

CHAPTER 9

FIXED ASSETS AND INTANGIBLE ASSETS

CLASS DISCUSSION QUESTIONS

1.
 - a. Tangible
 - b. Capable of repeated use in the operations of the business
 - e. Long-lived
2.
 - a. Property, plant, and equipment
 - b. Current assets (merchandise inventory)
3. Real estate acquired as speculation should be listed in the balance sheet under the caption "Investments," below the Current Assets section.
4. \$375,000
5. Ordinarily not; if the book values closely approximate the market values of fixed assets, it is coincidental.
6.
 - a. No, it does not provide a special cash fund for the replacement of assets. Unlike most expenses, however, depreciation expense does not require an equivalent outlay of cash in the period to which the expense is allocated.
 - b. Depreciation is the cost of fixed assets periodically charged to revenue over their expected useful lives.
7. 12 years
8.
 - a. No
 - b. No
9.
 - a. An accelerated depreciation method is most appropriate for situations in which the decline in productivity or earning power of the asset is proportionately greater in the early years of use than in later years, and the repairs tend to increase with the age of the asset.
 - b. An accelerated depreciation method reduces income tax payable to the IRS in the earlier periods of an asset's life. Thus, cash is freed up in the earlier periods to be used for other business purposes.
 - c. MACRS was enacted by the Tax Reform Act of 1986 and provides for depreciation for fixed assets acquired after 1986.
10. No. Accounting Principles Board Opinion No. 20, *Accounting Changes*, is quite specific about the treatment of changes in depreciable assets' estimated service lives. Such changes should be reflected in the amounts for depreciation expense in the current and future periods. The amounts recorded for depreciation expense in the past are not affected.
11. Capital expenditures are recorded as assets and include the cost of acquiring fixed assets, adding a component, or replacing a component of fixed assets. Revenue expenditures are recorded as expenses and are costs that benefit only the current period and are incurred for normal maintenance and repairs of fixed assets.
12. Capital expenditure (component replacement)
13.
 - a. No, the accumulated depreciation for an asset cannot exceed the cost of the asset. To do so would create a negative book value, which is meaningless.
 - b. The cost and accumulated depreciation should be removed from the accounts when the asset is no longer useful and is removed from service. Presumably, the asset will then be sold, traded in, or discarded.
14.
 - a. All purchases of fixed assets should be approved by an appropriate level of management. In addition, competitive bids should be solicited to ensure that the company is acquiring the assets at the lowest possible price.
 - b. A physical count of fixed assets will verify the accuracy of accounting records. It will also detect missing fixed assets that should be removed from the records and obsolete or idle fixed assets that should be disposed of.
15.
 - a. Over the years of its expected usefulness
 - b. Expense as incurred
 - c. Goodwill should not be amortized, but written down when impaired.

EXERCISES

Ex. 9-1

- a. New printing press: 1, 2, 3, 4, 5
- b. Secondhand printing press: 8, 9, 10, 12

Ex. 9-2

- a. Yes. All expenditures incurred for the purpose of making the land suitable for its intended use should be debited to the land account.
- b. No. Land is not depreciated.

Ex. 9-3

Initial cost of land (\$35,000 + \$125,000)		\$160,000
Plus: Legal fees	\$ 1,100	
Delinquent taxes	12,500	
Demolition of building	<u>18,000</u>	<u>31,600</u>
		\$191,600
Less salvage of materials		<u>3,600</u>
Cost of land		<u><u>\$188,000</u></u>

Ex. 9-4

- a. No. The \$859,600 represents the original cost of the equipment. Its replacement cost, which may be more or less than \$859,600, is not reported in the financial statements.
- b. No. The \$317,500 is the accumulation of the past depreciation charges on the equipment. The recognition of depreciation expense has no relationship to the cash account or accumulation of cash funds.

Ex. 9-5

- (a) 5%, (b) 4%, (c) 2½%, (d) 25%, (e) 20%, (f) 10%, (g) 2%

Ex. 9–6

$$\$18,000 [(\$312,000 - \$42,000) \div 15]$$

Ex. 9–7

$$\frac{\$345,000 - \$18,000}{75,000 \text{ hours}} = \$4.36 \text{ depreciation per hour}$$

1,250 hours at \$4.36 = \$5,450 depreciation for July

Ex. 9–8

a.

