td>
<td>110,000</td>
</tr>
<tr>
<td>Gain on Disposal of Plant Assets</td>
<td>12,000</td>
</tr>
</tbody>
</table>

(b) Exchange lacks commercial substance:

Hyde, Inc.’s Books

<table>
<thead>
<tr>
<th>Asset B ($75,000 – $4,000)</th>
<th>71,000*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accumulated Depreciation—Asset A</td>
<td>40,000</td>
</tr>
<tr>
<td>Asset A</td>
<td>96,000</td>
</tr>
<tr>
<td>Cash</td>
<td>15,000</td>
</tr>
</tbody>
</table>

*Computation of gain deferred:

<table>
<thead>
<tr>
<th>Fair value</th>
<th>$60,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Book value</td>
<td>(56,000)</td>
</tr>
<tr>
<td>Gain deferred</td>
<td>$ 4,000</td>
</tr>
</tbody>
</table>
Wiggins, Inc.’s Books

Cash ................................................................. 15,000
Asset A ................................................................ 50,400**
Accumulated Depreciation—Asset B .................. 47,000
  Asset B ........................................................... 110,000
  Gain on Disposal of Plant Assets ................. 2,400*

Computation of total gain:
  Fair value of Asset B $75,000
  Book value of Asset B (63,000)
  Total gain $12,000

*Gain recognized = \( \frac{15,000}{15,000 + 60,000} \times 12,000 = 2,400 \)

**Fair value of asset acquired $60,000
  Less: Gain deferred ($12,000 – $2,400) 9,600
  Basis of Asset A $50,400

OR

Book value of Asset B $63,000
  Portion of book value sold (12,600)
  $50,400

Note to instructor: This illustrates the exception to no gain or loss recognition for exchanges that lack commercial substance. Although it would be rare for an exchange to lack commercial substance when cash is received, a gain can be recognized based on the proportion of cash received to the overall fair value.
(a) Has Commercial Substance

Marshall Construction
1. Equipment ($82,000 + $118,000)...................... 200,000
   Accumulated Depreciation—Equipment ....... 50,000
   Loss on Disposal of Plant Assets ............. 8,000*
   Equipment................................................. 140,000
   Cash .......................................................... 118,000

   *Computation of loss:
   Book value of old crane
   ($140,000 – $50,000) $90,000
   Fair value of old crane 82,000
   Loss on disposal of plant assets $  8,000

Brigham Manufacturing
2. Cash............................................................ 118,000
   Equipment Inventory ........................................ 82,000
   Sales................................................................ 200,000
   Cost of Goods Sold .......................................... 165,000
   Equipment Inventory ............................... 165,000
   Equipment Inventory ............................... 165,000

(b) Lacks Commercial Substance

1. Marshall Construction should record the same entry as in part (a) above, since the exchange resulted in a loss.
2. Brigham should record the same entry as in part (a) above. No gain is deferred because we are assuming that Marshall is a customer. In addition, because the cash involved is greater than 25% of the value of the exchange, the entire transaction is considered a monetary transaction and a gain is recognized.

(c) Has Commercial Substance

Marshall Construction
1. Equipment ($98,000 + $102,000)...................... 200,000
   Accumulated Depreciation—Equipment ....... 50,000
   Equipment................................................. 140,000
   Cash .......................................................... 102,000
   Gain on Disposal of Plant Assets .......... 8,000*

   *Computation of gain:
   Book value of old crane
   ($140,000 – $50,000) $90,000
   Fair value of old crane 98,000
   Gain on disposal of plant assets $ 8,000
PROBLEM 10-10 (Continued)

Brigham Manufacturing

2. Cash ................................................................. 102,000
   Equipment Inventory ...................................... 98,000
   Sales................................................................... 200,000

   Cost of Goods Sold ........................................ 165,000
   Equipment Inventory............................. 165,000

(d) Marshall Construction

1. Equipment ....................................................... 200,000
   Accumulated Depreciation—Equipment..... 50,000
   Cash ........................................................ 103,000
   Equipment .............................................. 140,000
   Gain on Disposal of Plant Assets....... 7,000*

   *[Fair Value–Old ($97,000) – Book Value–Old ($90,000)]

   Note: Cash involved is greater than 25% of the value of the ex-
   change, so the gain is not deferred.

