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Chapter 2
Property Acquisition and Cost Recovery

INSTRUCTOR'S MANUAL

Learning Objectives

2-1. Describe the cost recovery methods for recovering the cost of personal property, real property, intangible assets, and natural resources.
2-2. Determine the applicable cost recovery (depreciation) life, method, and convention for tangible personal and real property and the deduction allowable under basic MACRS.
2-3. Calculate the deduction allowable under the additional special cost recovery rules (§179, bonus, and listed property).
2-4. Calculate the deduction for amortization.
2-5. Explain cost recovery of natural resources and the allowable depletion methods.

Teaching Suggestions

This chapter is organized around issues dealing with acquiring assets and cost recovery. There are many topics in this chapter. The instructor may not wish to cover all topics.

Depreciation is something accounting students have learned in an introduction to financial and management accounting, so it is easy to build on that background. The section was written to cover the basics of method, recovery period, and convention. Once these principles are understood, the application to any tax depreciation problem is relatively simple. There has been a significant amount of legislative activity providing preferences to specific assets, which can be interesting to discuss (e.g., motorsports entertainment complexes, qualified improvement property, etc.). There are also a lot of provisions designed to prevent perceived abuses in the listed property area. Another development is the recent issuance of the repair regulations. Although the chapter does not provide great detail on the new regulations, it provides instructors with an opportunity to add a research component for this content.

The Tax Cuts and Jobs Act, enacted December 22, 2017, expanded bonus depreciation and additional §179 expensing such that, for many taxpayers, these provisions will provide the primary methods for depreciating their personal property. These items can either be discussed in detail or from a theoretical perspective. The bonus depreciation rules are temporary and are set to begin phasing down in 2023 and will expire in 2027. The discussion of depreciation covers basic MACRS first, then the special provisions under §179 expensing and bonus depreciation.

Amortization can be relatively straightforward. For those focusing on small business, the start-up expenditures and organizational cost provisions are important. Others may want to focus on the acquisition of §197 intangibles.

Depletion is a topic that is often not covered; however, we include a brief discussion of this method of cost recovery for those instructors who choose to cover the topic.

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Assignment Matrix

			Learning Objectives					Text Feature		
		Difficulty	LO 1	LO 2	LO 3	LO 4	LO 5	Research	Planning	Tax Forms
DQ2-1	20 min.	Medium	X							
DQ2-2	20 min.	Medium	X							
DQ2-3	20 min.	Medium	X							
DQ2-4	20 min.	Medium	X							
DQ2-5	20 min.	Medium	X							
DQ2-6	20 min.	Medium	X							
DQ2-7	20 min.	Medium	X							
DQ2-8	20 min.	Medium		X						
DQ2-9	20 min.	Medium		X						
DQ2-10	20 min.	Medium		X					X	
DQ2-11	20 min.	Medium		X						
DQ2-12	10 min.	Medium		X						
DQ2-13	10 min.	Medium		X				X		
DQ2-14	10 min.	Medium		X						
DQ2-15	10 min.	Medium		X						
DQ2-16	10 min.	Medium		X						
DQ2-17	25 min.	Hard		X						
DQ2-18	25 min.	Hard		X						
DQ2-19	25 min.	Hard		X				X		
DQ2-20	20 min.	Hard		X						
DQ2-21	20 min.	Hard			X					
DQ2-22	20 min.	Hard			X					
DQ2-23	20 min.	Hard			X					
DQ2-24	20 min.	Hard			X					
DQ2-25	20 min.	Hard			X					
DQ2-26	20 min.	Hard			X					
DQ2-27	20 min.	Hard			X					
DQ2-28	25 min.	Hard			X					
DQ2-29	25 min.	Hard			X					
DQ2-30	45 min.	Easy				X				
DQ2-31	45 min.	Easy				X				
DQ2-32	45 min.	Easy				X				
DQ2-33	45 min.	Easy				X				
DQ2-34	45 min.	Easy				X				
DQ2-35	45 min.	Easy				X				
DQ2-36	45 min.	Hard					X			
DQ2-37	45 min.	Hard					X			
P2-38	20 min.	Easy	X							
P2-39	20 min.	Easy	X					X		
P2-40	20 min.	Medium	X					X		

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P2-41	20 min.	Easy	X							
P2-42	20 min.	Easy	X							
P2-43	20 min.	Easy	X							
P2-44	10 min.	Easy	X							
P2-45	10 min.	Easy	X							
P2-46	30 min.	Medium		X						
P2-47	30 min.	Medium		X						
P2-48	30 min.	Medium		X						
P2-49	30 min.	Medium		X					X	
P2-50	25 min.	Medium		X						
P2-51	40 min.	Hard		X						
P2-52	25 min.	Medium		X						
P2-53	30 min.	Medium		X	X					
P2-54	30 min.	Medium		X	X					
P2-55	30 min.	Medium		X	X					
P2-56	30 min.	Medium		X	X					
P2-57	30 min.	Medium		X	X					
P2-58	35 min.	Medium		X	X					
P2-59	45 min.	Medium		X	X				X	
P2-60	30 min.	Medium		X	X			X		
P2-61	30 min.	Medium		X	X					
P2-62	45 min.	Hard		X	X			X	X	
P2-63	35 min.	Hard		X	X				X	
P2-64	30 min.	Hard		X	X				X	
P2-65	25 min.	Medium			X					
P2-66	35 min.	Medium			X					
P2-67	60 min.	Hard			X					
P2-68	45 min.	Hard		X	X				X	
P2-69	30 min.	Hard		X	X					
P2-70	25 min.	Medium			X			X		
P2-71	45 min.	Hard				X		X		
P2-72	45 min.	Hard				X				
P2-73	45 min.	Hard				X				
P2-74	45 min.	Hard				X				
P2-75	45 min.	Medium					X			
CP2-76	75 min.	Hard								X
CP2-77	75 min.	Hard								X
CP2-78	75 min.	Hard								

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Lecture Notes

1) Cost Recovery and Tax Basis for Cost Recovery
   a) For financial accounting and tax accounting purposes, businesses must capitalize the cost of assets with a useful life of more than one year (on the balance sheet) rather than expense the cost immediately.
   b) Methods used to recover the cost of assets through cost recovery deductions:
      i) Depreciation
      ii) Amortization

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iii) Depletion
iv) Refer to Exhibit 2-1 for Assets and Cost Recovery and Exhibit 2-2 for Weyerhaeuser Assets.

c) Basis for cost recovery
i) Businesses may begin recouping the cost of purchased business assets once they begin using the asset in their business (place it in service).
ii) The amount of an asset's cost that has yet to be recovered through cost recovery deductions is called the asset's adjusted basis or tax basis.
(1) Asset's Adjusted Basis = Asset's Initial Cost or Historical Cost minus Accumulated Depreciation (or Amortization or Depletion)
iii) Cost basis is usually the same for book and tax purposes (although exceptions exist).
iv) An asset's cost basis includes all expenses needed to purchase the asset, prepare it for use, and begin using it.
(1) Work through Example 2-1.
v) Repair regulations provide guidance on whether costs incurred after acquisition should be capitalized or immediately deducted. Several safe harbors exist: *de minimis* and routine maintenance for example.
(1) Work through Example 2-2.
vi) Special basis rules apply when personal assets are converted to business use and when assets are acquired through nontaxable transactions, gifts, or inheritances.

2) Depreciation
a) Today businesses use MACRS (Modified Accelerated Cost Recovery System) along with special depreciation allowances (§179 expensing, bonus depreciation, and listed property).
b) To compute MACRS depreciation for an asset, the business need only know:
i) The asset's depreciable basis
ii) The date the asset was placed in service
iii) The applicable depreciation method
iv) The asset's recovery period
v) The applicable depreciation convention
c) Personal property depreciation
i) Includes all tangible property, such as computers, automobiles, furniture, machinery, and equipment, other than real property.
ii) Personal property is relatively short-lived and subject to obsolescence when compared to real property.
iii) Depreciation method
(1) MACRS provides three acceptable methods for depreciating personal property:
(a) 200 percent (double) declining balance (default method);
(b) 150 percent declining balance; and
(c) Straight-line.
(2) Work through Example 2-3.
iv) Depreciation recovery period
(1) For financial accounting purposes, an asset's recovery period (depreciable life) is based on its taxpayer-determined estimated useful life.
(2) For tax purposes, an asset's recovery period is predetermined by the IRS in the Rev. Proc. 87-56, which helps taxpayers to categorize each of their assets based upon the property's description.
(a) Refer to Exhibit 2-3 for Excerpt from Revenue Procedure 87-56.
(b) Refer to Exhibit 2-4 for Recovery Period for Most Common Business Assets.
(c) Refer to Exhibit 2-5 for Teton Personal Property Summary (Base Scenario).
v) Depreciation Conventions
(1) The convention specifies the portion of a full year's depreciation the business can deduct for an asset in the year the asset is first placed in service and in the year the asset is sold.

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(2) For personal property, taxpayers must either use the half-year convention or the mid-quarter convention.
(a) Half-year convention
(i) One-half of a year's depreciation is allowed in the first and the last year of an asset's life.
(ii) The IRS depreciation tables automatically account for the half-year convention.
1. Refer to Table 1 in Appendix A for MACRS Half-Year Convention.
2. Work through Example 2-4.
(b) Mid-quarter convention
(i) The mid-quarter convention is required when more than 40 percent of a taxpayer's total tangible personal property placed in service during the year was placed during the fourth quarter.
(ii) The IRS depreciation tables have built in the mid-quarter convention to simplify the calculations.

vi) Calculating depreciation for personal property
(1) IRS provides depreciation percentage tables in Rev. Proc. 87-57.
(2) Steps to determine the depreciation for an asset for the year:
(a) Determine the appropriate convention (half-year or mid-quarter) by determining whether more than 40 percent of qualified property was placed in service in the last quarter of the tax year.
(b) Locate the applicable table provided in Rev. Proc. 87-57 (reproduced in Appendix A of this chapter).
(c) Select the column that corresponds with the asset's recovery period.
(d) Find the row identifying the year of the asset's recovery period.

vii) Applying the half-year convention
(1) Work through Example 2-5.
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(2) Half-year convention for year of disposition
(a) Work through Example 2-6.

viii)Applying the mid-quarter convention
(1) Work through Example 2-7.
(2) Refer to Tables 2a–d in Appendix A for Mid-Quarter Convention Tables.
(3) Mid-quarter convention for year of disposition
(a) Work through Example 2-8.

d) Real property
i) Real property is depreciated using the straight-line method.
ii) Real property uses the mid-month convention.
iii) Residential property has a recovery period of 27.5 years.
iv) Nonresidential property placed in service on or after May 13, 1993, has a life of 39 years.
v) Nonresidential property placed in service after December 31, 1986, but before May 13, 1993, has a recovery period of 31.5 years.
vi) Refer to Exhibit 2-7 for Recovery Period for Real Property.
vii) Applicable method
(1) All depreciable real property is depreciated for tax purposes using the straight-line method.

viii)Applicable convention
(1) All real property is depreciated using the mid-month convention.

ix) Depreciation tables
(1) Work through Example 2-9.
(2) Mid-month convention for year of disposition
(a) Process for calculating mid-month convention depreciation for the year of sale:

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(i) Determine the amount of depreciation deduction for the asset as if the asset were held for the entire year.
(ii) Subtract one-half of a month from the month in which the asset was sold (if sold in third month, subtract .5 from 3 to get 2.5). (Subtract half of a month because the business is treated as though the asset was disposed of in the middle of the third month—not the end.)
(iii) Divide the amount determined in Step 2 by 12 months (2.5/12). This is the fraction of the full year's depreciation the business is eligible to deduct.
(iv) Multiply the Step 3 outcome by the full depreciation determined in Step 1.
(v) Formula: Mid-month depreciation for year of disposition = Full-year's depreciation × ((Month in which asset was disposed of − 0.5)/12)
(vi) Work through Example 2-10.