<u>Truck No.</u>	<u>Rate per Mile</u>	<u>Miles Operated</u>	<u>Credit to Accumulated Depreciation</u>
1	20.0 cents	40,000	\$ 8,000
2	21.0	12,000	2,100*
3	17.5	36,000	6,300
4	20.0	21,000	4,200
Total			<u>\$20,600</u>

* Mileage depreciation of \$2,520 (21 cents × 12,000) is limited to \$2,100, which reduces the book value of the truck to \$6,600, its residual value.

b. Depreciation Expense—Trucks.....	20,600	
Accumulated Depreciation—Trucks		20,600

Ex. 9–9

	<u>First Year</u>	<u>Second Year</u>
a.	8 1/3% of \$84,000 = \$7,000	8 1/3% of \$84,000 = \$7,000
b.	16 2/3% of \$84,000 = \$14,000	16 2/3% of \$70,000* = \$11,667
		*\$84,000 – \$14,000

Ex. 9–10

- a. 10% of $(\$98,500 - \$7,500) = \$9,100$
- b. Year 1: 20% of $\$98,500 = \$19,700$
Year 2: 20% of $(\$98,500 - \$19,700) = \$15,760$

Ex. 9–11

- a. Year 1: $9/12 \times [(\$54,000 - \$10,800) \div 12] = \$2,700$
Year 2: $(\$54,000 - \$10,800) \div 12 = \$3,600$
- b. Year 1: $9/12 \times 16 \frac{2}{3}\%$ of $\$54,000 = \$6,750$
Year 2: $16 \frac{2}{3}\%$ of $(\$54,000 - \$6,750) = \$7,875$

Ex. 9–12

- a. $\$15,000 [(\$800,000 - \$200,000) \div 40]$
- b. $\$500,000 [\$800,000 - (\$15,000 \times 20 \text{ yrs.})]$
- c. $\$14,000 [(\$500,000 - \$150,000) \div 25 \text{ yrs.}]$

Ex. 9–13

a.

	<u>Current Year</u>	<u>Preceding Year</u>
Land and buildings	\$ 426,322,000	\$ 418,928,000
Machinery and equipment	<u>1,051,861,000</u>	<u>1,038,323,000</u>
Total cost	\$1,478,183,000	\$1,457,251,000
Accumulated depreciation	<u>633,178,000</u>	<u>582,941,000</u>
Book value	<u>\$ 845,005,000</u>	<u>\$ 874,310,000</u>

A comparison of the book values of the current and preceding years indicates that they decreased. A comparison of the total cost and accumulated depreciation reveals that Interstate Bakeries purchased \$20,932,000 (\$1,478,183,000 – \$1,457,251,000) of additional fixed assets, which was offset by the additional depreciation expense of \$50,237,000 (\$633,178,000 – \$582,941,000) taken during the current year.

- b. The book value of fixed assets should normally increase during the year. Although additional depreciation expense will reduce the book value, most companies invest in new assets in an amount that is at least equal to the depreciation expense. However, during periods of economic downturn, companies purchase fewer fixed assets, and the book value of their fixed may decline. This is apparently the case with Interstate Bakeries.

Ex. 9–14

Capital expenditures:

New component: 4, 6, 7

Replacement component: 1, 2, 9, 10

Revenue expenditures: 3, 5, 8

Ex. 9–15

Capital expenditures:

New component: 4, 6, 7

Replacement component: 2, 5, 8, 9, 10

Revenue expenditures: 1, 3

Ex. 9–16

a. Mar. 15	Removal Expense	1,500	
	.....Cash		1,500
b. Mar. 15	Depreciation Expense.....	6,000	
	..... Accumulated Depreciation		6,000
	15 Accumulated Depreciation.....	18,000	
	..... Carpet		18,000
	30 Carpet	45,000	
	.....Cash		45,000
c. Dec. 31	Depreciation Expense.....	2,250*	
	..... Accumulated Depreciation		2,250

*(\$45,000 ÷ 15 years) × 9/12

Ex. 9–17

a.	Initial cost of old alarm system	\$50,000	
	Accumulated depreciation from old system	<u>35,000*</u>	
	Book value of old system charged to		
	depreciation expense.....		\$15,000
	2006 depreciation expense on new component		<u>12,000</u>
	Total depreciation expense		<u>\$27,000</u>
	* (\$50,000/10 years) × 7 years		
b.	Total depreciation expense (from [a]).....		\$27,000
	Removal expense.....		<u>2,000</u>
	Total expense for 2006.....		<u>\$29,000</u>