Brigham Manufacturing

2. Cash ................................................................. 103,000
   Equipment Inventory ..................................... 97,000
   Sales................................................................... 200,000

   Cost of Goods Sold ........................................ 165,000
   Equipment Inventory............................. 165,000

   Same reasons as cited in (b) (2) on the
   previous pages.

   Note: Even though the exchange lacks commercial substance, cash paid
   exceeds 25% of total fair value so the transaction is treated as a monetary
   exchange and recorded at fair value. Note that with this much cash
   involved, it is unlikely that the exchange would lack commercial substance.
(a) The major characteristics of plant assets, such as land, buildings, and equipment, that differentiate them from other types of assets are presented below.

1. Plant assets are acquired for use in the regular operations of the enterprise and are not for resale.

2. Property, plant, and equipment possess physical substance or existence and are thus differentiated from intangible assets such as patents and goodwill. Unlike other assets that possess physical substance (i.e., raw material), property, plant, and equipment do not physically become part of the product held for resale.

3. These assets are durable and long-term in nature and are usually subject to depreciation.

(b) Transaction 1. To properly reflect cost, assets purchased on deferred payment contracts should be accounted for at the present value of the consideration exchanged between the contracting parties at the date of the consideration. When no interest rate is stated, interest must be imputed at a rate that approximates the rate that would be negotiated in an arm’s-length transaction. In addition, all costs necessary to ready the asset for its intended use are considered to be costs of the asset.

\[
\text{Asset cost} = \text{Present value of the note} + \text{Freight} + \text{Installation}
\]

\[
= \left( \frac{28,000}{4} \right) \times 3.17 + 425 + 500
\]

\[
= 22,190 + 925
\]

\[
= 23,115
\]
PROBLEM 10-11 (Continued)

Transaction 2. The lump-sum purchase of a group of assets should be accounted for by allocating the total cost among the various assets on the basis of their relative fair market values. The $8,000 of interest expense incurred for financing the purchase is a period cost and is not a factor in determining asset cost.

\[
\begin{align*}
\text{Inventory} & \quad \text{\$220,000} \times \left(\frac{\$50,000}{\$250,000}\right) = \text{\$44,000} \\
\text{Land} & \quad \text{\$220,000} \times \left(\frac{\$80,000}{\$250,000}\right) = \text{\$70,400} \\
\text{Building} & \quad \text{\$220,000} \times \left(\frac{\$120,000}{\$250,000}\right) = \text{\$105,600}
\end{align*}
\]

Transaction 3. The cost of a nonmonetary asset acquired in an exchange that has commercial substance should be recorded at the fair value of the asset given up plus any cash paid. Furthermore, any gain on the exchange is also recognized.

\[
\begin{align*}
\text{Fair value of trucks} & \quad \text{............................................. \$46,000} \\
\text{Cash paid} & \quad \text{.......................................................... 19,000} \\
\text{Cost of land} & \quad \text{.......................................................... \$65,000}
\end{align*}
\]

(c) 1. A building purchased for speculative purposes is not a plant asset as it is not being used in normal operations. The building is more appropriately classified as an investment.

2. The two-year insurance policy covering plant equipment is not a plant asset as it is not long-term in nature, not subject to depreciation, and has no physical substance. This policy is more appropriately classified as a current asset (prepaid insurance).

3. The rights for the exclusive use of a process used in the manufacture of ballet shoes are not plant assets as they have no physical substance. The rights should be classified as an intangible asset.
TIME AND PURPOSE OF CONCEPTS FOR ANALYSIS

CA 10-1 (Time 20–25 minutes)
Purpose—to provide the student with a problem to decide which expenditures related to purchasing land, constructing a building, and adding to the building should be capitalized and how each should be depreciated. When the land and building are sold, the student discusses how the book value is determined and how a gain would be reported.

CA 10-2 (Time 20–25 minutes)
Purpose—to provide the student with a situation involving the proper allocation of costs to self-constructed machinery. As part of this case, the student is required to discuss the propriety of including overhead costs in the construction costs. Finally, the proper accounting treatment accorded the development costs associated with the construction of a new machine must be evaluated.

CA 10-3 (Time 20–25 minutes)
Purpose—to provide the student with a problem involving the proper accounting treatment for interest costs. The student is required to assess the advantages and disadvantages of capitalizing interest. In addition, this problem should provide you with an opportunity to discuss the FASB pronouncement in this area.

CA 10-4 (Time 30–40 minutes)
Purpose—to provide the student with a situation to determine capitalization of interest and to explain in a memorandum the conceptual basis for interest capitalization.