3) Special Rules Relating to Cost Recovery
   a) Immediate expensing (§179)
      i) Policy makers created §179 as an incentive to help small businesses purchasing qualified property. This incentive is commonly referred to as the §179 expense or immediate expensing election.
      ii) Qualified real property means improvements to nonresidential real property placed in service after the date the building was placed in service, including roofs; heating, ventilation, and air-conditioning; fire protection and alarm systems; and security systems.
      iii) Work through Example 2-11.
      iv) Limits on immediate expensing
         (1) The maximum amount of §179 expense a business may elect to claim for the year is subject to a phase-out limitation.
         (2) $1,080,000 of tangible personal property may be immediately expensed in 2022.
         (3) Businesses are eligible for the full amount of this expense when tangible personal property placed in service is less than $2,7000,000 for 2022. Beginning at $2,700,000, the §179 expense is phased out, dollar for dollar. When assets placed in service exceed $3,780,000, no §179 expense can be taken. Both the amount of §179 allowed and the property limitation are indexed for inflation and change each year.
            (a) Work through Examples 2-12 and 2-13.
         (4) §179 expenses are also limited to a business's taxable income before the §179 expense. §179 expenses cannot create losses.
      v) Choosing the assets to immediately expense
         (1) Businesses qualifying for immediate expensing can choose the asset or assets (from tangible personal property placed in service during the year) they immediately expense under §179.
         (2) If a business's objective is to maximize its current depreciation deduction, it should immediately expense the asset with the lowest first-year cost recovery percentage including bonus depreciation (discussed in the next section).
         (3) Work through Example 2-14.
      vi) Bonus depreciation
         (1) Since 2001, businesses have had the ability to immediately deduct a percentage of the acquisition cost of qualifying assets under rules known as bonus depreciation.
         (2) The percentage allowable for each tax year during this period has changed many times, ranging from 30 percent to 100 percent.
         (3) Just prior to the Tax Cuts and Jobs Act (TCJA), the bonus percentage was 50 percent. However, the TCJA increased the percentage to 100 percent for qualified property acquired after September 27, 2017.

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(4) This provision (and the enhancement of §179) simplifies the depreciation calculation for many businesses because they can deduct the full amount of certain assets placed in service during the year.
(5) Bonus depreciation is a temporary provision, and the percentage phases down after five years.
(6) Bonus depreciation is mandatory for all taxpayers that qualify. However, taxpayers may elect out of bonus depreciation (on a property class basis) by attaching a statement to their tax return indicating they are electing not to claim bonus depreciation.
(7) Refer to Exhibit 2-9 for Bonus Depreciation Percentages.
(8) Qualified property
  (a) Taxpayers must first determine whether the assets acquired during the year are eligible for bonus depreciation. To qualify, property must be new or used property (as long as the property has not previously been used by the taxpayer within the past five years) and must meet one of the following requirements:
    (i) Have a regular depreciation life of 20 years or less,
    (ii) Computer software,
    (iii) Water utility property, or
    (iv) Qualified film, television, and live theatrical productions.
  (b) Qualified improvement property: Prior to TCJA, qualified improvements were considered eligible for bonus depreciation and Congress intended for this property to be eligible after TCJA. However, due to a technical error in the TCJA, qualified improvement property was considered 39-year property and not eligible for bonus depreciation. The CARES Act corrected this error by changing the recovery period to 15 years. To qualify, the improvements must be made by the taxpayer after the building was first placed in service by the taxpayer (Reg §1.168(b)-1(a)(5)(i)(A)).
(9) Work through Example 2-15.

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b) Listed property
  i) When an asset is used for both personal and business use, calculate the business-use percentage.
  ii) If the business-use percentage is above 50 percent, the allowable depreciation is limited to the business-use percentage.
  iii) If a listed property's business-use percentage ever falls to or below 50 percent, depreciation for all previous years is retroactively restated using the MACRS straight-line method.
  iv) Work through Example 2-16.
  v) Businesses can use the following five steps to determine its current depreciation expense for the asset when business use falls to 50 percent or below:
    (1) Compute depreciation for the year it drops to 50 percent or below using the straight-line method (this method also applies to all subsequent years).
    (2) Compute the amount of depreciation the taxpayer would have deducted if the taxpayer had used the straight-line method over the ADS recovery period for all prior years (recall that depreciation is limited to the business-use percentage in those years).
    (3) Compute the amount of depreciation (including §179 and bonus depreciation) the taxpayer deducted on the asset for all prior years.
    (4) Subtract the amount from Step 2 from the amount in Step 3. The difference is the prior-year accelerated depreciation in excess of straight-line depreciation.
    (5) Subtract the excess accelerated depreciation determined in Step 4 from the current-year straight-line depreciation in Step 1. This is the business's allowable depreciation expense on the asset for the year. If the prior-year excess depreciation from Step 4 exceeds the current-year straight-line depreciation in Step 1, the business is not allowed to deduct any

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depreciation on the asset for the year and must recognize additional ordinary income for the amount of the excess.

(6) Work through Example 2-17.

vi) Luxury automobiles

(1) Depreciation on automobiles weighing less than 6,000 pounds is subject to luxury auto provisions.

(2) Luxury automobiles have a maximum depreciation limit for each year.

(3) Listed property rules are also applicable to luxury automobiles.

(4) Refer to Exhibit 2-10 for Automobile Depreciation Limits.

(5) Each year, the IRS provides a maximum depreciation schedule for automobiles placed in service during that particular year. In 2022, taxpayers can deduct $8,000 of bonus depreciation above the otherwise allowable maximum depreciation (maximum depreciation of $18,200).

(6) Work through Example 2-18.

(7) Automobiles and §179

(a) Businesses may deduct §179 expensing on luxury automobiles, but the luxury car limitation in 2022 is $10,200, and this limit applies regardless of whether the taxpayer claims regular MACRS depreciation or §179 expensing on the car.

(b) For cars that cost more than $51,000, the taxpayer doesn't benefit by electing §179 because the regular MACRS depreciation deduction would be greater than $10,200 and would be limited to $10,200.

(c) For cars that cost less than $51,000, taxpayers could benefit by electing to take $10,200 of §179 expense on the car to boost the depreciation deduction in the first year.

(8) Automobiles and bonus depreciation

(a) For passenger cars (automobiles weighing 6,000 pounds or less), the luxury automobile limitations still apply. With bonus depreciation, taxpayers are allowed to increase the limitation in the first year by $8,000, making the first-year limit $18,200 in 2022.

(b) However, in years 2–6 (recovery period for passenger cars), taxpayers must again compare the regular MACRS amount in each year to the automobile limitation in Exhibit 2-10 for the year.

(c) If the taxpayer claims bonus depreciation, then, technically, all of the allowable depreciation was taken in year 1 (100 percent bonus depreciation) even though the taxpayer was limited by the automobile limitations. This means that there is no regular depreciation remaining for years 2–6.

(d) Fortunately, the IRS provides a way (safe harbor) for taxpayers to continue to take depreciation in years 2–6 when they claim bonus depreciation. This method applies to automobiles that have an initial basis greater than $18,200 (the first year depreciation limitation for luxury automobiles) when taxpayers have not elected out of 100 percent bonus depreciation.

(9) Work through Examples 2-19 and 2-20.

c) Depreciation for the alternative minimum tax

i) For AMT purposes, the allowable recovery period and conventions are the same for all depreciable assets as they are for regular tax purposes.

ii) The difference between regular tax depreciation and AMT depreciation is an adjustment that is either added to or subtracted from regular taxable income in computing the alternative minimum tax base.

d) Depreciation summary

i) Refer to Exhibit 2-11 for Teton's 2022 Depreciation Expense and 2-12 for Teton's Form 4562 Parts I–IV for Depreciation.

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4) Amortization
   a) Businesses recover the cost of intangible assets through amortization rather than depreciation.
   b) For tax purposes, an intangible asset can be placed into one of the following four general categories:
      i) §197 purchased intangibles
      ii) Organizational expenditures and start-up costs
      iii) Research and experimentation costs
      iv) Patents and copyrights
   c) Section 197 intangibles
      i) §197 intangibles have a recovery period of 180 months (15 years), regardless of their actual life.
      ii) The full-month convention applies to amortizable assets, which allows taxpayers to deduct an entire month's worth of amortization for the month of purchase and all subsequent months in the year.
      iii) Work through Example 2-21.
   d) Organizational expenditures and start-up costs
      (1) Organizational expenditures include expenditures to form and organize a business in the form of a corporation or an entity taxed as a partnership.
      (2) Start-up costs are costs businesses incur to start up a business.
      (3) Refer to Exhibit 2-13 for Summary of Timing for Organizational Expenditures, Start-up Costs, and Normal Trade or Business Expenses.
      (4) Businesses may immediately expense up to $5,000 of organizational expenditures.
      (5) However, corporations and partnerships incurring more than $50,000 in organizational expenditures must phase out (reduce) the $5,000 immediate expense amount dollar-for-dollar for expenditures exceeding $50,000. Thus, businesses incurring at least $55,000 of organizational expenditures are not allowed to immediately expense any of the expenditures.
      (6) The rules for immediately expensing and amortizing start-up costs are the same as those for immediately expensing and amortizing organizational expenditures. Consequently, businesses incurring at least $55,000 of start-up costs are not allowed to immediately expense any of the costs.
      (7) Work through Examples 2-22 to 2-25.
   e) Research and experimentation expenditures
      i) Businesses often invest in activities they believe will generate innovative products or significantly improve their current products or processes.
      (1) Includes expenditures for research laboratories, including salaries, materials, and other related expenses
      (2) For tax years beginning after December 31,2021, these expenditures must be capitalized and amortized over 5 years beginning with the midpoint of the year in which the costs were incurred. Research and experimentation expenditures attributable to research conducted outside the United States are capitalized and amortized ratably over a period of 15 years after December 31, 2021.
   f) Patents and copyrights
      i) The manner in which a business amortizes a patent or copyright depends on whether the business directly purchases the patent or copyright or whether it self-creates the intangibles.
      ii) Work through Example 2-26.
   g) Amortizable intangible asset summary
      i) Refer to Exhibit 2-14 for Summary of Amortizable Assets.
      ii) Refer to Exhibit 2-15 for Teton Form 4562, Part VI Amortization of Organizational Expenditures and Patent.
5) Depletion

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a) The method taxpayers use to recover their capital investment in natural resources.
b) It is a particularly significant deduction for businesses in the mining, oil and gas, and forestry industries.
c) Cost depletion involves estimating resource reserves and allocating a pro rata share of basis based on the number of units extracted.
d) Percentage depletion is determined by a statutory percentage of gross income that is permitted to be expensed each year. Different resources have different statutory percentages (i.e., gold, tin, coal).
e) Taxpayers may expense the larger of cost or percentage depletion.
f) Work through Examples 2-27, 2-28, and 2-29.
g) Refer to Exhibit 2-16 for Applicable Percentage Depletion Rates.