Ex. 9–18

a.	Cost of equipment		\$240,000
	Accumulated depreciation at December 31, 2006		
	(4 years at \$22,500* per year).....		<u>90,000</u>
	Book value at December 31, 2006.....		<u>\$150,000</u>
	*(\$240,000 – \$150,000) ÷ 10 = \$22,500		
b.	1. Depreciation Expense—Equipment.....	11,250	
	..... Accumulated Depreciation—Equipment		
	11,250		
	2. Cash	135,000	
	Accumulated Depreciation—Equipment.....	101,250	
	Loss on Disposal of Fixed Assets	3,750	
	..... Equipment		
	240,000		

Ex. 9–19

a.	2003 depreciation expense: \$15,000 [(\$96,000 – \$6,000) ÷ 6]		
	2004 depreciation expense: \$15,000		
	2005 depreciation expense: \$15,000		
b.	\$51,000 (\$96,000 – \$45,000)		
c.	Cash.....	38,000	
	Accumulated Depreciation—Equipment	45,000	
	Loss on Disposal of Fixed Assets	13,000	
	Equipment		96,000
d.	Cash.....	53,000	
	Accumulated Depreciation—Equipment	45,000	
	Equipment		96,000
	Gain on Disposal of Fixed Assets.....		2,000

Ex. 9–20

- a. \$205,000 (\$315,000 – \$110,000)
- b. \$303,750 [\$315,000 – (\$110,000 – \$98,750)], or
\$303,750 (\$205,000 + \$98,750)

Ex. 9–21

- a. \$205,000 (\$315,000 – \$110,000)
- b. \$315,000. The new printing press’s cost cannot exceed \$220,000 on a similar exchange. The \$18,500 loss on disposal (\$128,500 book value – \$110,000 trade-in allowance) must be recognized.

Ex. 9–22

a.	Depreciation Expense—Equipment	8,000	
	Accumulated Depreciation—Equipment.....		8,000
b.	Accumulated Depreciation—Equipment	152,000	
	Equipment	385,000	
	Loss on Disposal of Fixed Assets	28,000	
	Equipment		280,000
	Cash		35,000
	Notes Payable		250,000*
	* $\$385,000 - \$100,000 - \$35,000$		

Ex. 9–23

a.	Depreciation Expense—Trucks.....	1,500	
	Accumulated Depreciation—Trucks		1,500
b.	Accumulated Depreciation—Trucks	37,500	
	Trucks.....	76,000	
	Trucks		62,500
	Cash		11,000
	Notes Payable		40,000*
	* $\$80,000 - \$29,000 - \$11,000$		

Ex. 9–24

- a. \$55,000. The new truck’s cost cannot exceed \$55,000 in a similar exchange.
- b. \$54,000 (\$55,000 – \$1,000) or
\$54,000 (\$30,000 + \$24,000)

Ex. 9–25

The managers at MarketNet Co. are not required to obtain approval before disposing of fixed assets. Managers may be disposing of assets that are in good working order and that are needed at another location within the company. Alternatively, managers may be persuaded to sell used assets to employees and replace them with new assets, even though the older items are still in good working order. This weakness in the internal control system could be minimized by establishing policies regarding the disposition of common assets, such as office equipment and vehicles. For example, a policy might state that vehicles must have over 80,000 miles before disposal is permitted.

Ex. 9–26

a. $\$80,000,000 \div 100,000,000 \text{ tons} = \$0.80 \text{ depletion per ton}$

$15,500,000 \times \$0.80 = \$12,400,000 \text{ depletion expense}$

b. Depletion Expense	12,400,000	
Accumulated Depletion		12,400,000

Ex. 9–27

a. $(\$472,500 \div 15) + (\$75,000 \div 12) = \$37,750 \text{ total patent expense}$

b. Amortization Expense—Patents	37,750	
Patents.....		37,750

Ex. 9–28

1. Fixed assets should be reported at cost and not replacement cost.
2. Land does not depreciate.
3. Patents and goodwill are intangible assets that should be listed in a separate section following the fixed assets section. Patents should be reported at their net book values (cost less amortization to date). Goodwill should not be amortized, but should be only written down upon impairment.

