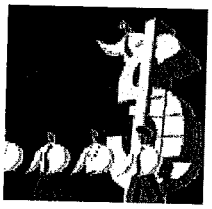
Chapter 9

PLANT AND INTANGIBLE ASSETS

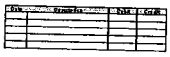


Plant Assets

Long-lived assets acquired for use in business operations.

Similar to long-term prepaid expenses

The cost of plant assets is the *advance purchase* of services.



As years pass, and the services are used, the cost is transferred to *depreciation expense*.

Major Categories of Plant Assets

Tangible Plant Assets	Intangible Assets	Natural Resources
Long-term assets having physical substance.	Noncurrent assets with no physical substance.	Sites acquired for extracting valuable resources.
Land, buildings, equipment, furniture, fixtures	Patents, copyrights, trademarks, franchises, goodwill	Oil reserves, timber, other minerals

Accountable Events

❶

❷ Allocation of the acquisition cost to expense over the asset's useful life (depreciation).

❸

Acquisition of Plant Assets

Cost = **Asset price** + **Reasonable and necessary costs . . .**

- **. . . for getting the asset to the desired location.**
- **. . . for getting the asset ready for use.**

Ex. Sales Tax, Delivery Costs and Installation Costs

Determining Cost

On May 4, Heat Co., a stove maker, buys a new machine from Supply Co. The new machine has a price of $52,000. Sales tax is 8%.

Heat Co. pays $500 shipping cost to get the machine to its plant. After the machine arrives, set-up costs of $1,300 are incurred, along with $4,000 in testing costs.

Compute the cost of Heat Co.'s new machine.

Determining Cost

List price
Sales tax ($52,000 × 8%)
Transportation cost
Set-up
Testing
Total cost to Heat Co.

Date	Description	Debit	Credit
May 4	Machine		
	Cash		

Special Considerations

Cost includes real estate commissions, escrow fees, legal fees, clearing and grading the property.

Improvements to land such as driveways, fences, and landscaping are recorded separately.

Special Considerations

Repairs made prior to the building being put in use are considered part of the building's cost.

Related interest, insurance, and property taxes are treated as expenses of the current period.

Special Considerations

Allocation of a Lump-Sum Purchase

I think I'll buy the whole thing; building, land, and contents.

The total cost must be allocated to separate accounts for each asset.

The allocation is based on the relative Fair Market Value of each asset purchased.

Capital Expenditures and Revenue Expenditures

Capital Expenditure	Revenue Expenditure
Any material expenditure that will benefit several accounting periods.	Expenditure for ordinary repairs and maintenance.
To capitalize an expenditure means to charge it to an asset account.	To expense an expenditure means to charge it to an expense account.

Depreciation

The allocation of the cost of a plant asset to expense in the periods in which services are received from the asset.

Cost of plant assets → **Balance Sheet**
Assets:
Plant and equipment

as the services are received

Income Statement
Revenues:
Expenses:
Depreciation

Depreciation

Book Value

- Cost – Accumulated Depreciation

Depreciation

- Contra-asset
- Represents the portion of an asset's cost that has already been allocated to expense.

Causes of Depreciation

- Physical deterioration
- Obsolescence

Straight-Line Depreciation

$$\text{Depreciation Expense per Year} = \frac{\text{Cost - Residual Value}}{\text{Years of Useful Life}}$$

Straight-Line Depreciation

On January 1, 2007, Bass Co. buys new equipment. Bass pays a total of $24,000 for the equipment. The equipment has an estimated residual value of $3,000 and an estimated useful life of 5 years. Compute depreciation for 2007 using the straight-line method.

$$\frac{\text{Cost} - \text{Residual Value}}{\text{Years of Useful Life}} = \frac{\qquad - \qquad}{}$$

$$= \qquad \text{per year}$$

Straight-Line Depreciation

Bass Co. will record $4,200 depreciation each year for five years. Total depreciation over the estimated useful life of the equipment is:

Year	Depreciation Expense (debit)	Accumulated Depreciation (credit)	Accumulated Depreciation Balance	Undepreciated Balance (book value)
				$ 24,000
2007	$ 4,200	$ 4,200	$ 4,200	19,800
2008	4,200	4,200	8,400	15,600
2009	4,200	4,200	12,600	11,400
2010	4,200	4,200	16,800	7,200
2011	4,200	4,200	21,000	3,000
	$ 21,000	$ 21,000		

Salvage Value

Depreciation for Fractional Periods

When an asset is acquired during the year, depreciation in the year of acquisition must be prorated.

Fractional Periods
Depreciation is rounded to the nearest month.

Depreciation for Fractional Periods

Example: Assume the truck in our first example had been acquired on October1. The truck would have been used for only 3 months. To determine depreciation expense for the truck, you would multiply the yearly depreciation by 3/12.

Depreciation expense in the first year:

Monthly depreciation:

Half-Year Convention

Half-Year Convention
In the year of acquisition, record six months of depreciation.

$\frac{1}{2}$

Half-Year Convention

Using the half-year convention, calculate the straight-line depreciation on December 31, 2007, for equipment purchased in 2007. The equipment cost $75,000, has a useful life of 10 years and an estimated residual value of $5,000.

Depreciation =
= $ for a full year
Depreciation = $ × $^1/_2$ = $

Declining-Balance Method

Depreciation in the early years of an asset's estimated useful life is higher than in later years.

Depreciation Expense = Remaining Book Value × Accelerated Depreciation Rate

The double-declining balance depreciation rate is 200% of the straight-line depreciation rate of (1÷Useful Life).

Declining-Balance Method

On January 1, 2007, Bass Co. buys a new delivery truck. Bass Co. pays $24,000 for the truck. The truck has an estimated residual value of $3,000 and an estimated useful life of 5 years.
Compute depreciation for 2007 using the double-declining balance method.