6) Conclusion
7) Appendix A: MACRS Tables
8) Summary
9) Key Terms

Class Activities

1. Suggested class activities

- **Tax Research:** Have students search for Revenue Procedure 87-56 and find the recovery period for some obscure assets. You can create a discussion around what the actual recovery period of certain assets should be.
- An interesting provision related to bonus depreciation is Section 168(k)(4). The provision was designed as a stimulus measure for NOL companies that could not take advantage of the current deductions provided by bonus depreciation. The provision provides an ability to cash out historic R&D and AMT credits in lieu of bonus depreciation. A thought-provoking exercise is to have students locate the off-code provision contained in the history of this section (see also P.L. 12-289, §3081(b)). This provision was designed to provide Chrysler LLC with the same benefits that GM and Ford were to receive as C corporations under Section 168(k)(4).
- **Legislative Activity:** The tax treatment for qualified improvement property is currently ambiguous due to the rapid passage of the TCJA. Qualified improvement property does not currently qualify for bonus depreciation; however, it was likely intended to qualify. Students could research this type of property to see why the legislative language does not allow for bonus depreciation.
- **Comprehensive Problems:** Have students work in groups (three to five students) to complete comprehensive problem 76. Make yourself available to students to answer questions but try to get them to work together to resolve their questions. If time is short, you can skip part C.

2. Ethics discussion

From page 2-6:

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ETHICS

Catherine Travis is starting a new business. She has several assets that she wants to use in her business that she has been using personally. Because she plans to convert several assets from personal to business use, she will need to find out how much each asset is worth so she can determine her basis for depreciating the assets. Catherine has decided that getting an appraisal would be too costly, so she simply uses her cost basis for the assets. What do you think of Catherine's strategy for determining her business asset bases?

Discussion points:

- When converting assets from personal use to business use, the basis for business use will be the lesser of (1) the cost basis of the asset or (2) the fair market value on the date of conversion.
- The business basis is used to compute depreciation, gain or loss upon sale of the asset, and the character of any resulting gain or loss on the sale.
- Catherine may be trying to convert a nondeductible personal loss into a deductible business loss by choosing to use her cost basis rather than obtaining appraisals for the assets.

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Chapter 2
Property Acquisition and Cost Recovery

SOLUTIONS MANUAL

Discussion Questions

1. [LO 1] Explain why certain long-lived assets are capitalized and recovered over time rather than immediately expensed.

   Assets with an expected life of more than one year are capitalized and recovered through depreciation, amortization, or depletion deductions—depending on the type of underlying asset. The policy attempts to match the revenues and expenses for these assets because the assets have a useful life of more than one year.

2. [LO 1] Explain the differences and similarities between personal property, real property, intangible property, and natural resources. Also, provide an example of each type of asset.

   Personal property, real property, and natural resources are all tangible property that can be seen and touched. Natural resources are assets that occur naturally (e.g. timber or coal). Real property is land and all property that is attached to land (e.g. buildings). Personal property is all tangible property that is not a natural resource or real property. Intangibles are all intellectual property rights (e.g. patents and copyrights) and any other value not assigned as a tangible asset during a purchase (e.g. goodwill). Each of these has an expected useful life of more than one year.

Asset Type	Examples
Personal property	Automobiles, equipment, furniture, and machinery
Real property	Land and items attached to land such as buildings (warehouse, office building, and residential dwellings)
Intangibles	Start-up and organizational costs, copyrights, patents, covenants not to compete and goodwill
Natural Resources	Commodities such as oil, coal, copper, timber, and gold

3. [LO 1] Explain the similarities and dissimilarities between depreciation, amortization, and depletion. Describe the cost recovery method used for each of the four asset types (personal property, real property, intangible property, and natural resources).

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There are three types of cost recovery: depreciation, amortization, and depletion. Each is similar in that they recover the cost basis of long-lived assets. Depreciation for real property, amortization, and cost depletion are on a straight-line basis. (Taxpayers may elect straight-line on tangible personal property as well.) The primary difference is that they are used for property with unique characteristics. Depreciation of tangible personal property is done on an accelerated (most often double-declining balance) method. Percentage depletion assigns a statutory rate that may recover more than the original cost of the asset.

Asset Type	Cost Recovery Type, Characteristics
Personal property	MACRS depreciation, characterized by double declining balance method (although 150% DB or straight-line may be elected), half-year convention (although mid-quarter may be required), and shorter recovery periods.
Real property	MACRS depreciation, characterized by straight-line method, mid-month convention, and longer recovery periods.
Intangibles	Amortization, characterized by straight-line method, full-month convention, various recovery periods (usually not based on actual life) depending on intangible type.
Natural Resources	Depletion (cost or percentage), cost depletion allocates the cost of a natural resource based on resource estimates (tons, ounces, barrels, etc.), straight-line method, based on actual extraction quantities, percentage depletion allocates a statutory expense (depending on resource type) based on gross income, but limited to 50% (100% for oil and gas property) of net income, and is the only cost recovery method that allows a taxpayer to recover more than the original basis of an asset.

4. [LO 1] Is an asset's initial or cost basis simply its purchase price? Explain.

The initial basis of any purchased business asset is historical cost. This is generally the purchase price, plus any other expenses (e.g. sales tax and installation costs) incurred to get the asset in working condition. This does not include costs which constitute a betterment, restoration, or adaptation to a new or different use for an asset such as a building addition.

5. [LO 1] Compare and contrast the basis of property acquired via purchase, conversion from personal use to business or rental use, tax-deferred exchange, gift, and inheritance.

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The basis of purchased assets is historical cost. The basis rules for other acquisitions depend on whether the transaction was taxable or not. For taxable transactions there is usually a step-up in basis to fair market value. For non-taxable transactions, there is usually a carryover basis. Conversion of assets from personal use gets the lesser of the two values. The specific rules are as follows:

Acquisition Type	Basis Rules
Purchase	The initial basis is historical cost plus all costs incurred to get the asset to its destination and in working order.
Conversion from personal use	The depreciable basis would be the lesser of the fair market value of the asset on the date of conversion or the adjusted basis of the transferor.
Non-taxable exchange	The basis is a carryover basis of the transferor since there is no recognition of gain or loss on the transfer (not a taxable transaction).
Gift	The basis is generally a carryover basis because these transactions usually aren't taxable. If gift tax is paid, the basis may be increased by a portion of the gift tax paid.
Inheritance	The basis is the fair market value on the date of death or the alternate valuation date six months later (if elected by the estate). The fair market value is used because the transfer arises from a taxable transaction.

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6. [LO 1] Explain why the expenses incurred to get an asset in place and operable should be included in the asset's basis.

Additional expenses, including sales tax, shipping, installation costs, and the like are capitalized into an asset's basis because all costs required to place an asset into service are required to be included into its basis. That is, without these costs, the taxpayer would not be able to place in service or use the asset in a business.

7. [LO 1] Graber Corporation runs a long-haul trucking business. Graber incurs the following expenses: replacement tires, oil changes, and a transmission overhaul. Which of these expenditures may be deducted currently and which must be capitalized? Explain.

An expense that results in a betterment, restoration, or adaptation for a new or different use for the property will be capitalized as a new asset—depreciated over the same MACRS recovery period of the original asset rather than the remaining life of the existing asset. Alternatively, expenses that constitute routine maintenance or meet the other safe harbor rules

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should be expensed immediately. An engine overhaul is likely to be a capitalized expense as a restoration. Tires and oil changes are likely to be expensed currently. However, all expenses are subject to a facts and circumstances test.

8. [LO 2] MACRS depreciation requires the use of a recovery period, method, and convention to depreciate tangible personal property assets. Briefly explain why each is important to the calculation.

MACRS depreciation calculations are straightforward once you know the recovery period (life), method, and convention for the asset. Recovery period is the statutory life or the period over which a taxpayer will allocate the depreciation deduction. Profitable taxpayers prefer the recovery period to be as short as possible so that they may recoup the basis as quickly as possible. The method is generally the double-declining (200% DB) method. However, taxpayers may elect to use either the 150% DB method (useful if they are subject to AMT, to avoid calculating both regular and AMT depreciation) or straight-line method (to lengthen depreciation deduction for taxpayers in an expiring NOL situation). The convention determines how much depreciation is taken in both the year of acquisition and the year of disposition. The half-year convention is used to simplify calculating depreciation based on the number of days an asset was owned during the year, but the mid-quarter convention is required if more than 40 percent of the tangible personal property placed in service during the year was placed in service during the fourth quarter.

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9. [LO 2] Can a taxpayer with very little current-year income choose to not claim any depreciation deduction for the current year and thus save depreciation deductions for the future when the taxpayer expects to be more profitable?

Taxpayers must reduce the basis of depreciable property by the depreciation allowed or allowable (§1011). Therefore, taxpayers must reduce their basis whether or not they claim the depreciation deduction. As a result, taxpayers are better off taking the depreciation deduction even if it creates a net operating loss or is taxed at a relatively low marginal tax rate. However, taxpayers may elect out of bonus depreciation and may choose not to take §179 expense which would reduce the current depreciation deduction otherwise available.

10. [LO 2] [Planning] What depreciation methods are available for tangible personal property? Explain the characteristics of a business likely to adopt each method.

Taxpayers may elect to use the 200% DB, 150% DB, or the straight-line method for tangible personal property. It is important to note that all three methods allow the same depreciation deduction over the same recovery period. Nevertheless, profitable taxpayers will elect to use the 200% DB

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method because it minimizes the after-tax cost of the asset by maximizing the present value of the depreciation deductions—through accelerating the depreciation deductions. Taxpayers traditionally subject to the AMT may elect to use the 150% DB method because it saves them the administrative inconvenience of calculating depreciation under two separate methods. Taxpayers may elect to use the straight-line method if they want to slow down depreciation—which is counterintuitive but often occurs for companies that regularly incur NOLs and would like to preserve these losses for a time when they expect profitability or will be acquired by another taxpayer that may be able to utilize the NOLs.