Ex. 9–29

- a. Current year: Ratio of fixed assets to long-term liabilities (debt) =
 $\$181,758,000/\$14,610,000 = 12.4$
Preceding year: Ratio of fixed assets to long-term liabilities (debt) =
 $\$174,659,000/\$12,150,000 = 14.4$
- b. The ratio of fixed assets to long-term liabilities has declined from 14.4 in the preceding year to 12.4 in the current year. This indicates a decrease in the margin of safety for long-term creditors. However, the ratio of fixed assets to long-term liabilities is large enough that Intuit will be able to borrow with relative ease.

Ex. 9–30

- a. Current year: Ratio of fixed assets to long-term liabilities (debt) =
 $\$17,168,000,000/\$1,321,000,000 = 13.0$
Preceding year: Ratio of fixed assets to long-term liabilities (debt) =
 $\$15,375,000,000/\$1,250,000,000 = 12.3$
- b. The ratio of fixed assets to long-term liabilities has increased from 12.3 in the preceding year to 13.0 in the current year. This indicates an increase in the margin of safety for long-term creditors. Home Depot can borrow on a long-term basis with relative ease, since it has few long-term liabilities.

Appendix Ex. 9–31

First year: $12/78 \times \$84,000 = \$12,923$
Second year: $11/78 \times \$84,000 = \$11,846$

Appendix Ex. 9–32

First year: $10/55 \times \$91,000 = \$16,545$
Second year: $9/55 \times \$91,000 = \$14,891$

Appendix Ex. 9–33

First year: $9/12 \times 12/78 \times \$43,200 = \$4,985$
Second year: $(3/12 \times 12/78 \times \$43,200) + (9/12 \times 11/78 \times \$43,200) = \$6,231$

PROBLEMS

Prob. 9–1A

1.

Item	Land	Land Improvements	Building	Other Accounts
a.	\$ 5,000			
b.	160,000			
c.	3,500			
d.	17,500			
e.	16,250			
f.	12,500			
g.	(4,500)*			
h.	11,000			
i.			\$ 7,200	
j.			50,000	
k.				\$ 2,500
l.				1,800
m.		\$12,000		
n.		18,500		
o.				(4,000)*
p.			65,000	
q.				(1,000,000)*
r.			1,250,000	
s.			(1,200)*	
2.	<u>\$221,250</u>	<u>\$30,500</u>	<u>\$1,371,000</u>	

*Receipt

3. Since land used as a plant site does not lose its ability to provide services, it is not depreciated. However, land improvements do lose their ability to provide services as time passes and are therefore depreciated.

Prob. 9–2A

Depreciation Expense			
Year	a. Straight-Line Method	b. Units-of-Production Method	c. Declining-Balance Method
2005	\$ 50,000	\$ 68,800	\$107,000
2006	50,000	60,800	53,500
2007	50,000	38,400	26,750
2008	<u>50,000</u>	<u>32,000</u>	<u>12,750</u>
Total	<u>\$200,000</u>	<u>\$200,000</u>	<u>\$200,000</u>

Calculations:

Straight-line method:

$$(\$214,000 - \$14,000) \div 4 = \$50,000 \text{ each year}$$

Units-of-production method:

$$(\$214,000 - \$14,000) \div 31,250 \text{ hours} = \$6.40 \text{ per hour}$$

$$2005: 10,750 \text{ hours @ } \$6.40 = \$68,800$$

$$2006: 9,500 \text{ hours @ } \$6.40 = \$60,800$$

$$2007: 6,000 \text{ hours @ } \$6.40 = \$38,400$$

$$2008: 5,000 \text{ hours @ } \$6.40 = \$32,000$$

Declining-balance method:

$$2005: \$214,000 \times 50\% = \$107,000$$

$$2006: (\$214,000 - \$107,000) \times 50\% = \$53,500$$

$$2007: (\$214,000 - \$107,000 - \$53,500) \times 50\% = \$26,750$$

$$2008: (\$214,000 - \$107,000 - \$53,500 - \$26,750 - \$14,000^*) = \$12,750$$

*Book value should not be reduced below the residual value of \$14,000.