2007 Depr. Expense	=	Remaining Book Value	×	Accelerated Depreciation Rate
	=	$ 24,000	×	2 × 1/5
	=	$ 24,000	×	40%
	=	$ 9,600		

Declining-Balance Method

Total depreciation over the estimated useful life of an asset is the same using either the straight-line method or the declining-balance method.

Year	Computation	Depr. Expense	Accumulated Depreciation	Book Value
2007	$ 24,000 × 40%	$ 9,600	$ 9,600	$ 14,400
2008	$ 14,400 × 40%	$ 5,760	$ 15,360	$ 8,640
2009	$ 8,640 × 40%	$ 3,456	$ 18,816	$ 5,184
2010	$ 5,184 × 40%	$ 2,074	$ 20,890	$ 3,110
2011	Plug year # 5	$ 110	$ 21,000	$ 3,000
Total Depreciation		$ 21,000		

Other Depreciation Methods

MACRS
Modified Accelerated Cost Recovery System

The depreciation system used on federal income tax returns. It is an accelerated method.

(See the chart at the end of the notes)

Other Depreciation Methods

Units-of-Output Method

Under this method, depreciation is based on some measure of output other than time.

$$\frac{\text{Cost} - \text{Residual Value}}{\text{Estimated Units of Output}} = \text{Depreciation cost per unit of output}$$

Other Depreciation Methods

Units-of-Output Method

Ex. Consider the delivery tuck, which cost $17,000 and has an estimated salvage value of $2,000. Assume the truck will be sold or traded in after 100,000 miles. To depreciate this asset, you would determine the depreciation rate per mile and then calculate based upon mileage.

$$\frac{\text{Cost} - \text{Residual Value}}{\text{Estimated Units of Output}} = \text{Depreciation cost per unit of output}$$

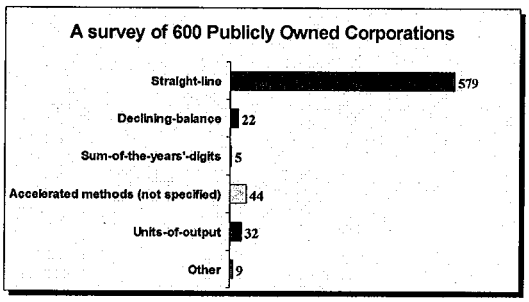
$$\frac{\qquad}{\qquad} = \text{per mile}$$

Other Depreciation Methods

Sum-of-the-Years' Digits Method

In general, depreciation calculated under this accelerated method falls between the double-declining amount and 150-percent-declining method. It is not used by many companies because the computations are complex.

Depreciation Methods in Use: A Survey



Financial Statement Disclosures

Estimates of Useful Life and Residual Value

- **May differ from company to company.**
- **The reasonableness of management's estimates is evaluated by external auditors.**

Principle of Consistency

- **Companies should avoid switching depreciation methods from period to period.**

Revising Depreciation Rates

Predicted salvage value and **Predicted useful life** → **So depreciation is an estimate.**

Over the life of an asset, new information may come to light that indicates the original estimates need to be revised.

Revising Depreciation Rates

On January 1, 2004, equipment was purchased that cost $30,000, has a useful life of 10 years and no salvage value. During 2007, the useful life was revised to 8 years total (5 years remaining).

Calculate depreciation expense for the year ended December 31, 2007, using the straight-line method.

Revising Depreciation Rates

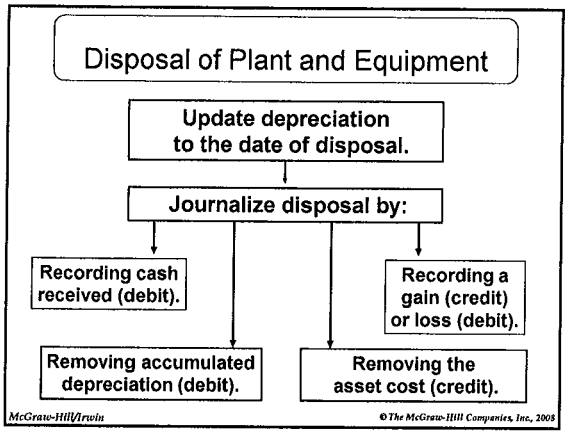
When our estimates change, depreciation is:

$$\frac{\text{Book value at date of change} - \text{Salvage value at date of change}}{\text{Remaining useful life at date of change}}$$

Asset cost	$
Accumulated depreciation, 12/31/2006 ($3,000 per year × 3 years)	
Remaining book value	$
Divide by remaining life	
Revised annual depreciation	$

Impairment of Plant Assets

If the cost of an asset cannot be recovered through future use or sale, the asset should be *written down* to its net realizable value.


Disposal of Plant and Equipment
Update depreciation to the date of disposal.
Journalize disposal by:
Recording cash received (debit).
Recording a gain (credit) or loss (debit).
Removing accumulated depreciation (debit).
Removing the asset cost (credit).
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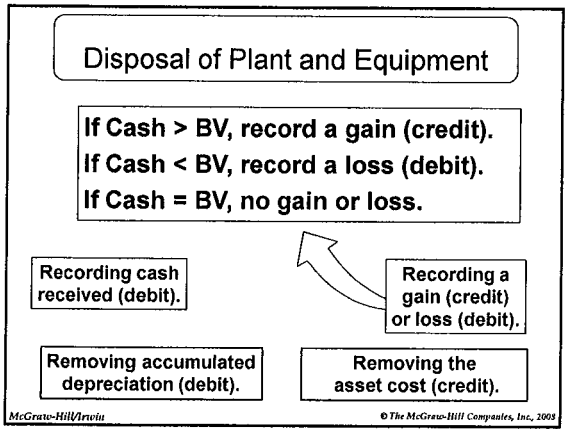
Disposal of Plant and Equipment
If Cash > BV, record a gain (credit).
If Cash < BV, record a loss (debit).
If Cash = BV, no gain or loss.
Recording cash received (debit).
Recording a gain (credit) or loss (debit).
Removing accumulated depreciation (debit).
Removing the asset cost (credit).
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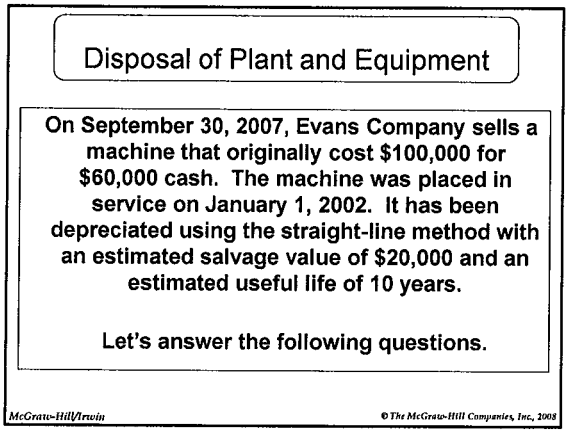
Disposal of Plant and Equipment
On September 30, 2007, Evans Company sells a machine that originally cost $100,000 for $60,000 cash. The machine was placed in service on January 1, 2002. It has been depreciated using the straight-line method with an estimated salvage value of $20,000 and an estimated useful life of 10 years.
Let's answer the following questions.
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Disposal of Plant and Equipment