11. [LO 2] If a business places several different assets in service during the year, must it use the same depreciation method for all assets? If not, what restrictions apply to the business's choices of depreciation methods?

Taxpayers may generally choose the depreciation method used for assets placed in service. The MACRS general depreciation system generally uses the 200% DB method for tangible personal property and the straight-line method for real property. However, taxpayers may elect either the 150% DB or straight-line method for tangible personal property on a property class by property class basis (§168(g)(7)). For example, if a taxpayer places in service a computer (5-year property), a delivery truck (5-year property), and machinery (7-year property) an election could be made to use the straight-line method for all 5-year property and continue to use the 200% DB method for the 7-year property. Alternatively, an election could be made to use the straight-line method for only the 7-year property or all tangible personal property placed in service during the year. Once made, the method choice is an accounting method election and is irrevocable.

12. [LO 2] Describe how you would determine the MACRS recovery period for an asset if you did not already know it.

Rev. Proc. 87-56 is the definitive authority for determining the recovery period of all assets under MACRS. This guidance divides assets into asset classes (groups of similar property) upon which the recovery period is determined as the midpoint of the asset depreciation range (ADR) (the system developed by the IRS for pre-ACRS property). However, the "87" in the citation indicates that the Rev. Proc. was issued in 1987. As a result, taxpayers, or their advisors, must verify that the guidance is still valid. For example, motorsports entertainment complexes and qualified Alaska natural gas pipeline are examples of assets to which Congress has given preferential recovery periods since 1987 (§168(e)(3)(C)).

13. [LO 2] [Research] Compare and contrast the recovery periods used by MACRS and those used under generally accepted accounting principles (GAAP).

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Rev. Proc. 87-56 is the definitive authority for determining the recovery period of all assets under MACRS. However, Congress in §168 has recently modified the recovery period of some assets. Financial accounting rules are vague at best. FASB Concept Statement 5 indicates that assets should be recognized over the accounting period of their life. FASB Concept Statement 6 defines an asset as a probable future benefit. ASC 360-10-35 indicates that the cost should be spread over the asset's useful life in a systematic and rational manner. In addition, it requires companies, through financial statement disclosure, to disclose to investors current depreciation deduction, depreciation method, and recovery period used for assets. As a result, companies could use any rational recovery period for financial accounting purposes.

14. [LO 2] What are the two depreciation conventions that apply to tangible personal property under MACRS? Explain why Congress provides two methods.

The two depreciation conventions that apply to tangible personal property under MACRS are the half-year convention and the mid-quarter convention. MACRS uses a simplifying half-year convention. The half-year convention allows one-half of a full year's depreciation in the year the asset is placed in service, regardless of when it was actually placed in service. For example, when the half-year convention applies, an asset placed in service on either January 30 or December 17 is treated as though it was placed in service on July 1 which is the middle of the calendar year. The original ACRS system included only the half-year convention; however, Congress felt that some taxpayers were abusing the system by purposely acquiring assets at the end of the year that they otherwise would have acquired at the beginning of the next taxable year (allowable tax planning under ACRS). In 1987, as part of MACRS, the mid-quarter convention was implemented. The mid-quarter convention treats assets as though they were placed in service during the middle of the quarter in which the business actually placed the asset into service. For example, when the mid-quarter convention applies, if a business places an asset in service on December 1 (in the fourth quarter) it must treat the asset as though it was placed in service on November 15, which is the middle of the fourth quarter.

15. [LO 2] A business buys two identical tangible personal property assets for the same price. It buys one at the beginning of the year and one at the end of year. Under what conditions would the taxpayer's depreciation on each asset be exactly the same? Under what conditions would it be different?

MACRS has two conventions: half-year and mid-quarter conventions. The half-year convention is the general rule and simplifies the depreciation process by allowing one half year of depreciation taken on all assets placed in service during the year. The mid-quarter convention is required if more than 40 percent of a taxpayer's tangible personal property is placed in

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service during the fourth quarter of the year. The depreciation on the two assets would be the same if the taxpayer was using the half-year convention—which would apply if the taxpayer purchased and placed in service other assets during the year so that the 40 percent placed in service fourth quarter test is failed. The depreciation on the two assets would be different if the two assets were the only assets placed in service during the year—so that more than 40 percent was placed in service during the 4th quarter and the mid-quarter convention was required to be used.

16. [LO 2] AAA Inc. acquired a machine in year 1. In May of year 3, it sold the asset. Can AAA find its year 3 depreciation percentage for the machine on the MACRS table? If not, what adjustment must AAA make to its full-year depreciation percentage to determine its year 3 depreciation?

The applicable depreciation convention applies in the year of disposal as well as the year of acquisition. The MACRS tables cannot anticipate an asset's disposal and therefore assume the asset was used in a trade or business for the entire year. As a result, AAA must apply the applicable convention to the table percentage upon disposal to arrive at the correct percentage. For instance, for assets under the half-year convention, multiplying the MACRS table full year depreciation by 50 percent (one-half of a year's depreciation) provides the correct percentage.

17. [LO 2] There are two recovery period classifications for real property. What reasons might Congress have to allow residential real estate a shorter recovery period than nonresidential real property?

Nonresidential property currently has a recovery period of 39 years while residential property has a recovery period of 27.5 years. Nonresidential has longer lives because the construction methods are more substantial which results in longer lives. For example, nonresidential often uses steel frame with concrete and/or block floors and walls. In contrast, residential uses balloon construction using 2x4 timbers for structure. The nonresidential components often are built with more substantial materials as well. Some argue that residential property receives higher use percentages and is subject to more wear and tear. In addition, some political arguments suggest that the faster recovery period for residential suggests that Congress wants to encourage construction of housing, which in turn would make rental properties more affordable.

18. [LO 2] Discuss why Congress has instructed taxpayers to depreciate real property using the mid-month convention as opposed to the half-year convention used for tangible personal property.

The purpose of MACRS conventions is to simplify the calculation of depreciation. Real property is characterized by higher basis and less

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frequent acquisition than tangible personal property. These two reasons suggest that mid-month convention approximates actual wear and tear on real property better than the half-year and mid-quarter conventions would. For example, if a building was purchased in January or December, it would be entitled to .5 or 11.5 months, respectively, of depreciation under the mid-month convention--which is close to the actual time the asset was placed in service. This contrasts with the half-year convention that would allow 6 months or the mid-quarter convention that would allow 10.5 or 1.5 months, respectively, of depreciation.

19. [LO 2] [Research] If a taxpayer has owned a building for 10 years and decides that it should make significant improvements to the building, what is the recovery period for the improvements?

MACRS generally classifies additions to property as a new asset placed in service subject to the same depreciable life as the original asset. For example, if a $2,000,000 addition is made to an office building (non-residential property) then the asset's basis is $2,000,000 and its recovery period is 39 years. However, if the improvements are in the form of minor repairs that simply maintain the integrity of the structure they would be expensed.

20. [LO 2] Compare and contrast computing the depreciation deduction for tangible personal property versus computing the depreciation deduction for real property under both the regular tax and alternative tax systems.

MACRS allows the 200% DB method to be used whereas AMT requires the 150% DB method to be used for tangible personal property. Both MACRS and AMT require the straight-line method for real property. Therefore, the AMT adjustment for tangible personal property is the difference between depreciation calculated under the 200% DB and the 150% DB methods. There is no AMT adjustment required for real property. For taxpayers that elect either the 150% DB or straight-line method for tangible personal property there is no AMT adjustment required with respect to that property.

21. [LO 3] Discuss how the property limitation restricts large businesses from taking the §179 expense.

The tax law allows for expensing of qualified property for certain businesses. However, the deduction is phased out for taxpayers that place more than a certain amount of qualified property in service during the year (the property limitation). Since many large businesses place more than the limit of property in service, they are ineligible for the §179 deduction.

22. [LO 3] Explain the two limitations placed on the §179 deduction. How are they similar? How are they different?

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The §179 deduction has two limitations: the property placed in service and the taxable income limitation. The property limitation phases out the maximum deduction amount dollar-for-dollar for property placed in service over the $2,700,000 limit (up from $2,620,000 in 2021). After being limited by the property placed in service limitation, the §179 deduction is further limited to the taxpayer's taxable income after regular MACRS depreciation but before deducting any §179 expense. The two limitations are similar in that they both limit the §179 deduction. However, the first limitation was designed to limit the amount of property that can be expensed as a means of defining small businesses while the second limitation prevents the expense from creating or enhancing a loss for the taxable year.

23. [LO 3] Compare and contrast the types of businesses that would and would not benefit from the §179 expense.

The availability of the §179 expense is limited by the property placed in service and income limitations. The property placed in service limitation phases out the §179 expense ($1,080,000 in 2022) dollar-for-dollar for tangible personal property placed in service over the 2022 $2,700,000 threshold. Thus, firms that place $3,780,000 or more of property in service during the year are ineligible to deduct any §179 expense. As a result, firms that place in service smaller amounts of property are eligible for the expensing election while those that place large amounts of property in service are ineligible. The second limitation is that firms can only currently expense assets up to taxable income (before the §179 expense, but after bonus and regular MACRS depreciation deduction). As a result, profitable firms are eligible for the §179 expense while firms in a loss position are currently ineligible but may carry the amount forward. Consequently, profitable firms that place a relatively small amount of property in service can elect the §179 expense. In contrast, firms that place in service too much property or are unprofitable are unable to currently expense property under §179.

24. [LO 3] What strategies will help a business maximize its current depreciation deductions (including §179)? Why might a taxpayer choose *not* to maximize its current depreciation deductions?

There are several planning strategies that will help a taxpayer maximize its current depreciation deductions. For example, if a taxpayer is close to exceeding the 4th quarter placed in service limitation, which would require the mid-quarter convention resulting in less depreciation, the taxpayer could put off purchases to the beginning of the next taxable year. A taxpayer can elect to expense under §179 assets that are 7-year assets rather than 5-year assets because the first-year depreciation percentage is lower for 7-year assets (14.29% versus 20%). As another example, a taxpayer otherwise

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eligible for §179 expensing can elect to expense assets placed in service during the 4th quarter because expensed assets are not included in the mid-quarter test. Taxpayers may want to take less than the maximum depreciation otherwise allowed because they do not want to create a larger tax loss for the current year or because they are in a lower marginal tax bracket in the current year than they anticipate being in for future years.

25. [LO 3] Why might a business claim a reduced §179 expense amount in the current year rather than claiming the maximum amount available?