CA 10-5 (Time 30–40 minutes)
Purpose—to provide the student with a situation in which to examine differences in accounting for exchanges that have or lack commercial substance.

CA 10-6 (Time 20–25 minutes)
Purpose—to provide the student with an understanding of the proper accounting treatment involving incidental costs associated with the purchase of a machine. The student must be able to defend why certain costs might be capitalized even though this valuation has no relationship to net realizable value. In addition, the costs may be charged off immediately for tax purposes and the student is required to analyze why these costs may still be capitalized for book purposes.

CA 10-7 (Time 20–25 minutes)
Purpose—to provide the student with a case involving allocation of costs between land and buildings, including ethical issues.
CA 10-1

(a) Expenditures should be capitalized when they benefit future periods. The cost to acquire the land should be capitalized and classified as land, a nondepreciable asset. Since tearing down the small factory is readying the land for its intended use, its cost is part of the cost of the land and should be capitalized and classified as land. As a result, this cost will not be depreciated as it would if it were classified with the capitalizable cost of the building.

Since rock blasting and removal is required for the specific purpose of erecting the building, these costs are part of the cost of the building and should be capitalized and classified with the capitalizable cost of the building. This cost should be depreciated over the estimated useful life of the building.

The road and the parking lot are land improvements, and these costs should be capitalized and classified separately as a land improvements. These costs should be depreciated over their estimated useful lives.

The added four stories is an addition, and its cost should be capitalized and classified with the capitalizable cost of the building. This cost should be depreciated over the remaining life of the original office building because that life is shorter than the estimated useful life of the addition.

(b) A gain should be recognized on the sale of the land and building because income is realized whenever the earning process has been completed and a sale has taken place.

The net book value at the date of sale would be composed of the capitalized cost of the land, the land improvement, and the building, as determined above, less the accumulated depreciation on the land improvement and the building. The excess of the proceeds received from the sale over the net book value at the date of sale would be accounted for as a gain in continuing operations in the income statement.

CA 10-2

(a) Materials and direct labor used in the construction of the equipment definitely should be charged to the equipment account. It should be emphasized that no gain on self-construction should be recorded because such an approach violates the historical cost principle. The controversy centers on the assignment of indirect costs, called overhead or burden, consisting of power, heat, light, insurance, property taxes on factory buildings, etc. The suggested approaches are discussed below.

(b) 1. Many believe that only the variable overhead costs that increase as a result of the construction should be assigned to the cost of the asset. This approach assumes that the company will have the same fixed costs regardless of whether the company constructs the asset or not, so to charge a portion of the fixed overhead costs to the equipment will usually decrease current expenses and consequently overstate income of the current period. Therefore, only the incremental costs should be charged.

2. Proponents of alternative (2) argue that such assets should be given the same treatment as inventory items and that all costs should be allocated thereto just as if saleable goods were being produced. They state that no special favor should be granted in the allocation of any cost, as long as sufficient facts are available to enable the allocation to be made. They argue that allocation of overhead to fixed assets is similar to allocation to joint products and byproducts, and should be made at regular rates. Of course, no item should be capitalized at an amount greater than that prevailing in the market.
CA 10-2 (Continued)

(c) It could be argued that because costs of development are usually higher on the first few units, the additional costs of $273,000 should be allocated to all four machines. If these costs are due to inefficiency and not development costs, the additional costs should be expensed.

CA 10-3

Three approaches have been suggested to account for actual interest incurred in financing the construction or acquisition of property, plant, and equipment. One approach is to capitalize no interest during construction. Under this approach interest is considered a cost of financing and not a cost of construction. It is contended that if the company had used stock financing rather than debt financing, this expense would not have developed. The major arguments against this approach are that an implicit interest cost is associated with the use of cash regardless of the source.

A second approach is to capitalize the actual interest costs. This approach relies on the historical cost concept that only actual transactions are recorded. It is argued that interest incurred is as much a cost of acquiring the asset as the cost of the materials, labor, and other resources used. As a result, a company that uses debt financing will have an asset of higher cost than an enterprise that uses stock financing. The results achieved by this approach are held to be unsatisfactory by some because the cost of an asset should be the same whether cash, debt financing, or stock financing is employed.