The amount of depreciation recorded on September 30, 2007, to bring depreciation up to date is:

a. $8,000.
b. $6,000.
c. $4,000.
d. $2,000.

Disposal of Plant and Equipment

After updating the depreciation, the machine's book value on September 30, 2007, is:

a. $54,000.
b. $46,000.
c. $40,000.
d. $60,000.

Disposal of Plant and Equipment

The machine's sale resulted in:

a. a gain of $6,000.
b. a gain of $4,000.
c. a loss of $6,000.
d. a loss of $4,000.

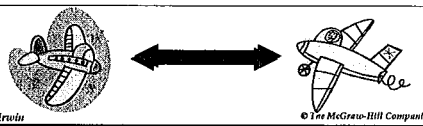
Disposal of Plant and Equipment

Prepare the journal entry to record the sale.

Date	Description	Debit	Credit
Sept. 30			

Trading in Used Assets for New Ones

On May 30, 2007, Essex Company exchanges a used airplane and $35,000 cash for a new airplane. The old airplane originally cost $40,000, had up-to-date accumulated depreciation of $30,000, and a fair value of $4,000.



Trading in Used Assets for New Ones

The exchange resulted in a:

a. gain of $6,000.
b. loss of $6,000.
c. loss of $4,000.
d. gain of $4,000.

Prepare a journal entry to record the exchange.

Trading in Used Assets for New Ones

Prepare the journal entry to record the trade.

Date	Description	Debit	Credit
May 30	Airplane (new)	39,000	
	Accumulated Depreciation	30,000	
	Loss on Exchange	6,000	
	Airplane (old)		40,000
	Cash		35,000

Scrapping an Asset

(a) Gomez Company retires its delivery equipment, which cost $41,000. Accumulated depreciation is $39,000 on this delivery equipment. No salvage value is received.

Trading in Used Assets for New Ones

Prepare the journal entry to record the scrapping.

These tables simplify the computation of depreciation for income tax purposes

MACRS Depreciation Rates*

Year	Recovery Periods: 3 Years	5 Years	7 Years	10 Years	15 Years	20 Years
1	33.33%	20.00%	14.29%	10.00%	5.00%	3.750%
2	44.45	32.00	24.49	18.00	9.50	7.219
3	14.81	19.20	17.49	14.40	8.55	6.677
4	7.41	11.52	12.49	11.52	7.70	6.177
5		11.52	8.93	9.22	6.93	5.713
6		5.76	8.92	7.37	6.23	5.285
7			8.93	6.55	5.90	4.888
8			4.46	6.55	5.90	4.522
9				6.56	5.91	4.462
10				6.55	5.90	4.461
11				3.28	5.91	4.462
12					5.90	4.461
13					5.91	4.462
14					5.90	4.461
15					5.91	4.462
16					2.95	4.461
17						4.462
18						4.461
19						4.462
20						4.461
21						2.[illegible]
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.[illegible]%

*Caution: This table is intended for demonstration purposes only. Congress may change the depreciation rates permitted for income tax purposes at any time. Therefore, this table should not be used in the preparation of actual income tax returns. Complete and up-to-date depreciation tables are available without charge from the Internal Revenue Service.

"5-year property."[6] The depreciation expense that may be deducted in t federal income tax return each year is determined as follows:

Depreciation Schedule: MACRS Income Tax Method

Depreciation (or cost recovery) using the MACRS table

Year	Computation (Cost × Rate from IRS Table)	Depreciation Expense	Accumulated Depreciation	Basis (Book Val
1	$17,000 × 20%	$ 3,400	$ 3,400	$13,600
2	$17,000 × 32%	5,440	8,840	8,160
3	$17,000 × 19.20%	3,264	12,104	4,896
4	$17,000 × 11.52%	1,958	14,062	2,938
5	$17,000 × 11.52%	1,958	16,020	980
6	$17,000 × 5.76%	980	17,000	-0-
Total		$17,000		

Notice that "5-year property" actually is depreciated over 6 years. T extra year results from application of the half-year convention. Also, not that in tax schedules the term basis replaces ***book value.*** The con[illegible]pts basis and book value are quite similar. Both terms represent the ***un[illegible]e[illegible]ated cost*** of the asset; that is, cost less accumulated depreciation. ***Bo value*** represents the cost of the asset less the accumulated depreciation ***r[illegible]ognized in financial statements. Basis,*** in contrast, represents the cost the asset less the accumulated depreciation ***claimed in income tax turns.*** Stated another way, ***basis*** means "book value for tax purposes."

DISPOSAL OF PLANT ASSETS

Remember, there are 3 accountable events in the life of an asset—you learned 2 of them so far:

- acquisition of plant asset (purchase)
- allocation of the acquisition cost to expense over the asset's useful life (depreciation)

The third accountable event is:

- **sale or disposal of plant asset**

As plant assets wear out or become obsolete, they must be *scrapped*, *sold*, or *traded in* on new equipment.