Businesses can elect to expense §179 currently and carry over the expense to future years if they meet the placed-in-service limitation but do not have sufficient income to expense the assets currently. However, a business may elect to expense only the amount it can currently deduct if it believes that maximizes the present value of current and future depreciation deductions. This may occur because carryovers of §179 expense are subject to future placed-in-service and income limitations. For example, a business could elect the expense in the current year (which reduces current and future MACRS depreciation deductions) and not be able to deduct the expense under §179 because the business is also limited in future years—so businesses that are generally limited would be wise not to make the election. Additionally, if taxpayers typically elect the maximum §179 expense annually, the amount would be suspended anyway.

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26. [LO3] Describe assets that are listed property. Why do you think Congress requires them to be "listed"?

Listed property comprises business assets that taxpayers may wish to use for both business and personal purposes. For example, automobiles, planes, boats, and recreation vehicles are considered to be listed property. The IRS wants to track both the personal and business use of these assets to limit depreciation to the business use portion. Additionally, if the business use portion dips below 50 percent, then taxpayers must use the straight-line method and potentially recapture excess depreciation deductions.

27. [LO 3] Are taxpayers allowed to claim depreciation on assets they use for both business and personal purposes? What are the tax consequences if the business use drops from above 50 percent in one year to below 50 percent in the next?

Yes, taxpayers may depreciate mixed use assets (those used for both business and personal use). However, the otherwise allowable depreciation is reduced by the non-business use, so that depreciation is only allowed to the extent of the business use. If the business use falls below 50 percent in any subsequent year, then the taxpayer must re-compute depreciation for all prior years as if it had been using the straight-line method over the ADS recovery period. If the prior depreciation deductions exceed both the prior

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depreciation deductions and the current year expense, then the taxpayer must recapture the difference into income during the current year.

28. [LO 3] Discuss why Congress limits the amount of depreciation deduction businesses may claim on certain automobiles.

Automobiles have historically been the most abused, as well as expensive, type of listed property. To prevent subsidizing business owners' automobiles through deductible depreciation, Congress decided to place a maximum allowable depreciation amount on them. One exception to this rule is bonus depreciation. Congress allows an additional expense of $8,000 in the first year for automobiles placed into service. However, one important exception from the luxury auto rules is that vehicles weighing more than 6,000 pounds are not subject to the limit and are allowed to expense up to $27,000 during the first year under §179 and may qualify for bonus depreciation.

29. [LO 3] Compare and contrast how a Land Rover SUV and a Mercedes-Benz sedan are treated under the luxury auto rules. Also include a discussion of the similarities and differences in available §179 expense.

A Mercedes-Benz sedan is less than 6,000 pounds and qualifies as a luxury automobile. This limits depreciation to the restrictive luxury auto amounts. In contrast, the Land Rover is more than 6,000 pounds and escapes the luxury auto rules. This is advantageous for three reasons: (1) the buyer may currently expense $27,000 under §179, (2) the property is not subject to the luxury auto limits, and (3) qualifies for 100 percent bonus depreciation.

30. [LO 4] What is a §197 intangible? How do taxpayers recover the costs of these intangibles? How do taxpayers recover the cost of a §197 intangible that expires (such as a covenant not to compete)?

A §197 intangible is a purchased intangible including goodwill, going concern value, workforce in place, patents, customer lists, and similar assets. §197 intangibles are amortized over 180 months (15 years) using the straight-line method, and the full-month convention. To prevent game-playing among the basis allocations of various §197 intangibles acquired together, no loss is allowed on a §197 intangible until the last intangible purchased together is disposed of. For example, in the past, taxpayers would allocate substantial basis to a 3-year covenant not to compete or some other short-lived intangible rather than goodwill (with a longer recovery period). If a §197 intangible expires or is disposed of before the 180-month amortization period expires any remaining basis of the disposed intangible is allocated among the remaining intangibles purchased at the same time.

31. [LO 4] Compare and contrast the tax and financial accounting treatment of goodwill. Are taxpayers allowed to deduct amounts associated with self-created goodwill?

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US GAAP requires goodwill to be capitalized and tested annually for impairment. If and when the goodwill is impaired, the difference between the book value and the new fair value will be expensed. For tax purposes, goodwill is treated like any other §197 intangible. §197 intangibles are amortized over 180 months (15 years) using the straight-line method, and the full-month convention.

With respect to self-created assets, taxpayers must amortize any capitalized costs (any unamortized research and experimentation expenses and with fees necessary to create the asset) over the life of the asset. For financial accounting these costs are normally expensed.

32. [LO 4] Compare and contrast the similarities and differences between organizational expenditures and start-up costs for tax purposes.

Organizational expenditures and start-up costs are sometimes confused because both expense types are similar in that they are both incurred about the time the business begins. However, the expenses relate to different concerns. Start-up costs are costs that would be deductible as ordinary trade or business expense under §162, except for the fact that the trade or business had not started. An example of start-up costs is employee wages incurred before actual production begins at the factory. Alternatively, organizational expenditures relate to professional fees related to creating the entity. An example of organizational expenditures is attorney fees incurred for preparation of the corporate charter or partnership agreement. Additionally, all businesses can deduct start-up costs, but only corporations and partnerships can deduct organizational expenditures.

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33. [LO 4] Discuss the method used to determine the amount of organizational expenditures or start-up costs that may be immediately expensed in the year a taxpayer begins business.

Start-up costs can be expensed up to $5,000 and organizational expenditures can each be expensed, up to $5,000, in the year the business begins. However, the current expense is reduced dollar for dollar if the expenses exceed a threshold amount. The threshold for both start-up costs and organizational expenditures is $50,000. Any remaining expenses can be amortized over 15 years (180 months) for both types of costs. For example, if a taxpayer incurs $23,000 of organizational costs, it may currently expense $5,000—since the total expense is less than the $50,000 threshold. The remaining $18,000 ($23,000 - $5,000 expense) may be amortized at a rate of $100 per month ($18,000 / 180 months).

34. [LO 4] Explain the amortization convention applicable to intangible assets.

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MACRS uses the half-year, mid-quarter, and mid-month conventions. These simplifying conventions assume that the asset was placed in service during the middle of the year, quarter, or month, respectively. Intangibles are amortized using the full-month convention except for research and experimentation costs, which use a half-year convention. The full-month convention allows an entire month of amortization in each month the asset is owned—beginning with the month the intangible is placed in service.

35. [LO 4] Compare and contrast the recovery periods of §197 intangibles, organizational expenditures, start-up costs, and research and experimentation expenses.

Intangibles are generally amortized using the full-month convention over the applicable recovery period. §197 assets must be amortized over a 15-year recovery period. Organizational expenditures and start-up costs are eligible for up to $5,000 of expensing in the year the business begins. This expense is reduced dollar-for-dollar over a $50,000 threshold. The remaining expenses are amortized over a 15-year recovery period. Research and experimentation expenses are capitalized or amortized ratably over 5 years beginning with the midpoint of the year in which the costs were incurred. Research and experimentation expenditures attributable to research conducted outside the United States are capitalized and amortized ratably over a period of 15 years after December 31, 2021. Any unamortized expense that is allocable to a self-created intangible such as a patent is amortized over the intangible's life.

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36. [LO 5] Compare and contrast the cost and percentage depletion methods for recovering the costs of natural resources. What are the similarities and differences between the two methods?

Both cost and percentage depletion methods are used to recoup the cost of natural resources. A taxpayer can use the depletion method that results in the largest deduction in the current year. Cost depletion is a cost recovery method based on the amount of the estimated raw materials used during the year. The basic premise is that a business ratably recovers the cost basis of the resource as it is used up. Cost depletion is taken until the basis of the asset is recovered. If the natural resource is exhausted before the basis is recovered then the remaining basis is expensed. In contrast, percentage depletion is a statutory method that allows an expense based on the lesser of 50 percent of net income from the activity or a percentage (statutorily determined) of the gross receipts from the business during the current year. Percentage depletion continues even after the asset's basis has been fully recovered.

37. [LO 5] Explain why percentage depletion has been referred to as a government subsidy.

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Percentage depletion is often referred to as a government subsidy because it is an expense designed to encourage production of specific resources. For example, oil and gas, coal, and many other natural resources are assigned specific percentage depletion rates (between 5 percent and 22 percent), while timber is excluded from resources applicable to the method. To encourage development of a certain resource, Congress can simply raise the statutory percentage for the resource type. In addition, percentage depletion expense can transcend reality. How many expenses are allowed to exceed the taxpayer's basis in an asset? Very few expenses, if any, are allowed to exceed basis. Savvy taxpayers can underestimate the estimate of a natural resource, accelerate its cost recovery through cost depletion, and then continue to receive depletion benefits through percentage depletion. For these reasons, percentage depletion is referred to as a subsidy.

Problems

38. [LO 1] Jose purchased a delivery van for his business through an online auction. His winning bid for the van was $24,500. In addition, Jose incurred the following expenses before using the van: shipping costs of $650; paint to match the other fleet vehicles at a cost of $1,000; registration costs of $3,200, which included $3,000 of sales tax and an annual registration fee of $200; wash and detailing for $50; and an engine tune-up for $250. What is Jose's cost basis for the delivery van?

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$29,150, cost basis in the delivery van, computed as follows:

Description	***Amount***	***Explanation****
Purchase price	*$24,500*	
Shipping costs	*650*	*Business preparation cost*
Paint	*1,000*	*Business preparation cost*
Sales tax	*3,000*	*Business preparation cost*
Total cost basis	*$29,150*	

**Note that the registration fee, washing and detailing, and engine tune-up are costs for repairs and maintenance that are not required to be capitalized.*

39. [LO 1]{Research} Emily purchased a building to store inventory for her business. The purchase price was $760,000. Emily also paid legal fees of $300 to acquire the building. In March, Emily incurred $2,000 to repair minor leaks in the roof (from

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storm damage earlier in the month) and $5,000 to make the interior suitable for her finished goods. What is Emily's cost basis in the new building?

$765,300 cost basis, computed as follows:

Description	***Amount***	***Explanation***
Purchase price	*$760,000*	
Improvements	*5,000*	*Business preparation costs*
Legal fees	*300*	*Business preparation costs*
Cost basis in building	*$765,300**	

**Note that the $2,000 repair for the roof was not capitalized. The repair is likely a routine maintenance expenditure rather than a capitalized cost under Reg. 1.263(a)-3. The roof repair is reasonably expected to occur more than once in a 10-year period. However, if the expense resulted in a betterment, restoration or adaptation to new or different use, it would be capitalized. The legal fees would be capitalized as expenses to purchase the building and the costs to modify the interior would be capitalized as improvement costs.*

40. [LO 1]{Research} In January, Prahbu purchased for $90,000 a new machine for use in an existing production line of his manufacturing business. Assume that the machine is a unit of property and is not a material or supply. Prahbu pays $2,500 to install the machine, and after the machine is installed, he pays $1,300 to perform a critical test on the machine to ensure that it will operate in accordance with quality standards. On November 1, the critical test is complete, and Prahbu places the machine in service on the production line. On December 3, Prahbu pays another $3,300 to perform periodic quality control testing after the machine is placed in service. How much will Prahbu be required to capitalize as the cost of the machine?