Prob. 9–3A

a. Straight-line method:

2005: $[(\$194,400 - \$10,800) \div 3] \times 1/2$	\$30,600
2006: $(\$194,400 - \$10,800) \div 3$	61,200
2007: $(\$194,400 - \$10,800) \div 3$	61,200
2008: $[(\$194,400 - \$10,800) \div 3] \times 1/2$	30,600

b. Units-of-production method:

2005: 4,650 hours @ \$8*	\$37,200
2006: 7,500 hours @ \$8	60,000
2007: 7,350 hours @ \$8	58,800
2008: 3,450 hours @ \$8	27,600

* $(\$194,400 - \$10,800) \div 22,950$ hours = \$8 per hour

c. Declining-balance method:

2005: $\$194,400 \times 2/3 \times 1/2$	\$64,800
2006: $(\$194,400 - \$64,800) \times 2/3$	86,400
2007: $(\$194,400 - \$64,800 - \$86,400) \times 2/3$	28,800
2008: $(\$194,400 - \$64,800 - \$86,400 - \$28,800 - \$10,800^*)$	3,600

*Book value should not be reduced below \$10,800, the residual value.

Prob. 9–4A

1.

	Year	Depreciation Expense	Accumulated Depreciation, End of Year	Book Value, End of Year
a.	1	\$36,000	\$ 36,000	\$124,000
	2	36,000	72,000	88,000
	3	36,000	108,000	52,000
	4	36,000	144,000	16,000
b.	1	\$80,000	\$ 80,000	\$ 80,000
	2	40,000	120,000	40,000
	3	20,000	140,000	20,000
	4	4,000	144,000	16,000

2.	Book value of old equipment	\$ 20,000
	Boot given (cash and notes payable)	<u>176,000</u>
	Cost of new equipment	<u>\$ 196,000</u>

or

	Price of new equipment	\$ 200,000
	Less unrecognized gain on exchange	<u>4,000</u>
	Cost of new equipment	<u>\$ 196,000</u>

3.	Accumulated Depreciation—Equipment	140,000
	Equipment	196,000
	Equipment	160,000
	Cash	16,000
	Notes Payable	160,000

4.	Accumulated Depreciation—Equipment	140,000
	Equipment	200,000
	Loss on Disposal of Fixed Assets	7,200
	Equipment	160,000
	Cash	16,000
	Notes Payable	171,200

Prob. 9–5A

2005

Jan.	2	Delivery Equipment	37,000	
		Cash		37,000
	5	Depreciation Expense—Delivery Equipment	2,000	
		Accumulated Depreciation—Delivery Equipment		2,000
	5	Delivery Equipment	5,000	
		Cash		5,000
	5	Accumulated Depreciation—Delivery Equipment	2,000	
		Delivery Equipment.....		2,000
Apr.	7	Truck Repair Expense.....	125	
		Cash		125
Dec.	31	Depreciation Expense—Delivery Equipment	10,000	
		Accumulated Depreciation—Delivery Equipment [25% × (\$36,000 – \$2,000 + \$5,000)]....		10,000

2006

Jan.	1	Delivery Equipment	80,000	
		Cash		80,000
Mar.	13	Truck Repair Expense.....	180	
		Cash		180

Prob. 9–5A Concluded

2006

Apr.	30	Depreciation Expense—Delivery Equipment	2,500	
		Accumulated Depreciation—Delivery		
		Equipment [25% × (\$36,000 – \$9,000) × 1/3].		2,500
	30	Accumulated Depreciation—Delivery		
		Equipment.....	12,250	
		Cash.....	24,500	
		Loss on Disposal of Fixed Assets.....	3,250	
		Delivery Equipment.....		40,000
Dec.	31	Depreciation Expense—Delivery Equipment	16,000	
		Accumulated Depreciation—Delivery		
		Equipment (20% × \$80,000)		16,000

2007

July	1	Delivery Equipment	45,000	
		Cash		45,000
Oct.	2	Depreciation Expense—Delivery Equipment	9,600	
		Accumulated Depreciation—Delivery		
		Equipment [9/12 × 20% (\$80,000 – \$16,000)]		9,600
	2	Cash.....	63,075	
		Accumulated Depreciation—Delivery		
		Equipment.....	25,600	
		Delivery Equipment.....		80,000
		Gain on Disposal of Fixed Assets		8,675
Dec.	31	Depreciation Expense—Delivery Equipment	4,500	
		Accumulated Depreciation—Delivery		
		Equipment (1/2 × 20% × \$45,000)		4,500