A third approach is to charge construction with all costs of funds employed, whether identifiable or not. This approach is an economic cost approach that maintains that one part of the cost of construction is the cost of financing whether by debt, cash, or stock financing. An asset should be charged with all costs necessary to get it ready for its intended use. Interest, whether actual or imputed, is a cost of building, just as labor, materials, and overhead are costs. A major criticism of this approach is that imputation of a cost of equity capital is subjective and outside the framework of a historical cost system.

GAAP requires that the lower of actual or avoidable interest cost be capitalized as part of the cost of acquiring an asset if a significant period of time is required to bring the asset to a condition or location necessary for its intended use. Interest costs would be capitalized (provided interest costs are being incurred) starting with the first expenditure related to the asset and would continue until the asset is substantially completed and ready for its intended use. Capitalization should occur only if the benefits exceed the costs.
CA 10-4

To: Jane Esplanade, President
From: Good Student, Manager of Accounting
Date: January 15, 2010
Subject: Capitalization of avoidable interest on the warehouse construction project

I am writing in response to your questions about the capitalized interest costs for the warehouse construction project. This brief explanation of my calculations should facilitate your understanding of these costs.

Generally, the accounting profession does not allow accrued interest to be capitalized along with an asset’s cost. However, the FASB made an exception for interest costs incurred during construction. In order to qualify for this treatment, the constructed asset must require a period of time to become ready for its intended use.

Because interest capitalization is allowed in special circumstances only, the company must be especially careful to capitalize only that interest which is associated with the construction itself. Thus, the FASB issued a standard indicating how much interest may be associated with the construction, i.e., the lower of actual or avoidable interest.

On the surface, this standard seems simple. Actual interest incurred during the construction period equals all interest which accrued on any debt outstanding during that period. Avoidable interest equals the amount of interest which would not have been incurred if the construction project had not been undertaken. The amount of interest capitalized is the smaller of the two.

To determine the amount capitalized, we must calculate both the actual and the avoidable interest during 2009. Actual interest is computed by applying the interest rates of 12%, 10%, and 11% to their related debt. Thus, total actual interest for this period is $490,000 (see Schedule #1 on page 10-72).
Calculations for avoidable interest are more complex. First, interest can be capitalized only on the weighted-average amount of accumulated expenditures. Although total costs amounted to $5,200,000 for the project, an average of only $3,500,000 was outstanding during the period of construction.

Second, of the total $4,400,000 debt outstanding during this period, only $2,000,000 of it can be associated with the actual construction project. Therefore, rather than arbitrarily choose the interest rate for one of the other loans, we must calculate the weighted-average interest rate. This rate is the ratio of accrued interest on the other loans to the total amount of their principal. For the $1,500,000 balance of weighted-average accumulated expenditures, this interest rate equals 10.42% (see Schedule #2).

Third, we compute our avoidable interest as follows: calculate the interest on the loan directly associated with the construction. Apply the weighted-average interest rate to the remainder of the weighted-average accumulated expenditures. Now, add these products. Avoidable interest for 2009 amounts to $396,300 (see Schedule #3).

So as not to overstate the interest associated with the construction, we capitalize the smaller of the two—$396,300—along with the other construction costs. The remainder of the interest ($93,700) is expensed.

I hope that this explanation has answered any questions you may have had about capitalized interest. If any further questions should arise, please contact me.
CA 10-4 (Continued)

Schedule #1

**Actual Interest**

<table>
<thead>
<tr>
<th>Loan Type</th>
<th>Principal</th>
<th>Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction loan</td>
<td>$2,000,000</td>
<td>$240,000</td>
</tr>
<tr>
<td>Short-term loan</td>
<td>$1,400,000</td>
<td>140,000</td>
</tr>
<tr>
<td>Long-term loan</td>
<td>$1,000,000</td>
<td>110,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$490,000</strong></td>
<td></td>
</tr>
</tbody>
</table>

Schedule #2

**Weighted-Average Interest Rate**

<table>
<thead>
<tr>
<th>Interest Rate</th>
<th>Principal</th>
<th>Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>10% short-term loan</td>
<td>$1,400,000</td>
<td>$140,000</td>
</tr>
<tr>
<td>11% long-term loan</td>
<td>1,000,000</td>
<td>110,000</td>
</tr>
<tr>
<td><strong>Total Interest</strong></td>
<td><strong>$250,000</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Total Principal</strong></td>
<td><strong>$2,400,000</strong></td>
<td></td>
</tr>
</tbody>
</table>

\[
\frac{\text{Total Interest}}{\text{Total Principal}} = \frac{\$250,000}{\$2,400,000} = 10.42\%
\]