$93,800 cost basis, computed as follows:

Description	***Amount***	***Explanation***
Purchase price	*$90,000*	
Installation costs	*2,500*	*Business preparation costs*
Critical test costs	*1,300*	*Business preparation costs*
Cost basis in machine	*$93,800*	

Under Reg. §1.263(a)-2(d)(1) **Prahbu** *must capitalize amounts paid to acquire or produce a unit of personal property machinery and equipment. Amounts paid to acquire or produce a unit of personal property include the invoice price, transaction costs, and costs for work performed prior to the date that the unit of property is placed in service by the taxpayer. The amounts paid for the installation and the critical test performed before the machine is placed in service must be capitalized as amounts to acquire the machine. However, the $3,300 paid for periodic quality*

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control testing after Prahbu placed the machine in service is not required to be capitalized as amounts paid to acquire the machine. This amount is expensed as routine maintenance under Reg §1.263(a)-3(i).

41. [LO 1] Dennis contributed business assets to a new business in exchange for stock in the company. The exchange did not qualify as a tax-deferred exchange. The fair market value of these assets was $287,000 on the contribution date. Dennis's original basis in the assets he contributed was $143,000, and the accumulated depreciation on the assets was $78,000.

    a. What is the business's basis in the assets it received from Dennis?
    b. What would be the business's basis if the transaction qualified as a tax-deferred exchange?

a. Because this exchange is a fully taxable transaction, the business's basis in Dennis's assets is the $287,000 fair market value of the assets.
b. If the transaction qualified as a tax-deferred exchange, the business would take the same adjusted basis in the assets that Dennis had. That is, the business will receive an exchanged basis of $65,000 ($143,000 original basis minus accumulated depreciation of $78,000) in the assets.

42. [LO 1] Brittany started a law practice as a sole proprietor. She owned a computer, printer, desk, and file cabinet she purchased during law school (several years ago) that she is planning to use in her business. What is the depreciable basis that Brittany should use in her business for each asset, given the following information?

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Asset	Purchase Price	FMV at Time Converted to Business use
Computer	$5,500	$3,800
Printer	$3,300	$3,150
Desk	$4,200	$4,000
File cabinet	$3,200	$3,225

The basis of assets converted from personal use to business use is the lesser of (1) fair market value on date of conversion or (2) basis on the date of conversion. The depreciable basis of each asset is as follows:

Asset	*(1) FMV*	*(2) Basis on Date of Conversion*	Lesser of (1) or (2) Depreciable *Basis*
Computer	$3,800	$5,500	***$3,800***
Printer	$3,150	$3,300	***$3,150***
Desk	$4,000	$4,200	***$4,000***
File cabinet	$3,225	$3,200	***$3,200***

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43. [LO 1] Meg O'Brien received a gift of some small-scale jewelry manufacturing equipment that her father had used for personal purposes for many years. Her father originally purchased the equipment for $1,500. Because the equipment is out of production and no longer available, the property is currently worth $4,000. Meg has decided to begin a new jewelry manufacturing trade or business. What is her depreciable basis for depreciating the equipment?

The basis of a gift is a carryover basis from the donor; therefore, Meg's depreciable basis in the property is $1,500.

44. [LO 1] Gary inherited a Maine summer cabin on 10 acres from his grandmother. His grandparents originally purchased the property for $500 in 1950 and built the cabin at a cost of $10,000 in 1965. His grandfather died in 1980, and when his grandmother recently passed away, the property was appraised at $500,000 for the land and $700,000 for the cabin. Because Gary doesn't currently live in New England, he decided that it would be best to put the property to use as a rental. What is Gary's basis in the land and in the cabin?

The basis of inherited property is the fair market value on the date of death or, if elected by the estate, the alternate valuation date if less. Consequently, Gary's basis will be $500,000 in the land and $700,000 for the cabin.

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45. [LO 1] Wanting to finalize a sale before year-end, on December 29, WR Outfitters sold to Bob a warehouse and the land for $125,000. The appraised fair market value of the warehouse was $75,000, and the appraised value of the land was $100,000.

    a. What is Bob's basis in the warehouse and in the land?
    b. What would be Bob's basis in the warehouse and in the land if the appraised value of the warehouse is $50,000 and the appraised value of the land is $125,000?
    c. Which appraisal would Bob likely prefer?

    NOTE: This is a bargain purchase. The sales price is less than the appraised value. This solution uses the relative appraised values of the land and the warehouse to allocate the purchase price between these two assets.

    a. Bob's cost basis in the land is $71,429. Because the purchase price is less than the appraised values for the land and the warehouse, the purchase price must be allocated between the land and the warehouse. The $71,429 basis for the land is the amount of the $125,000 purchase price that is allocated to the land based on the relative value of the land ($100,000) to the value of the land ($100,000) plus the value of the warehouse ($75,000) based on the appraisal. The formula used to

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determine the basis allocated to the land is $125,000 (purchase price) × $100,000/($100,000 + 75,000).

Use the same process to determine that Bob's basis in the warehouse is $53,571 [125,000 × $75,000/(100,000 + $75,000)].

b. Bob's cost basis for the land is $89,286. Because the purchase price is less than the appraised values for the land and the warehouse, the purchase price must be allocated between the land and the warehouse. The $89,286 basis for the land is the amount of the $125,000 purchase price that is allocated to the land based on the relative value of the land ($125,000) to the value of the land ($125,000) plus the value of the warehouse ($50,000) based on the appraisal. The formula used to determine the basis allocated to the land is $125,000 (purchase price) × $125,000/($50,000 + 125,000).

Use the same process to determine that Bob's basis in the warehouse is $35,714 [$125,000 × $50,000/($50,000 + $125,000)].

c. Bob would likely prefer the appraisal from part (a) because the appraisal allows him to allocate more basis to the warehouse, which is depreciable.

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46. [LO 2] At the beginning of the year, Poplock began a calendar-year, dog-boarding business called Griff's Palace. Poplock bought and placed in service the following assets during the year:

Asset	Date Acquired	Cost Basis
Computer equipment	3/23	$5,000
Dog grooming furniture	5/12	$7,000
Pickup truck	9/17	$10,000
Commercial building	10/11	$270,000
Land (one acre)	10/11	$80,000

Assuming Poplock does not elect §179 expensing and elects not to use bonus depreciation, answer the following questions:

a. What is Poplock's year 1 depreciation deduction for each asset?
b. What is Poplock's year 2 depreciation deduction for each asset?

a. $5,445, under the half-year convention for personal property, calculated as follows:

Asset	***Purchase Date***	***Quarter***	***Recovery period***	***(1) Original Basis***	***(2) Rate***	***(1) × (2) Depreciation***
Computer equipment	*23-Mar*	*1st*	*5 years*	*$5,000*	*20.00%*	*$1,000*

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Dog grooming furniture	*12-May*	*2nd*	*7 years*	*$7,000*	*14.29%*	*$1,000*
Pickup truck	*17-Sep*	*3rd*	*5 years*	*$10,000*	*20.00%*	*$2,000*
Commercial Building	*11-Oct*	*4th*	*39 years*	*$270,000*	*0.535%*	*$1,445*
						$5,445

b. $13,437, calculated as follows:

Asset	***Purchase Date***	***Quarter***	***Recovery period***	***(1) Original Basis***	***(2) Rate***	***(1) × (2) Depreciation***
Computer equipment	*23-Mar*	*1st*	*5 years*	*$5,000*	*32.00%*	*$1,600*
Dog grooming furniture	*12-May*	*2nd*	*7 years*	*$7,000*	*24.49%*	*$1,714*
Pickup truck	*17-Sep*	*3rd*	*5 years*	*$10,000*	*32.00%*	*$3,200*
Commercial Building	*11-Oct*	*4th*	*39 years*	*$270,000*	*2.564%*	*$6,923*
						$13,437

47. [LO 2] DLW Corporation acquired and placed in service the following assets during the year:

Asset	Date Acquired	Cost Basis
Computer equipment	2/17	$10,000
Furniture	5/12	$17,000
Commercial building	11/1	$270,000

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Assuming DLW does not elect §179 expensing and elects not to use bonus depreciation, answer the following questions:

a. What is DLW's year 1 cost recovery for each asset?
b. What is DLW's year 3 cost recovery for each asset if DLW sells these assets on 1/23 of year 3?

a. $5,296, under the half-year convention for personal property, calculated as follows:

Asset	***Purchase Date***	***Quarter***	***Recovery period***	***(1) Original Basis***	***(2) Rate***	***(1) × (2) Depreciation***
Computer equipment	*17-Feb*	*1st*	*5 years*	*$10,000*	*20.00%*	*$2,000*
Furniture	*12-May*	*2nd*	*7 years*	*$17,000*	*14.29%*	*$2,429*
Building	*1-Nov*	*4th*	*39 years*	*$270,000*	*0.321%*	*$867*
						$5,296

b. $2,735, under the half-year convention for personal property, calculated as follows:

Asset	***Original Basis***	***Recovery period***	***Rate***	***Portion of Year***	***Depreciation Expense***

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Computer equipment	*$10,000*	*5 years*	*19.2%*	*50.00%*	*$960*
Furniture	*$17,000*	*7 years*	*17.49%*	*50.00%*	*$1,487*
Building	*$270,000*	*39 years*	*2.564%*	*4.17%*	*$288*
		Total Cost Recovery			*$2,735*

48. [LO 2] At the beginning of the year, Anna began a calendar-year business and placed in service the following assets during the year:

Asset	Date Acquired	Cost Basis
Computers	1/30	$28,000
Office desks	2/15	$32,000
Machinery	7/25	$75,000
Office building	8/13	$400,000

Assuming Anna does not elect §179 expensing and elects not to use bonus depreciation, answer the following questions:

a. What is Anna's year 1 cost recovery for each asset?
b. What is Anna's year 2 cost recovery for each asset?

a. $24,743, using the half-year convention for personal property, as calculated below.