When depreciable assets are disposed of at any date other than the end of the year, an entry should **first** be made to **record depreciation for the fraction of the year ending with the date of disposal.** (If half-year convention is in use, six months' depreciation should be recorded.) **Then**, upon the disposal of a depreciable asset, **the cost of the property is removed from the asset account, and the accumulated depreciation is removed from the related contra-asset account.**

Ex: Assume that office equipment purchased 10 years ago at a cost of $20,000 *has been fully depreciated* and is no longer useful. The entry to record the scrapping of the worthless equipment is:

Accumulated Depreciation: Office Equipment	**20,000**	
Office Equipment		**20,000**

Gains And Losses On Disposals Of Plant Assets

Since the residual values and useful lives of plant assets are only estimates, it is not uncommon for plant assets to be sold at prices which *differ* from their book value at the date of disposal.

A sale price in excess of the book value produces a _____.
A sales price below the book value produces a _____.

Disposal at a Price above Book Value:

Assume that a machine costing $10,000 has a book value of $2,000 at the time it is sold for $3,000 cash. The journal entry to record this disposal is:

_____	.....	3,000	
_____	.....	8,000	
_____	.....		10,000
_____	.....		1,000

Disposal at a Price below Book Value:

Assume instead that the same machine is sold for $500. The journal entry in this case would be:

_____	.....	500	
_____	.....	8,000	
_____	.....	1,500	
_____	.....		10,000

Trading in Used Assets for New Ones

Certain types of depreciable assets, such as automobiles and trucks, sometimes are traded in for new assets of the same kind. In most instances, a trade-in is viewed as a sale of the old asset and purchase of a new one.

Ex: Assume that Rancho Landsape has an old pickup truck that originally cost $10,000 but now has a book value of $2,000. Rancho trades in this old truck for a new one with a fair market value of $15,000. The truck dealership grants Rancho a small trade-in allowance of $3,500 for the old truck, and Rancho pays the remaining $11,500 cost of the new truck in cash. The transaction would be recorded as:

WS 1

PLANT ASSETS, NATURAL RESOURCES, AND INTANGIBLE ASSETS

Chapter 10

10-1 Classifying plant asset transactions and identifying capital and revenue expenditures.

For each of the transactions below a) identify the account(s) to be debited from the list below and b) determine if the expenditure is a capital or revenue expenditure.

Land (L) **Land Improvements (LI)** **Buildings (B)** **Equipment (E)** **Expense Accounts (X)**

		(a) Account(s) Debited	(b) Capital/ Revenue Expenditure
1.	Purchased land and building.		
2.	Remodeled building in No. 1 to prepare for use.		
3.	Paid current property taxes on building in No. 1.		
4.	Purchased building and land. Building to be demolished.		
5.	Paid accrued property taxes on No. 4.		
6.	Demolished building in No. 4.		
7.	Cleared and graded land in No. 4.		
8.	Constructed new building on property in No. 4.		
9.	Paved parking lot.		
10.	Purchased equipment for use in the business.		
11.	Paid freight on equipment in No. 10.		
12.	Paid installation of equipment in No. 10.		
13.	Paid sales tax on equipment in No. 10.		
14.	Purchased a delivery truck.		
15.	Paid insurance and registration fees for the truck in No. 14.		
16.	Paid to have company name and phone number painted on truck in No. 14.		

ACCOUNTING **Name** _____

Depreciation WS2

Straight Line:

Daniels Doughnuts bought a deep fryer for $24,000. It has a useful life of 4 years and a residual value of $2,000. What is each year's amount of depreciation using the **Straight Line Method**?

Year: 2010
2011
2012
2013

Peck's Pizza Parlor bought an oven for $10,000. It has a useful life of 3 years and a residual value of $1,000. What is each year's amount of depreciation using the **Straight Line Method**?

Year: 2010
2011
2012

20

ACCOUNTING **Name** _____

Depreciation WS 3

Straight line: fractional periods & half-year convention

On May 1, 2012 Hershey Corporation acquired a new machine with an estimated life of 5 years. The cost of the equipment was $225,000 with residual value of 25,000.

a) Determine the amounts of depreciation recognized in each year of the asset's life using the **straight line method** with ***fractional periods***.

Year 2012:
2013:
2014:
2015:
2016:
2017:

b) Determine the amounts of depreciation recognized in each year of the asset's life using the **straight line method** with *half-year convention.*

Year 2012:
2013:
2014:
2015:
2016:
2017:

ACCOUNTING **Name** _____

Depreciation WS 4

Straight line: fractional periods & half-year convention

On October 1, 2010 Cody's Candy's Corporation acquired a new machine with an estimated life of 5 years. The cost of the equipment was $55,000 with residual value of 3,000.

a) Determine the amounts of depreciation recognized in each year of the asset's life using the **straight line method** with ***fractional periods***.

Year 2010:
2011:
2012:
2013:
2014:
2015:

b) Determine the amounts of depreciation recognized in each year of the asset's life using the **straight line method** with ***half year Convention***.

Year 2010:
2011:
2012:
2013:
2014:
2015:

ACCOUNTING **Name** _____

Depreciation W/S 5

Straight line: fractional periods & half-year convention

On September 1, 2010 Orange Corporation acquired a new machine with an estimated life of 5 years. The cost of the equipment was $65,000 with residual value of 3,000.

a) Determine the amounts of depreciation recognized in each year of the asset's life using the **straight line method** with ***fractional periods***.

Year 2010:
2011:
2012:
2013:
2014:
2015:

b) Determine the amounts of depreciation recognized in each year of the asset's life using the **200% Declining Balance Method** with *half-year convention.*

Year 2010:
2011:
2012:
2013:
2014:
2015:

ACCOUNTING **Name** _____

Depreciation WS 6

Straight line: fractional periods & half-year convention

On November 1, 2010 Hefner Corporation acquired a new machine with an estimated life of 5 years. The cost of the equipment was $85,000 with residual value of 10,000.

a) Determine the amounts of depreciation recognized in each year of the asset's life using the **straight line method** with ***half year periods***.