Schedule #3

**Avoidable Interest**

<table>
<thead>
<tr>
<th>Accumulated Expenditures</th>
<th>Interest Rate</th>
<th>Avoidable Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2,000,000</td>
<td>12%</td>
<td>$240,000</td>
</tr>
<tr>
<td>1,500,000</td>
<td>10.42%</td>
<td>156,300</td>
</tr>
<tr>
<td><strong>$3,500,000</strong></td>
<td></td>
<td><strong>$396,300</strong></td>
</tr>
</tbody>
</table>

Schedule #4

**Interest Capitalized**

Because avoidable interest is lower than actual interest, use avoidable interest.

<table>
<thead>
<tr>
<th>Cost</th>
<th>Interest capitalized</th>
<th>Total cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$5,200,000</td>
<td>396,300</td>
<td>$5,596,300</td>
</tr>
</tbody>
</table>
(a) **Client A**

Treatment if the exchange has commercial substance

Client A would recognize a gain of $20,000 on the exchange. The basis of the asset acquired would be $100,000. The entry would be as follows:

Machinery ($80,000 + $20,000) ............................................................ 100,000
Accumulated Depreciation—Machinery ........................................... 40,000
Cash .......................................................... 20,000
Gain on Disposal of Plant Assets ..................................................... 20,000*
Machinery .......................................................... 100,000

*Book value of old machinery ($100,000 – $40,000) $60,000
Fair value of old machinery ............................................. 80,000
Gain on disposal of plant asset .............................................. $20,000

(b) Treatment if the exchange lacks commercial substance

Client A would be prohibited from recognizing a $20,000 gain on the exchange. This is because the transaction lacks commercial substance. The new asset on their books would have a basis of $80,000 ($100,000 less the $20,000 unrecognized gain). The entry would be as follows:

Machinery ($100,000 – $20,000) .......................................................... 80,000
Accumulated Depreciation .......................................................... 40,000
Cash .......................................................... 20,000
Machinery .......................................................... 100,000

(c) Memo to the Controller:

TO: The Controller


Financial statement effect of treating the exchange as having commercial substance versus not.

1. The income statement will reflect a before-tax gain of $20,000. This gain will increase the reported income on this year’s financial statements. Future income statements will probably show a higher depreciation deduction because of an increased book value of the new asset. Thus future income statements will reflect lower income.

2. The current balance sheet will show a $20,000 higher value for plant assets, a higher liability for taxes payable and higher retained earnings if the exchange has commercial substance. This difference will disappear gradually as the asset is depreciated.
CA 10-5 (Continued)

(d) **Client B**

Treatment if the exchange has commercial substance

In this situation, the full $30,000 gain would be recognized on this year’s income statement. The new asset would go on the books at its fair market value. The entry is as follows:

\[
\begin{align*}
\text{Machinery} & \quad 80,000 \\
\text{Accumulated Depreciation—Machinery} & \quad 80,000 \\
\text{Cash} & \quad 20,000 \\
\text{Machinery} & \quad 150,000 \\
\text{Gain on Exchange of Plant Assets} & \quad 30,000^* \\
\end{align*}
\]

*Book value of old machinery ($150,000 – $80,000) \quad 70,000
Fair value of old machinery \quad 100,000
Gain on disposal of plant assets \quad 30,000

(e) Treatment if the exchange lacks commercial substance

\[
\begin{align*}
\text{Machinery} \quad ($80,000 – $24,000) & \quad 56,000 \\
\text{Accumulated Depreciation—Machinery} & \quad 80,000 \\
\text{Cash} & \quad 20,000 \\
\text{Machinery} & \quad 150,000 \\
\text{Gain on Exchange of Plant Assets} & \quad 6,000^* \\
\end{align*}
\]

* A partial gain will be recognized in the ratio of cash received to the fair value of all assets received. In this case, a gain of $6,000 will be recognized ($20,000/$100,000 times the gain of $30,000). The unrecognized portion of $24,000 will be used to reduce the basis of the new asset. The entry to record the exchange is as above.

(f) Memo to the Controller:

TO: The Controller

RE: Asset Exchanges—Commercial Substance

1. The income statement will reflect a before-tax gain of $30,000 if the exchange has commercial substance. This gain will increase the reported income on this year’s financial statements. Future income statements will probably show a higher depreciation deduction because of an increased book value of the new asset. Thus future income statements will reflect lower income. The reported gain will only be $6,000 if the exchange lacks commercial substance.