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Asset	***Purchase Date***	***Recovery period***	***(1) Original Basis***	***(2) Rate***	***(1) × (2) Cost Recovery***
Computers	*30-Jan*	*5 years*	*$28,000*	*20.00%*	*$5,600*
Office desks	*15-Feb*	*7 years*	*32,000*	*14.29%*	*4,573*
Machinery	*25-Jul*	*7 years*	*75,000*	*14.29%*	*10,718*
Office building	*13-Aug*	*39 years*	*400,000*	*0.963%*	*3,852*
					$24,743

b. $45,421, using the half-year convention for personal property, calculated as follows:

Asset	***Purchase Date***	***Recovery period***	***(1) Original Basis***	***(2) Rate***	***(1) × (2) Cost Recovery***
Computers	*30-Jan*	*5 years*	*$28,000*	*32.00%*	*$8,960*
Office desks	*15-Feb*	*7 years*	*32,000*	*24.49%*	*7,837*
Machinery	*25-Jul*	*7 years*	*75,000*	*24.49%*	*18,368*
Office building	*13-Aug*	*39 years*	*400,000*	*2.564%*	*10,256*
					$45,421

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49. [LO 2] {Planning} Parley needs a new truck to help him expand Parley's Plumbing Palace. Business has been booming and Parley would like to accelerate his tax deductions as much as possible (ignore §179 expense and bonus depreciation for this problem). On April 1, Parley purchased a new delivery van for $25,000. It is now September 26 and Parley, already in need of another vehicle, has found a deal on buying a truck for $22,000 (all fees included). The dealer tells him if he doesn't buy the truck (Option 1), it will be gone tomorrow. There is an auction (Option 2) scheduled for October 5 where Parley believes he can get a similar truck for $21,500, but there is also a $500 auction fee. Parley makes no other asset acquisitions during the year.

    a. Which option allows Parley to generate more depreciation deductions this year (the vehicles are not considered to be luxury autos)?
    b. Assume the original facts, except that the delivery van was placed in service one day earlier on March 31 rather than April 1. Which option generates more depreciation deduction?

a. Option 1 generates more depreciation. Option 1 generates $9,400 of depreciation and Option 2 generates $7,350.

Option 1: Half-year convention applies

Asset	***Date Placed in Service***	***(1) Original Basis***	***(2) Rate***	***(1) × (2) Depreciation***
Delivery Van	*April 1*	*$25,000*	*20.00%*	*$5,000*
Option 1	*September 26*	*$22,000*	*20.00%*	*$4,400*
Total				*$9,400*

Option 2: Mid-quarter convention applies

Asset	***Date Placed in Service***	***Quarter***	***(1) Original Basis***	***(2) Rate***	***(1) × (2) Depreciation***
Delivery Van	*April 1*	*2nd*	*$25,000*	*25.00%*	*$6,250*
Option 2	*October 5*	*4th*	*$22,000*	*5.00%*	*$1,100*
Total					*$7,350*

b. Option 2 generates more depreciation ($9,850 vs. 9,400).
Under Option 1, because the half-year convention applies, the depreciation deduction is $9,400, the same as it is in part (a).

Under Option 2, because the mid-quarter convention applies and the Delivery Van was placed in service in the first quarter (on March 31), Parley can deduct more depreciation overall. The depreciation under Option 2 in this scenario is $9,850, computed as follows:

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Option 2: Mid-quarter convention applies

Asset	Date Placed in Service	Quarter	(1) Original Basis	(2) Rate	(1) × (2) Depreciation
Delivery van	*March 31*	*1st*	*$25,000*	*35.00%*	*$8,750*
Option 2	*October 5*	*4th*	*$22,000*	*5.00%*	*$1,100*
Total					*$9,850*

50. [LO 2] Way Corporation disposed of the following tangible personal property assets in the current year. Assume that the delivery truck is not a luxury auto. Calculate Way Corporation's 2022 depreciation deduction (ignore §179 expense and bonus depreciation for this problem).

Asset	Date acquired	Date sold	Convention	Original Basis
Furniture (7 year)	5/12/18	7/15/22	HY	$55,000
Machinery (7 year)	3/23/19	3/15/22	MQ	$72,000
Delivery truck* (5 year)	9/17/20	3/13/22	HY	$20,000
Machinery (7 year)	10/11/21	8/11/22	MQ	$270,000
Computer (5 year)	10/11/22	12/15/22	HY	$80,000

Depreciation is $51,851, calculated as follows:

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Asset	Original Basis	Quarter If mid quarter	Rate	Portion of Year	Depreciation Deduction
Furniture	*$55,000*	***n/a***	*8.93%*	*50.00%*	*$2,456*
Machinery	*$72,000*	*1st*	*10.93%*	*12.50%*	*$984*
Delivery truck	*$20,000*	***n/a***	*19.20%*	*50.00%*	*$1,920*
Machinery	*$270,000*	*4th*	*27.55%*	*62.50%*	*$46,491*
Computer	*$80,000*	***n/a***	*0.00%*	*50.00%*	*$0***
Total Depreciation					*$51,851*

**Used 100 percent for business.*

***No depreciation for assets acquired and disposed of in the same year.*

51. [LO 2] On November 10 of year 1, Javier purchased a building, including the land it was on, to assemble his new equipment. The total cost of the purchase was $1,200,000; $300,000 was allocated to the basis of the land and the remaining $900,000 was allocated to the basis of the building.

    a. Using MACRS, what is Javier's depreciation deduction on the building for years 1 through 3?
    b. What would be the year 3 depreciation deduction if the building was sold on August 1 of year 3?

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c. Answer the question in part (a), except assume the building was purchased and placed in service on March 3 instead of November 10.
d. Answer the question in part (a), except assume that the building is residential property.
e. What would be the depreciation for 2022, 2023, and 2024 if the property were nonresidential property purchased and placed in service November 10, 2005 (assume the same original basis)?

a. The depreciation for the 3 years is computed as follows:

Year	Method	Recovery Period	Date Placed in Service	(1) Original Basis	(2) Rate	(1) × (2) Depreciation
1	SL	39	Nov. 10	$900,000	0.321%	$2,889
2				$900,000	2.564%	$23,076
3				$900,000	2.564%	$23,076

b. The depreciation for year 3 would be $14,423 and is computed as follows (The building is sold in month 8 so depreciation for the year is for 8 minus one-half month =7.5 months.):

Year	Method	Recovery Period	Date Placed in Service	(1) Basis	(2) Rate	(1) × (2) Depreciation
3	SL	39	Nov. 10	$900,000	2.564%	$23,076
					Partial year	x 7.5/12
						$14,423

c. The depreciation for years 1 – 3 is computed as follows (note that years 2 and 3 are the same):

Year	Method	Recovery Period	Date Placed in Service	(1) Original Basis	(2) Rate	(1) × (2) Depreciation
1	SL	39	March 3	$900,000	2.033%	$18,297
2				$900,000	2.564%	$23,076
3				$900,000	2.564%	$23,076

d. If the property was residential real property, the building is depreciated over 27.5 years instead of 39 years. The depreciation for years 1 - 3 is computed as follows:

Year	Method	Recovery Period	Date Placed in Service	(1) Original Basis	(2) Rate	(1) × (2) Depreciation
1	SL	27.5	Nov. 10	$900,000	0.455%	$4,095
2				$900,000	3.636%	$32,724
3				$900,000	3.636%	$32,724

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e. If the property was nonresidential real property purchased in 2005, the depreciation for the 3 years is computed as follows for years 2022, 2023, and 2024 in the depreciation table:

Year	Method	Recovery Period	Date Placed in Service	(1) Original Basis	(2) Rate	(1) × (2) Depreciation
2022	*SL*	*39*	*2003*	*$900,000*	*2.564%*	*$23,076*
2023				*$900,000*	*2.564%*	*$23,076*
2024				*$900,000*	*2.564%*	*$23,076*

52. [LO 2] Carl purchased an apartment complex for $1.1 million on March 17 of year 1. Of the purchase price, $300,000 was attributable to the land the complex sits on. He also installed new furniture into half of the units at a cost of $60,000.
    a. What is Carl's allowable depreciation deduction for his real property for years 1 and 2?
    b. What is Carl's allowable depreciation deduction for year 3 if the real property is sold on January 2 of year 3?

a. The depreciation on the real property for the 2 years is computed as follows:

Year	Method	Recovery Period	Date Placed in Service	(1) Original Basis	(2) Rate	(1) × (2) Depreciation
1	*SL*	*27.5*	*March 17*	*$800,000*	*2.879%*	*$23,032*
2				*$800,000*	*3.636%*	*$29,088*

Note that the furniture is depreciable personal property.

b. The depreciation for year 3 is computed as follows:

Year	Method	Recovery Period	Date Placed in Service	(1) Original Basis	Rate	(1) × (2) Depreciation
3	*SL*	*27.5*	*March 17*	*$800,000*	*3.636%*	*$29,088*
					*Partial year**	*x .5/12*
						$1,212

**mid- month convention applies to real property in year of acquisition and year of disposition.*

53. [LO 2, LO 3] Evergreen Corporation (calendar year-end) acquired the following assets during the current year:

Asset	Placed in Service Date	Original Basis
Machinery	October 25	$70,000
Computer equipment	February 3	$10,000
Used delivery truck*	August 17	$23,000

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Furniture	April 22	$150,000

*The delivery truck is not a luxury automobile.

a. What is the allowable depreciation on Evergreen's property in the current year, assuming Evergreen does not elect §179 expense and elects out of bonus depreciation?
b. What is the allowable depreciation on Evergreen's property in the current year if Evergreen does not elect out of bonus depreciation?

a. $38,038, under the half-year convention, calculated as follows:

Asset	Placed in Service	(1) Original Basis	(2) Rate	(1) × (2) Depreciation
Computer equipment (5 year)	*February 3*	*$10,000*	*20.00%*	*$2,000*
Furniture (7 year)	*April 22*	*$150,000*	*14.29%*	*$21,435*
Used delivery truck (5 year)	*August 17*	*$23,000*	*20.00%*	*$4,600*
Machinery (7 year)	*October 25*	*$70,000*	*14.29%*	*$10,003*
Total		*$253,000*		*$38,038*

b. $253,000, using 100 percent bonus depreciation. All of Evergreen's assets placed in service during the year are eligible for bonus depreciation.

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Asset	Placed in Service	Quarter	(1) Original Basis	(2) Rate	(1) × (2) Depreciation
Computer equipment (5 year)	*February 3*	*1st*	*$10,000*	*100%*	*$10,000*
Furniture (7 year)	*April 22*	*2nd*	*$150,000*	*100%*	*$150,000*
Used delivery truck (5 year)	*August 17*	*3rd*	*$23,000*	*100%*	*$23,000*
Machinery (7 year)	*October 25*	*4th*	*$70,000*	*100%*	*$70,000*
Total			*$253,000*		*$253,000*

54. [LO 2, LO 3] Convers Corporation (calendar year-end) acquired the following assets during the current tax year:

Asset	Placed in Service Date	Original Basis
Machinery	October 25	$70,000
Computer equipment	February 3	$10,000
Delivery truck*	March 17	$23,000
Furniture	April 22	$150,000
Total		$253,000

*The delivery truck is not a luxury automobile.

In addition to these assets, Convers installed qualified real property (MACRS, 15 year, 150% DB) on May 12 at a cost of $300,000.