Year 2010:
2011:
2012:
2013:
2014:
2015:

b) Determine the amounts of depreciation recognized in each year of the asset's life using the **200% Declining Balance Method** with *half-year convention.*

Year 2010:
2011:
2012:
2013:
2014:
2015:

ACCOUNTING **Name** _____
Depreciation Practice WS 7

On April 5, 2010, Delta Company acquired a new machine with an estimated useful life of 5 years. Cost of the equipment was $55,000, with a residual value of $5,000. (Round to the nearest dollar)

a) Determine the amounts of depreciation recognized in each year of the asset's life using the **straight line method** with ***fractional periods***.

Year	Depreciation Expense / Accumulated Depreciation	A/D Balance	Book Value
2010			
2011			
2012			
2013			
2014			
2015			

b) Determine the amounts of depreciation recognized in each year of the asset's life using the **straight line method** with ***half year convention***.

Year	Depreciation Expense / Accumulated Depreciation	A/D Balance	Book Value
2010			
2011			
2012			
2013			
2014			
2015			

25

On April 5, 2010, Delta Company acquired a new machine with an estimated useful life of 5 years. Cost of the equipment was $55,000, with a residual value of $5,000.

c) Determine the amounts of depreciation recognized in each year of the asset's life using the **200% Declining Balance Method.**

Year	Depreciation Expense / Accumulated Depreciation	A/D Balance	Book Value
2010			
2011			
2012			
2013			
2014			
2015			

d) Determine the amounts of depreciation recognized in each year of the asset's life using the **200% Declining Balance Method** with *half-year convention.*

Year	Depreciation Expense / Accumulated Depreciation	A/D Balance	Book Value
2010			
2011			
2012			
2013			
2014			
2015			

ACCOUNTING **Name** _____
Depreciation Practice WS 8

On May 1, 2010 Connolly Corporation acquired a new machine with an estimated life of 4 years. The cost of the equipment was $70,000 with residual value of 10,000. (round to the nearest dollar)

a) Determine the amounts of depreciation recognized in each year of the asset's life using the **straight line method** with ***fractional periods***.

Year	Depreciation Expense / Accumulated Depreciation	A/D Balance	Book Value
2010			
2011			
2012			
2013			
2014			
2015			

b) Determine the amounts of depreciation recognized in each year of the asset's life using the **straight line method** with ***half year convention***.

Year	Depreciation Expense / Accumulated Depreciation	A/D Balance	Book Value
2010			
2011			
2012			
2013			
2014			
2015			

On May 1, 2010 Connolly Corporation acquired a new machine with an estimated life of 4 years. The cost of the equipment was $70,000 with residual value of 10,000. (round to the nearest dollar)

c) Determine the amounts of depreciation recognized in each year of the asset's life using the **200% Declining Balance Method.**

Year	Depreciation Expense / Accumulated Depreciation	A/D Balance	Book Value
2010			
2011			
2012			
2013			
2014			
2015			

d) Determine the amounts of depreciation recognized in each year of the asset's life using the **200% Declining Balance Method** with *half-year convention.*

Year	Depreciation Expense / Accumulated Depreciation	A/D Balance	Book Value
2010			
2011			
2012			
2013			
2014			
2015			

ACCOUNTING **Name** _____

Depreciation WS 9

Straight line: fractional periods & half-year convention

On April 1, 2010 Kelly Corporation acquired a new machine with an estimated life of 5 years. The cost of the equipment was $90,000 with residual value of 10,000.

a) Determine the amounts of depreciation recognized in each year of the asset's life using the **straight line method** with ***fractional periods***.

Year	Depreciation / Accumulated Expense Depreciation	A/D Balance	Book Value
2010			
2011			
2012			
2013			
2014			
2015			

b) Determine the amounts of depreciation recognized in each year of the asset's life using the **200% Declining Balance Method** with *half-year convention.*

Year	Depreciation / Accumulated Expense Depreciation	A/D Balance	Book Value
2010			
2011			
2012			
2013			
2014			
2015			

Accounting I

Name_____

Ch. 9 —Depreciation Methods

WS 10

Global Manufacturing purchased a new delivery truck. The truck, with an estimated life of 5 years, was acquired on March 31 for $22,000. The estimated residual value of the truck is $4,000.

Using the following methods, compute the depreciation expense for 1997-2002:

a) straight line, half-year convention + fractional periods
b) 200% declining balance, half-year convention
c) MACRS – "3 yr. property"

	Method of Depreciation			
	(a) Straight Line (fractional Periods)	(1) Straight-Line (half year)	(2) 200%-Declining-Balance	(3) MACRS
Year				
1997	$	$	$	$
1998				
1999				
2000				
2001				
2002				
Totals				

Supporting Computations:

Accounting I
Ch. 9—Depreciation Methods Quiz WS 11

Micro Circuit Co. purchased new equipment. The equipment, with an estimated life of 5 years, was acquired on May 4 for $64,000. The estimated residual value of the equipment is $9,000.

Using the following methods, compute the depreciation expense for 2001-2005:

a) straight line, half-year convention + fractional periods
b) 200% declining balance, half-year convention
c) MACRS—accelerated rates for **5-year property**

	Method of Depreciation		
	(1) a. Straight-Line (fractional period)	b. (2) Straight-Line (half year)	(2) 200%-Declining-Balance	(3) MACRS
Year				
2001	$	$	$	
2002				
2003				
2004				
2005				
2006				
Totals				

Supporting Computations:

ACCOUNTING **Name** _____

Depreciation WS 12

Straight line: fractional periods & half-year convention

On September 1, 2012 Walker Corporation acquired a new machine with an estimated life of 5 years. The cost of the equipment was $90,000 with residual value of 10,000.

a) Determine the amounts of depreciation recognized in each year of the asset's life using the **straight line method** with ***fractional periods***.