2. The current balance sheet will show a $24,000 higher value for plant assets, a higher liability for taxes payable and higher retained earnings if the exchange has commercial substance. This difference will disappear gradually as the asset is depreciated.
CA 10-6

In general, the inclusion of the $7,500 as part of the cost of the machine is justified because the primary purpose in accounting for plant asset costs is to secure an equitable allocation of incurred costs over the period of time when the benefits are being received from the use of the assets. These costs—both the $50,000 and the $7,500—are much like prepaid expenses, to be matched against the revenue emerging through their use. The purpose of accounting for plant assets then is not primarily aimed at determining the fair valuation of the asset for balance sheet purposes, but proper matching of incurred costs with revenue resulting from use of the assets.

(1) It may be true that these installation costs could not be recovered if the machine were to be sold. This is not important, however, because presumably the machine was acquired to be used, not to be sold. Assuming approximately equal utilization of the machine in each of the ten years, the owner properly could allocate $5,750 (10% of $57,500) against each year’s operations. If the owner’s suggestion was followed, the first year would be charged with $12,500 ($7,500 plus 10% of $50,000), and the following nine years with $5,000 per year, hence overstating expenses by $6,750 the first year and understating expenses by $750 per year for the succeeding nine years. This could hardly be defended as proper matching of costs and revenue.

(2) Again, the purpose of accounting for plant assets is not to arrive at an approximation of fair value of the assets each year over the life of the assets. However, even if this were an objective, the question of which method would come closer to stating current market value at some later date would revolve around the general trend of the price level over the years involved.

(3) Assuming that the $7,500 could properly be deducted, there would be some tax savings over the years unless the tax rates applicable to the business were reduced during the following years. There is some value to taking the $7,500 deduction right now because of the present value of money. If the rates increased, there would be an increase in total taxes, due to higher rates applicable during the period when depreciation deductions would be reduced. However, generally accepted accounting principles are not determined by income tax effects. In many instances, GAAP requires different accounting treatment of an item than the IRS Revenue Code does.

CA 10-7

(a) If the land is undervalued so that a higher depreciation expense is assigned to the building, management interests are served. The lower net income and reduced tax liability save cash to be used for management purposes. By contrast, stockholders and potential investors are misled by the inaccurate cost values. They will have been deprived of information concerning the significant impact of changing real estate values on this holding.

(b) The ethical question centers on whether to allocate the cost of the purchase on the fair market value of land and building or whether to determine the allocation in view of the potential effect on net income. Carter faces an ethical dilemma if Ankara will not accept Carter’s position. Carter should specify alternative courses of action and carefully assess the consequences of each before deciding what to do.

(c) For basket (lump-sum) purchases of land and buildings, costs should be allocated on the ratio of fair market values of the land and buildings.
JOHNSON & JOHNSON

(a) The cost of building and building equipment at the end of 2007 was $7,913,000,000.

(b) As indicated in footnote number one to the financial statements, the company utilizes the straight-line method for financial statement purposes for all additions to property, plant, and equipment. Given that straight-line depreciation provides a lower charge for depreciation as compared to an accelerated method in the early years of an asset’s life, the accounting appears to be less conservative.

(c) The cash flow statement reports the amount of interest paid in cash ($314 million).

A review of the income statement indicates that Johnson & Johnson incurred interest expense of $426 million (net of capitalized interest of $130 million—see note 3).

(d) Free cash flow is defined as net cash flows provided by operating activities less capital expenditures and dividends.

Free cash flow is the amount of discretionary cash flow a company has for purchasing additional investments, retiring its debt, purchasing treasury stock, or simply adding to its liquidity. In Johnson & Johnson’s situation, free cash flow is computed as follows:

\[
\begin{align*}
\text{Net cash flows from operating activities} & \quad \text{..................} \quad 15,249,000,000 \\
\text{Less: Additions to property, plant and equipment} & \quad \text{..................} \quad 2,942,000,000 \\
& \quad \text{Dividends} \quad \text{..................................................} \quad 4,670,000,000 \\
\text{Free cash flow} & \quad \text{..................................................} \quad 7,637,000,000
\end{align*}
\]

As indicated from the above computation, Johnson & Johnson has considerable free cash flows. The company has excellent financial flexibility.
FINANCIAL STATEMENT ANALYSIS CASE (Continued)

For example, the company is able to pay its dividends without resorting to external financing. Secondly, even if operations decline, it appears that the company will be able to fund additions to property, plant, and equipment. Thirdly, the company is using its free cash flow to expand its operations by acquiring new businesses.
Yes; according to FASB ASC 835-20-05 (Predecessor Literature: SFAS No. 34), it is required to capitalize interest into the cost of assets that meet selected criteria (see (c) below).