Prob. 9–6A

- 1. a. Goodwill is not amortized.
- b. $\$225,600 \div 8 \text{ years} = \$28,200$; $1/2 \text{ of } \$28,200 = \$14,100$
- c. $\$820,000 \div 4,000,000 \text{ board feet} = \$0.205 \text{ per board foot}$; $550,000 \text{ board feet} \times \$0.205 \text{ per board foot} = \$112,750$

2. a. No entry for goodwill amortization.

b.	Amortization Expense—Patents	14,100	
	..... Patents		14,100
c.	Depletion Expense	112,750	
	.....Accumulated Depletion		112,750

Prob. 9-1B

1.

Item	Land	Land Improvements	Building	Other Accounts
a.	\$ 2,500			
b.	190,000			
c.	13,750			
d.	4,800			
e.	10,200			
f.	(5,000)*			
g.	29,700			
h.			\$ 6,600	
i.				\$ 3,500
j.		\$12,500		
k.		7,000		
l.			75,000	
m.				1,600
n.			30,000	
o.		8,500		
p.				(500,000)*
q.			750,000	
r.				(4,000)*
s.			(550)*	
2.	<u>\$245,950</u>	<u>\$28,000</u>	<u>\$861,050</u>	

*Receipt

3. Since land used as a plant site does not lose its ability to provide services, it is not depreciated. However, land improvements do lose their ability to provide services as time passes and are therefore depreciated.

Prob. 9–2B

Year	Depreciation Expense		
	a. Straight-Line Method	b. Units-of-Production Method	c. Declining-Balance Method
2005	\$ 55,800	\$ 93,750	\$120,000
2006	55,800	45,000	40,000
2007	<u>55,800</u>	<u>28,650</u>	<u>7,400</u>
Total	<u>\$167,400</u>	<u>\$167,400</u>	<u>\$167,400</u>

Calculations:

Straight-line method:

$$(\$180,000 - \$12,600) \div 3 = \$55,800 \text{ each year}$$

Units-of-production method:

$$(\$180,000 - \$12,600) \div 22,320 \text{ hours} = \$7.50 \text{ per hour}$$

$$2005: 12,500 \text{ hours @ } \$7.50 = \$93,750$$

$$2006: 6,000 \text{ hours @ } \$7.50 = \$45,000$$

$$2007: 3,820 \text{ hours @ } \$7.50 = \$28,650$$

Declining-balance method:

$$2005: \$180,000 \times 2/3 = \$120,000$$

$$2006: (\$180,000 - \$120,000) \times 2/3 = \$40,000$$

$$2007: (\$180,000 - \$120,000 - \$40,000 - \$12,600^*) = \$7,400$$

*Book value should not be reduced below the residual value of \$12,600.

Prob. 9–3B

a. Straight-line method:

2005: $[(\$174,000 - \$5,700) \div 3] \times 1/2$	\$28,050
2006: $(\$174,000 - \$5,700) \div 3$	56,100
2007: $(\$174,000 - \$5,700) \div 3$	56,100
2008: $[(\$174,000 - \$5,700) \div 3] \times 1/2$	28,050

b. Units-of-production method:

2005: 2,500 hours @ \$12*	\$30,000
2006: 5,500 hours @ \$12	66,000
2007: 4,025 hours @ \$12	48,300
2008: 2,000 hours @ \$12	24,000

* $(\$174,000 - \$5,700) \div 14,025$ hours = \$12 per hour

c. Declining-balance method:

2005: $\$174,000 \times 2/3 \times 1/2$	\$58,000
2006: $(\$174,000 - \$58,000) \times 2/3$	77,333
2007: $(\$174,000 - \$58,000 - \$77,333) \times 2/3$	25,778
2008: $(\$174,000 - \$58,000 - \$77,333 - \$25,778 - \$5,700^*)$	7,189

*Book value should not be reduced below \$5,700, the residual value.

Prob. 9–4B

1.