Year 2012:
2013:
2014:
2015:
2016:
2017:

b) Determine the amounts of depreciation recognized in each year of the asset's life using the **200% Declining Balance Method** with *half-year convention.*

Year 2012:
2013:
2014:
2015:
2016:
2017:

Accounting
Units of Output Activity

Teren Trucking purchased a new truck for their business.

Cost:	$24,000
Est. Salvage Value:	3,000

The equipment is estimated to be used for 35,000 hours. How much will the equipment depreciate per hour of use? _____

During the month of January the equipment was used 145 hours. What amount of depreciate should be recorded for the month? _____

What account should be debited? _____

Credited? _____

Accounting Graded Problem
Units of Output Activity

Mario Mover's purchased a new truck for their business.

Cost:	$29,000
Est. Salvage Value:	3,000

The equipment is estimated to be used for 25,000 hours. How much will the equipment depreciate per hour of use? _____

During the month of January the equipment was used 120 hours. What amount of depreciate should be recorded for the month? _____

What account should be debited? _____

Credited? _____

Accounting
Units of Output Activity

Justin Jungle Gym's purchased a new truck for their business.

Cost:	$28,000
Est. Salvage Value:	3,000

The equipment is estimated to be used for 40,000 hours. How much will the equipment depreciate per hour of use? _____

During the month of January the equipment was used 125 hours. What amount of depreciate should be recorded for the month? _____

What account should be debited? _____

Credited? _____

Accounting
Units of Output Activity

Busch's Balloon's purchased a new truck for their business.

Cost:	$24,000
Est. Salvage Value:	3,000

The equipment is estimated to be used for 30,000 hours. How much will the equipment depreciate per hour of use? _____

During the month of January the equipment was used 120 hours. What amount of depreciate should be recorded for the month? _____

What account should be debited? _____

Credited? _____

10-3 Computing depreciation using various methods.

The following information relates to a machine purchased by Yamaguchi Co.

Cost	$1400
Transportation charges paid	100
Sales tax	112
Installation of machine	188
Machine cost	$
Estimated salvage value	$100
Depreciable cost	
Useful life	5 years
Useful operating hours	10,000
The machine was placed in service on January 1, 2011.	

Determine the depreciation expense, accumulated depreciation and book value for 2011 and 2012 using the following methods:

a) Straight-Line
Compute annual depreciation expense: _____

_____

YEAR	ANNUAL DEPRECIATION EXPENSE	END OF YEAR ACCUMULATED DEPRECIATION	END OF YEAR BOOK VALUE
2011			
2012			
2013			
2014			
2015			

b) Units-of-Activity

Compute the depreciation cost per unit (operating hours): _____

_____

YEAR	HOURS OF OPERATION	COST PER UNIT	ANNUAL DEPR. EXPENSE	END OF YEAR ACCUM. DEPRECIATION	END OF YEAR BOOK VALUE
2011	3,000	_____	_____	_____	_____
2012	2,000	_____	_____	_____	_____

c) Declining-Balance

The rate used is twice the straight-line rate. _____

Compute the declining-balance rate: _____

YEAR	COMPUTATIONS	ANNUAL DEPRECIATION EXPENSE	END OF YEAR ACCUMULATED DEPRECIATION	END OF YEAR BOOK VALUE
2011	_____	_____	_____	_____
2012	_____	_____	_____	_____
2013	_____	_____	_____	_____

ACCOUNTING **Name** _____
Depreciation Quiz
All Methods

On November 1, 2010 Crosby Crutches Corporation acquired a new machine with an estimated life of 5 years. The cost of the equipment was $55,000 with residual value of 10,000.

a) Determine the amounts of depreciation recognized in each year of the asset's life using the **straight line method** with ***fractional periods***.

Year	Depreciation Expense / Accumulated Depreciation	A/D Balance	Book Value
2010			
2011			
2012			
2013			
2014			
2015			

b) Determine the amounts of depreciation recognized in each year of the asset's life using the **200% Declining Balance Method** with *half-year convention.*

Year	Depreciation Expense / Accumulated Depreciation	A/D Balance	Book Value
2010			
2011			
2012			
2013			
2014			
2015			

On November 1, 2010 Crosby Crutches Corporation acquired a new machine with an estimated life of 5 years. The cost of the equipment was $55,000 with residual value of 10,000.

c) Determine the amounts of depreciation recognized in each year of the asset's life using the **following MACRS Rates (half year convention)**

Year 1	*Year 2*	*Year 3*	*Year 4*	*Year 5*	*Year 6*
20%	*32%*	*19.20*	*11.52*	*11.52*	*5.76*

Year	Depreciation Expense	/ Accumulated Depreciation	A/D Balance	Book Value
2010				
2011				
2012				
2013				
2014				
2015				

Crosby Crutches purchased a new piece of equipment for their business.

Cost: $28,000
Est. Salvage Value: 3,000

The equipment is estimated to be used for 40,000 hours. How much will the equipment depreciate per hour of use? _____

During the month of January the equipment was used 120 hours. What amount of depreciation should be recorded for the month?

_____

ACCOUNTING **Name** _____
Depreciation Quiz
All Methods

On September 1, 2010 Naoum Corporation acquired a new machine with an estimated life of 5 years. The cost of the equipment was $35,000 with residual value of 5,000.

a) Determine the amounts of depreciation recognized in each year of the asset's life using the **straight line method** with ***fractional periods***.

Year	Depreciation Expense	/ Accumulated Depreciation	A/D Balance	Book Value
2010				
2011				
2012				
2013				
2014				
2015				

b) Determine the amounts of depreciation recognized in each year of the asset's life using the **200% Declining Balance Method** with *half-year convention.*

Year	Depreciation Expense	/ Accumulated Depreciation	A/D Balance	Book Value
2010				
2011				
2012				
2013				
2014				
2015				

On September 1, 2010 Naoum Corporation acquired a new machine with an estimated life of 5 years. The cost of the equipment was $35,000 with residual value of 5,000.

c) Determine the amounts of depreciation recognized in each year of the asset's life using the **following MACRS Rates (half year convention)**

Year 1	*Year 2*	*Year 3*	*Year 4*	*Year 5*	*Year 6*
20%	*32%*	*19.20*	*11.52*	*11.52*	*5.76*

Year	Depreciation Expense	/ Accumulated Depreciation	A/D Balance	Book Value
2010				
2011				
2012				
2013				
2014				
2015				

The Naoum Corporation purchased a new truck for their business.