According to FASB ASC 835-20-10-1,

... the objectives of capitalizing interest are to obtain a measure of acquisition cost that more closely reflects an entity’s total investment in the asset and to charge a cost that relates to the acquisition of a resource that will benefit future periods against the revenues of the periods benefited.

According to FASB ASC 835-20-15-5,

... interest shall be capitalized for the following types of assets (qualifying assets):

a. Assets that are constructed or otherwise produced for an entity’s own use, including assets constructed or produced for the entity by others for which deposits or progress payments have been made.

b. Assets intended for sale or lease that are constructed or otherwise produced as discrete projects (for example, ships or real estate developments). [FAS 034, paragraph 9, sequence 35]

c. Investments (equity, loans, and advances) accounted for by the equity method while the investee has activities in progress necessary to commence its planned principal operations provided that the investee’s activities include the use of funds to acquire qualifying assets for its operations.

According to FASB ASC 835-20-30-6,

... the total amount of interest cost capitalized in an accounting period shall not exceed the total amount of interest cost incurred by the entity in that period. In consolidated financial statements, that limitation shall be applied by reference to the total amount of interest cost incurred by the parent entity and consolidated subsidiaries on a consolidated basis. In any separately issued financial statements of a parent entity or consolidated subsidiaries and in the financial statements (whether separately issued or not) of unconsolidated subsidiaries and other investees accounted for by the equity method, the limitation shall be applied by reference to the total amount of interest cost (including interest on intra-entity borrowings) incurred by the separate entity.

According to FASB ASC 835-20-50-1,

An entity shall disclose the following information with respect to interest cost in the financial statements or related notes:

a. For an accounting period in which no interest cost is capitalized, the amount of interest cost incurred and charged to expense during the period.

b. For an accounting period in which some interest cost is capitalized, the total amount of interest cost incurred during the period and the amount thereof that has been capitalized.
Measurement

Historical cost is measured by the cash or cash-equivalent price of obtaining the asset and bringing it to the location and condition for its intended use. For Norwel, this is:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>$12,000</td>
</tr>
<tr>
<td>Tax ($12,000 X .05)</td>
<td>600</td>
</tr>
<tr>
<td>Platform</td>
<td>1,400</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$14,000</strong></td>
</tr>
</tbody>
</table>

**Journal Entry**

January 2, 2009

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine</td>
<td>14,000</td>
</tr>
<tr>
<td>Cash</td>
<td>14,000</td>
</tr>
</tbody>
</table>

December 31, 2009

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depreciation Expense</td>
<td>1,500</td>
</tr>
<tr>
<td>Accumulated Depreciation</td>
<td>1,500*</td>
</tr>
</tbody>
</table>

*Depreciable base: ($14,000 – $2,000) = $12,000
Depreciation expense: $12,000 ÷ 4 = $3,000 per year
2009: \( \frac{1}{2} \) year = $3,000 X .50 = $1,500

**Financial Statements**

The amount reported on the balance sheet is the cost of the asset less accumulated depreciation:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine</td>
<td>$14,000</td>
</tr>
<tr>
<td>Accumulated depreciation</td>
<td>(4,500)</td>
</tr>
<tr>
<td><strong>Book value</strong></td>
<td><strong>$ 9,500</strong></td>
</tr>
</tbody>
</table>
The income effect is a gain or loss, determined by comparing the book value of the asset to the disposal value:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>$14,000</td>
</tr>
<tr>
<td>Accumulated depreciation ($4,500 + $1,500)*</td>
<td>6,000</td>
</tr>
<tr>
<td>Book value</td>
<td>8,000</td>
</tr>
<tr>
<td>Cash received for machine and platform</td>
<td>7,000</td>
</tr>
<tr>
<td>Pretax loss</td>
<td>$1,000</td>
</tr>
</tbody>
</table>

* $3,000 X 6/12