	Year	Depreciation Expense	Accumulated Depreciation, End of Year	Book Value, End of Year
a.	1	\$18,400	\$18,400	\$81,600
	2	18,400	36,800	63,200
	3	18,400	55,200	44,800
	4	18,400	73,600	26,400
	5	18,400	92,000	8,000
b.	1	\$40,000	\$40,000	\$60,000
	2	24,000	64,000	36,000
	3	14,400	78,400	21,600
	4	8,640	87,040	12,960
	5	4,960	92,000	8,000

2.	Book value of old equipment	\$ 12,960
	Boot given (cash and notes payable)	<u>104,000</u>
	Cost of new equipment	<u>\$116,960</u>

or

	Price of new equipment	\$120,000
	Less unrecognized gain on exchange	<u>3,040</u>
	Cost of new equipment	<u>\$116,960</u>

3.	Accumulated Depreciation—Equipment	87,040	
	Equipment	116,960	
	Equipment		100,000
	Cash		24,000
	Notes Payable		80,000

4.	Accumulated Depreciation—Equipment	87,040	
	Equipment	120,000	
	Loss on Disposal of Fixed Assets	960	
	Equipment		100,000
	Cash		24,000
	Notes Payable		84,000

Prob. 9–5B

2005

Jan.	3	Delivery Equipment	26,500	
		Cash		26,500
	5	Depreciation Expense—Delivery Equipment	500	
		Accumulated Depreciation— Delivery Equipment.....		500
	5	Delivery Equipment	4,000	
		Cash		4,000
Aug.	16	Truck Repair Expense.....	285	
		Cash		285
Dec.	31	Depreciation Expense—Delivery Equipment	15,000	
		Accumulated Depreciation—Delivery Equipment [50% × (\$26,500 – \$500 + \$4,000)].....		15,000

2006

Jan.	1	Delivery Equipment	65,000	
		Cash		65,000
June	30	Depreciation Expense—Delivery Equipment	3,750	
		Accumulated Depreciation—Delivery Equipment [50% × (\$30,000 – \$15,000) × 6/12].....		3,750

Prob. 9–5B Concluded

2006

June	30	Accumulated Depreciation—Delivery Equipment	18,750	
		Cash.....	12,000	
		Delivery Equipment.....		30,500
		Gain on Disposal of Fixed Assets		250
Aug.	10	Truck Repair Expense.....	175	
		Cash		175
Dec.	31	Depreciation Expense—Delivery Equipment	26,000	
		Accumulated Depreciation—Delivery Equipment (40% × \$65,000)		26,000

2007

July	1	Delivery Equipment	84,000	
		Cash		84,000
Oct.	1	Depreciation Expense—Delivery Equipment	11,700	
		Accumulated Depreciation—Delivery Equipment [9/12 × 40% × (\$65,000 – \$26,000)].....		11,700
	1	Cash.....	26,750	
		Accumulated Depreciation—Delivery Equipment	37,700	
		Loss on Disposal of Fixed Assets	550	
		Delivery Equipment.....		65,000
Dec.	31	Depreciation Expense—Delivery Equipment	10,500	
		Accumulated Depreciation—Delivery Equipment (1/2 × 25% × \$84,000)		10,500

Prob. 9–6B

1. a. $\$720,000 \div 2,250,000$ board feet = $\$0.32$ per board foot; $600,000$ board feet \times $\$0.32$ per board foot = $\$192,000$
- b. Goodwill is not amortized.
- c. $\$420,000 \div 10$ years = $\$42,000$; $1/4$ of $\$42,000$ = $\$10,500$

2.	a.	Depletion Expense	192,000	
		.....Accumulated Depletion		192,000
	b.	No entry for goodwill amortization.		
	c.	Amortization Expense—Patents	10,500	
		..... Patents		10,500

SPECIAL ACTIVITIES

Activity 9–1

It is considered unprofessional for employees to use company assets for personal reasons, because such use reduces the useful life of the assets for normal business purposes. Thus, it is unethical for Lizzie Paulk to use Insignia Co.'s computers and laser printers to service her part-time accounting business, even on an after-hours basis. In addition, it is improper for Lizzie's clients to call her during regular working hours. Such calls may interrupt or interfere with Lizzie's ability to carry out her assigned duties for Insignia Co.