Cost: $40,000
Est. Salvage Value: 5,000

The equipment is estimated to be used for 80,000 miles. How much will the equipment depreciate per hour of use? _____

During the month of January the equipment was used for 200 miles. What amount of depreciation should be recorded for the month?

_____

ACCOUNTING **Name** _____
Depreciation
All Methods

On April 1, 2010 Behrns Corporation acquired a new machine with an estimated life of 5 years. The cost of the equipment was $60,000 with residual value of 2,000.

a) Determine the amounts of depreciation recognized in each year of the asset's life using the **straight line method** with ***fractional periods.***

Year	Depreciation Expense	Accumulated Depreciation	A/D Balance	Book Value
2010				
2011				
2012				
2013				
2014				
2015				

b) Determine the amounts of depreciation recognized in each year of the asset's life using the **200% Declining Balance Method** with *half-year convention.*

Year	Depreciation Expense	Accumulated Depreciation	A/D Balance	Book Value
2010				
2011				
2012				
2013				
2014				
2015				

On April 1, 2010 Behrns Corporation acquired a new machine with an estimated life of 5 years. The cost of the equipment was $60,000 with residual value of 2,000.

c) Determine the amounts of depreciation recognized in each year of the asset's life using the **following MACRS Rates (half year convention)**

Year 1	*Year 2*	*Year 3*	*Year 4*	*Year 5*	*Year 6*
20%	*32%*	*19.20*	*11.52*	*11.52*	*5.76*

Year	Depreciation Expense	/ Accumulated Depreciation	A/D Balance	Book Value
2010				
2011				
2012				
2013				
2014				
2015				

Behrns Corporation purchased a new piece of equipment for their business.

Cost:	$63,000
Est. Salvage Value:	3,000

The equipment is estimated to be used for 30,000 hours. How much will the equipment depreciate per hour of use? _____

During the month of January the equipment was used 40 hours. What amount of depreciation should be recorded for the month?

_____

10-4 Computing revised annual depreciation.

Refer to problem 10-3. Assume the Yamaguchi Co. used straight-line depreciation for 2011 and 2012. In 2013, Yamaguchi decided to increase the total useful life to 7 years and revised the estimated salvage value to zero. Compute the revised annual depreciation.

Accounting
Practice Problem—
Disposal of Equipment by Sale, Trade-in, or as Scrap

A delivery truck that cost $28,000 had an estimated useful life of 5 years and an estimated salvage value of $3,000. Straight-line depreciation with half-year convention was used. Give the entry (in general journal form) required by each of the following alternative assumptions:

a. The truck was sold for $10,000 cash after 2 years' use
b. The truck was traded in after 4 years on another truck with a fair market value of $22,000. Trade-in allowance was $8,500. (Record any implied gain or loss)
c. The truck was scrapped after 7 year's use. Since scrap dealers were unwilling to pay anything for the truck, it was given to a scrap dealer for his services.

Accounting
Practice Problem—
Disposal of Equipment by Sale, Trade-in, or as Scrap

A delivery truck that cost $19,000 had an estimated useful life of 5 years and an estimated salvage value of $1,000. Straight-line depreciation with half-year convention was used. Give the entry (in general journal form) required by each of the following alternative assumptions:

a. The truck was sold for $11,000 cash after 2 years' use
b. The truck was traded in after 4 years on another truck with a fair market value of $14,000. Trade-in allowance was $6,500. (Record any implied gain or loss)
c. The truck was scrapped after 7 year's use. Since scrap dealers were unwilling to pay anything for the truck, it was given to a scrap dealer for his services.

Accounting
Practice Problem—
Disposal of Equipment by Sale, Trade-in, or as Scrap

A delivery truck that cost $18,000 had an estimated useful life of 5 years and an estimated salvage value of $3,000. Straight-line depreciation with half-year convention was used. Give the entry (in general journal form) required by each of the following alternative assumptions:

a. The truck was sold for $13,000 cash after 2 years' use
b. The truck was traded in after 4 years on another truck with a fair market value of $24,000. Trade-in allowance was $8,500. (Record any implied gain or loss)
c. The truck was scrapped after 7 year's use. Since scrap dealers were unwilling to pay anything for the truck, it was given to a scrap dealer for his services.

Accounting
Practice Problem
Disposal of Equipment by Sale, Trade-in, or as Scrap

A bulldozer which cost $48,000 had an estimated useful life of 5 years and an estimated salvage value of $8,000. Straight-line depreciation with half year convention was used. Give the entry (in general journal form) required by each of the following alternative assumptions:

a. The bulldozer was sold for cash of $35,000 after 2 years' use
b. The bulldozer was traded in after 4 years on another truck with a fair market value of $54,000. Trade-in allowance was 22,000. (Record any implied gain or loss)
c. The bulldozer was scrapped after 8 year's use. Since scrap dealers were unwilling to pay anything for the truck, it was given to a scrap dealer for his services.

Accounting
Practice Problem
Disposal of Equipment by Sale, Trade-in, or as Scrap

A delivery truck that cost $38,000 had an estimated useful life of 5 years and an estimated salvage value of $4,000. Straight-line depreciation with half-year convention was used. Give the entry (in general journal form) required by each of the following alternative assumptions:

a. The truck was sold for $31,000 cash after 2 years' use
b. The truck was traded in after 4 years on another truck with a fair market value of $44,000. Trade-in allowance was $18,500. (Record any implied gain or loss)
c. The truck was scrapped after 7 year's use. Since scrap dealers were unwilling to pay anything for the truck, it was given to a scrap dealer for his services.

Accounting
Practice Problem—
Disposal of Equipment by Sale, Trade-in, or as Scrap

A delivery truck that cost $27,000 had an estimated useful life of 5 years and an estimated salvage value of $1,000. Straight-line depreciation with half-year convention was used. Give the entry (in general journal form) required by each of the following alternative assumptions:

a. The truck was sold for $17,000 cash after 2 years' use
b. The truck was traded in after 4 years on another truck with a fair market value of $24,000. Trade-in allowance was $5,500. (Record any implied gain or loss)
c. The truck was scrapped after 7 year's use. Since scrap dealers were unwilling to pay anything for the truck, it was given to a scrap dealer for his services.

Accounting
Quiz: Disposal of Plant Asset by Sale, Trade-in, or as Scrap

A bobcat that cost $42,000 had an estimated useful life of 5 years and an estimated salvage value of $7000. Straight-line depreciation with half-year convention was used. Give the entry (in general journal form) required by each of the following alternative assumptions:

a. The bobcat was sold for cash of $30,000 after 2 years' use
b. The bobcat was traded in after 4 years on another bobcat with a fair market value of $52,000. Trade-in allowance was 20,500. (Record any implied gain or loss)
c. The bobcat was scrapped after 8 year's use. *Since scrap dealers were unwilling to pay anything for the truck, it was given to a scrap dealer for his services.*

ACCOUNTING **Name** _____

Depreciation Quiz

Straight line: fractional periods & half-year convention

On November 1, 2005 Johnson Corporation acquired a new machine with an estimated life of 5 years. The cost of the equipment was $55,000 with residual value of 10,000.

a) Determine the amounts of depreciation recognized in each year of the asset's life using the **straight line method** with ***fractional periods***.

Year 2005:
2006:
2007:
2008:
2009:
2010:

b) Determine the amounts of depreciation recognized in each year of the asset's life using the **200% Declining Balance Method** with *half-year convention.*

Year 2005:
2006:
2007:
2008:
2009:
2010:

c) Determine the amounts of depreciation recognized in each year of the asset's life using the **following MACRS Rates (half year convention)**

Year 1	*Year 2*	*Year 3*	*Year 4*	*Year 5*	*Year 6*
20%	*32%*	*19.20*	*11.52*	*11.52*	*5.76*

Year 2005:
2006:
2007:
2008:
2009:
2010:

ACCOUNTING **Name** _____

Depreciation Quiz

Straight line: fractional periods & half-year convention

On September 1, 2005 Johnson Corporation acquired a new machine with an estimated life of 5 years. The cost of the equipment was $35,000 with residual value of 5,000.

a) Determine the amounts of depreciation recognized in each year of the asset's life using the **straight line method** with ***fractional periods.***

Year 2005:
2006:
2007:
2008:
2009:
2010:

b) Determine the amounts of depreciation recognized in each year of the asset's life using the **200% Declining Balance Method** with *half-year convention.*

Year 2005:
2006:
2007:
2008:
2009:
2010:

c) Determine the amounts of depreciation recognized in each year of the asset's life using the **following MACRS Rates (half year convention)**

Year 1	*Year 2*	*Year 3*	*Year 4*	*Year 5*	*Year 6*
20%	*32%*	*19.20*	*11.52*	*11.52*	*5.76*

Year 2005:
2006:
2007:
2008:
2009:
2010:

ACCOUNTING **Name** _____

Depreciation Quiz

Straight line: fractional periods & half-year convention

On April 1, 2005 Johnson Corporation acquired a new machine with an estimated life of 5 years. The cost of the equipment was $60,000 with residual value of 2,000.

a) Determine the amounts of depreciation recognized in each year of the asset's life using the **straight line method** with ***fractional periods***.

Year 2005:
2006:
2007:
2008:
2009:
2010:

b) Determine the amounts of depreciation recognized in each year of the asset's life using the **200% Declining Balance Method** with *half-year convention.*

Year 2005:
2006:
2007:
2008:
2009:
2010:

c) Determine the amounts of depreciation recognized in each year of the asset's life using the **following MACRS Rates (half year convention)**

Year 1	*Year 2*	*Year 3*	*Year 4*	*Year 5*	*Year 6*
20%	*32%*	*19.20*	*11.52*	*11.52*	*5.76*

Year 2005:
2006:
2007:
2008:
2009:
2010:

ACCOUNTING **Name** _____

Depreciation Quiz

Straight line: fractional periods & half-year convention

On August 1, 2005 Johnson Corporation acquired a new machine with an estimated life of 5 years. The cost of the equipment was $40,000 with residual value of 5,000.

a) Determine the amounts of depreciation recognized in each year of the asset's life using the **straight line method** with ***fractional periods***.

Year 2005:
2006:
2007:
2008:
2009:
2010:

b) Determine the amounts of depreciation recognized in each year of the asset's life using the **200% Declining Balance Method** with *half-year convention.*

Year 2005:
2006:
2007:
2008:
2009:
2010:

c) Determine the amounts of depreciation recognized in each year of the asset's life using the **following MACRS Rates (half year convention)**

Year 1	*Year 2*	*Year 3*	*Year 4*	*Year 5*	*Year 6*
20%	*32%*	*19.20*	*11.52*	*11.52*	*5.76*

Year 2005:
2006:
2007:
2008:
2009:
2010:

Accounting
Quiz: Disposal of Plant Asset by Sale, Trade-in, or as Scrap

A tractor that cost $24,000 had an estimated useful life of 5 years and an estimated salvage value of $4,000. Straight-line depreciation with half-year convention was used. Give the entry (in general journal form) required by each of the following alternative assumptions:

a. The tractor was sold for $17,000 cash after 2 years' use
b. The tractor was traded in after 4 years on another tractor with a fair market value of $28,000. Trade-in allowance was 9,000. (Record any implied gain or loss)
c. The tractor was scrapped after 7 year's use. *Since scrap dealers were unwilling to pay anything for the tractor, it was given to a scrap dealer for his services.*