Activity 9–2

You should explain to Hal and Jody that it is acceptable to maintain two sets of records for tax and financial reporting purposes. This can happen when a company uses one method for financial statement purposes, such as straight-line depreciation, and another method for tax purposes, such as MACRS depreciation. This should not be surprising, since the methods for taxes and financial statements are established by two different groups with different objectives. That is, tax laws and related accounting methods are established by Congress. The Internal Revenue Service then applies the laws and, in some cases, issues interpretations of the law and Congressional intent. The primary objective of the tax laws is to generate revenue in an equitable manner for government use. Generally accepted accounting principles, on the other hand, are established primarily by the Financial Accounting Standards Board. The objective of generally accepted accounting principles is the preparation and reporting of true economic conditions and results of operations of business entities.

You might note, however, that companies are required in their tax returns to reconcile differences in accounting methods. For example, income reported on the company's financial statements must be reconciled with taxable income.

Finally, you might also indicate to Hal and Jody that even generally accepted accounting principles allow for alternative methods of accounting for the same transactions or economic events. For example, a company could use straight-line depreciation for some assets and double-declining-balance depreciation for other assets.

Activity 9–3

1. a. Straight-line method:

2004: $(\$120,000 \div 5) \times 1/2$	\$12,000
2005: $(\$120,000 \div 5)$	24,000
2006: $(\$120,000 \div 5)$	24,000
2007: $(\$120,000 \div 5)$	24,000
2008: $(\$120,000 \div 5)$	24,000
2009: $(\$120,000 \div 5) \times 1/2$	12,000

b. MACRS:

2004: $(\$120,000 \times 20\%)$	\$24,000
2005: $(\$120,000 \times 32\%)$	38,400
2006: $(\$120,000 \times 19.2\%)$	23,040
2007: $(\$120,000 \times 11.5\%)$	13,800
2008: $(\$120,000 \times 11.5\%)$	13,800
2009: $(\$120,000 \times 5.8\%)$	6,960

Activity 9–3 Continued

2.

a. Straight-line method

	Year					
	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
Income before depreciation	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
Depreciation expense	<u>12,000</u>	<u>24,000</u>	<u>24,000</u>	<u>24,000</u>	<u>24,000</u>	<u>12,000</u>
Income before income tax	\$188,000	\$176,000	\$176,000	\$176,000	\$176,000	\$188,000
Income tax	<u>56,400</u>	<u>52,800</u>	<u>52,800</u>	<u>52,800</u>	<u>52,800</u>	<u>56,400</u>
Net income.....	<u>\$131,600</u>	<u>\$123,200</u>	<u>\$123,200</u>	<u>\$123,200</u>	<u>\$123,200</u>	<u>\$131,600</u>

b. MACRS

	Year					
	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
Income before depreciation	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
Depreciation expense	<u>24,000</u>	<u>38,400</u>	<u>23,040</u>	<u>13,800</u>	<u>13,800</u>	<u>6,960</u>
Income before income tax	\$176,000	\$161,600	\$176,960	\$186,200	\$186,200	\$193,040
Income tax	<u>52,800</u>	<u>48,480</u>	<u>53,088</u>	<u>55,860</u>	<u>55,860</u>	<u>57,912</u>
Net income.....	<u>\$123,200</u>	<u>\$113,120</u>	<u>\$123,872</u>	<u>\$130,340</u>	<u>\$130,340</u>	<u>\$135,128</u>

Activity 9–3 Concluded

3. For financial reporting purposes, Sharon should select the method that provides the net income figure that best represents the results of operations. (*Note to Instructors:* The concept of matching revenues and expenses is discussed in Chapter 3.) However, for income tax purposes, Sharon should consider selecting the method that will minimize taxes. Based upon the analyses in (2), both methods of depreciation will yield the same total amount of taxes over the useful life of the equipment. MACRS results in fewer taxes paid in the early years of useful life and more in the later years. For example, in 2004 the MACRS amount is less than the straight-line amount. Five Points Co. can invest such differences in the early years and earn income.

In some situations, it may be more beneficial for a taxpayer not to choose MACRS. These situations usually occur when a taxpayer is expected to be subject to a low tax rate in the early years of use of an asset and a higher tax rate in the later years of the asset's useful life. In this case, the taxpayer may be better off to defer the larger deductions to offset the higher tax rate.

Activity 9–4

Note to Instructors: The purpose of this activity is to familiarize students with the differences in cost and other factors in leasing and buying a business vehicle.

Activity 9–5

Note to Instructors: The purpose of this activity is to familiarize students with the procedures involved in acquiring a patent, a copyright, and a trademark.