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a. What is the allowable MACRS depreciation on Convers's property in the current year assuming Convers does not elect §179 expense and elects out of bonus depreciation?

b. What is the allowable MACRS depreciation on Convers's property in the current year assuming Convers does not elect out of bonus depreciation (but does not take §179 expense)?

a. $53,038, under the half-year convention, as computed below:

Asset	Placed in Service	(1) Original Basis	(2) Rate	(1) × (2) Depreciation
Machinery (7 year)	*October 25*	*$70,000*	*14.29%*	*$10,003*
Computer Equipment (5 year)	*February 3*	*10,000*	*20.00%*	*2,000*
Delivery truck (5 year)	*March 17*	*$23,000*	*20.00%*	*4,600*
Furniture (7 year)	*April 22*	*150,000*	*14.29%*	*21,435*
Qualified real property (15-year)	*May 12*	*300,000*	*5.00%*	*15,000*
Total		*$553,000*		*$53,038*

b. $553,000, under the half-year convention, as computed below. Note that the qualified real property qualifies for bonus.

Asset	Placed in Service	(1) Original Basis	(2) Rate	(1) × (2) Depreciation
Machinery (7 year)	*October 25*	*$70,000*	*100%*	*$70,000*
Computer Equipment (5 year)	*February 3*	*10,000*	*100%*	*10,000*
Delivery truck (5 year)	*March 17*	*$23,000*	*100%*	*23,000*
Furniture (7 year)	*April 22*	*150,000*	*100%*	*150,000*
Qualified real property (15-year)	*May 12*	*300,000*	*100%*	*300,000*
Total		*$553,000*		*$553,000*

55. [LO 2, LO 3] Harris Corp. is a technology start-up and is in its second year of operations. The company didn't purchase any assets this year but purchased the following assets in the prior year:

Asset	Placed in Service	Basis
Office equipment	August 14	$10,000
Manufacturing equipment	April 15	68,000
Computer system	June 1	16,000
Total		$94,000

Harris did not know depreciation was tax deductible until it hired an accountant this year and didn't claim any depreciation deduction in its first year of operation.

a) What is the maximum amount of depreciation deduction Harris Corp. can deduct in its second year of operation?

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b) What is the basis of the office equipment at the end of the second year?

a) *$-0-. Harris is limited to the regular MACRS depreciation using the second-year depreciation rates. However, in the prior year, Harris did not file an election out of bonus depreciation. As a result, the depreciation allowable in the prior year would be 100 percent of the depreciable basis (cost) under the bonus depreciation rules. After reducing the basis by the bonus depreciation, no basis remains for depreciation in year 2.*

b) *$-0-. The basis of the office equipment at the end of the second year is calculated by subtracting the depreciation allowable from the original basis. In this case, Harris must reduce the basis by the first year's depreciation that was not taken but was allowable of $10,000, leaving no remaining basis at the end of year 1 and year 2.*

56. [LO 2, LO 3] AMP Corporation (calendar year-end) has 2022 taxable income of $1,900,000 for purposes of computing the §179 expense. During 2022, AMP acquired the following assets:

Asset	Placed in Service	Basis
Machinery	September 12	$1,550,000
Computer equipment	February 10	365,000
Office building	April 2	480,000
Total		$2,395,000

a) What is the maximum amount of §179 expense AMP may deduct for 2022?
b) What is the maximum total depreciation, including §179 expense, that AMP may deduct in 2022 on the assets it placed in service in 2022, assuming no bonus depreciation?

a. The maximum §179 expense is $1,080,000.

Description	Amount	Explanation
(1) Property placed in service in 2022	$1,915,000	Total §179 qualified property
(2) Threshold for §179 phase-out	(2,700,000)	2022 amount [§179(b)(2)]
(3) Phase-out of maximum §179 expense	$-0-	(1) – (2) (*permanently disallowed*), not less than $0.
(4) Maximum 179 expense before phase-out	$1,080,000	2022 amount [§179(b)(1)]
(5) Phase-out of maximum §179 expense	$-0-	From (3)
Maximum §179 expense after phase-out	**$1,080,000**	(4) – (5)

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b. The maximum depreciation deduction is $1,228,894 (half-year convention). Depreciation is maximized by applying the §179 expense against 7-year rather than 5-year property.

Asset	Original Basis	§179 Expense	Remaining Basis	Rate	Depreciation Deduction
Machinery (7-year)	$1,550,000	$1,080,000	$470,000	14.29%	$67,163
Computer Equipment (5-year)	$365,000		$365,000	20.00%	$73,000
Office building (39 year)	$480,000		$480,000	1.819%	$8,731
§179 Expense					$1,080,000
Total cost recovery					$1,228,894

57. [LO 2, LO 3] Assume TDW Corporation's (calendar year-end) has 2022 taxable income of $650,000 for purposes of computing the §179 expense. The company acquired the following assets during 2022:

Asset	Placed in Service	Basis
Machinery	September 12	$2,270,000
Computer equipment	February 10	263,000
Furniture	April 2	880,000
Total		$3,413,000

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a) What is the maximum amount of §179 expense TDW may deduct for 2022?
b) What is the maximum total depreciation, including §179 expense, that TDW may deduct in 2022 on the assets it placed in service in 2022, assuming no bonus depreciation?

a. The maximum §179 expense is $367,000.

Description	Amount	Explanation
(1) Property placed in service in 2022	$3,413,000	Total qualified property
(2) Threshold for §179 phase-out	(2,700,000)	2022 amount [§179(b)(2)]
(3) Phase-out of maximum §179 expense	$713,000	(1) – (2) (*permanently disallowed*)
(4) Maximum 179 expense before phase-out	$1,080,000	2022 amount [§179(b)(1)]
(5) Phase-out of maximum §179 expense	$713,000	From (3)
(6) **Maximum §179 expense after phase-out**	**$367,000**	(4) – (5)

b. The maximum depreciation deduction is $817,291.

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Depreciation is maximized by applying the §179 expense against 7-year rather than 5-year property, and in this case, depreciation is maximized by applying the §179 expense against the machinery.

Asset	Original Basis	§179 Expense	Remaining Basis	Rate	Depreciation Deduction
Machinery (7-year)	$2,270,000	$367,000	$1,903,000	14.29%	$271,939
Computer Equipment (5- year)	$263,000		$263,000	20.00%	52,600
Furniture (7 year)	$880,000		$880,000	14.29%	125,752
§179 Expense					367,000
Total cost recovery					$817,291

58. [LO 2, LO 3] Assume that Timberline Corporation has 2022 taxable income of $240,000 for purposes of computing the §179 expense. It acquired the following assets in 2022:

Asset	Purchase Date	Basis
Furniture (7-year)	December 1	$450,000
Computer equipment (5-year)	February 28	90,000
Copier (5-year)	July 15	30,000
Machinery (7-year)	May 22	480,000
Total		$1,050,000

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a) What is the maximum amount of §179 expense Timberline may deduct for 2022? What is Timberline's §179 carryforward to 2023, if any?
b) What would Timberline's *maximum* depreciation deduction be for 2022 assuming no bonus depreciation?
c) What would Timberline's *maximum* depreciation deduction be for 2022 if the machinery cost $3,500,000 instead of $480,000 and assuming no bonus depreciation?

a) The maximum §179 expense would be $240,000 and the carryforward to 2023 would be $840,000.

Description	*Amount*	*Explanation*
(1) Property placed in service	*$1,050,000*	*Total qualified assets*
(2) Threshold for §179 phase-out	*(2,700,000)*	*2022 amount (§179(b)(2))*
(3) Phase-out of maximum §179 expense	*$0*	*(1) – (2) (permanently disallowed), not less than $0.*
(4) Maximum 179 expense before phase-out	*$1,080,000*	*2022 amount (§179(b)(1))*
(5) Phase-out of maximum §179 expense	*$0*	*From (3)*

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(6) ***Maximum §179 expense after phase-out***	***$1,080,000***	*(4) – (5)*
(7) Taxable income before §179 deduction	*$240,000*	*Given in problem*
(8) §179 expense after taxable income limitation.	***$240,000***	*Lesser of (6) and (7)*
§179 carryforward to next year	***$840,000***	*(6) – (8)*

b) To maximize the current year depreciation, Timberline will apply the §179 expense of $240,000 to the furniture placed in service in the 4th quarter. The half-year convention applies because the remaining basis of the furniture ($210,000) does not exceed the 40 percent mid-quarter convention test ($210,000/$810,000 = 26 percent). (Because the mid-quarter test is applied after taking §179 expense, it is optimal to take the §179 expense against qualified property placed into service during the fourth quarter.)

Timberline's depreciation deduction is $362,601 computed as follows:

Asset	***Original Basis***	***§179 Expense***	***Remaining Basis***	***Rate***	***Depreciation Deduction***
Furniture	*$450,000*	*$240,000*	*$210,000*	*14.29%*	*$30,009*
Computer Equipment	*$90,000*		*$90,000*	*20.00%*	*$18,000*
Copier	*$30,000*		*$30,000*	*20.00%*	*$6,000*
Machinery	*$480,000*		*$480,000*	*14.29%*	*$68,592*
§179 Expense					*$240,000*
*Total Depreciation Deduction**					*$362,601*

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**Depreciation is maximized by applying the §179 expense against 7-year instead of 5-year property.*

c) The maximum §179 expense would be $0, computed as follows:

Description	***Amount***	***Explanation***
(1) Property placed in service	*$4,070,000*	*Total of qualifying assets*
(2) Threshold for §179 phase-out	*(2,700,000)*	*2022 amount (§179(b)(2))*
(3) Phase-out of maximum §179 expense	*$1,370,000*	*(1) – (2) (permanently disallowed)*
(4) Maximum 179 expense before phase-out	*$1,080,000*	*2022 amount [§179(b)(1)]*
(5) Phase-out of maximum §179 expense	*$1,370,000*	*From (3)*
Maximum §179 expense after phase-out	***$0***	*(4) – (5), but not below 0*

The maximum depreciation deduction for 2022 using the half-year convention would be $588,455, computed as follows:

Asset	***Original Basis***	***§179 Expense***	***Remaining Basis***	***Rate***	***Depreciation Deduction***
Furniture	*$450,000*		*$450,000*	*14.29%*	*$64,305*

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Computer Equipment	*$90,000*	*$90,000*	*20.00%*	*18,000*
Copier	*$30,000*	*$30,000*	*20.00%*	*6,000*
Machinery	*$3,500,000*	*$3,500,000*	*14.29%*	*500,150*
§179 Expense				*-0-*
Total Depreciation Deduction				*$588,455*

59. [LO 2, LO 3] {Planning} Dain's Diamond Bit Drilling purchased the following assets this year. Assume its taxable income for the year was $53,000 for purposes of computing the §179 expense (assume no bonus depreciation).

Asset	Purchase Date	Original Basis
Drill bits (5-year)	January 25	$90,000
Drill bits (5-year)	July 25	95,000
Commercial building	April 22	220,000

a) What is the maximum amount of §179 expense Dain's may deduct for the year?
b) What is Dain's *maximum* depreciation deduction for the year (including §179 expense)?
c) If the January drill bits' original basis was $2,875,000, what is the maximum amount of §179 expense Dain's may deduct for the year?
d) If the January drill bits' original basis was $3,875,000, what is the maximum amount of §179 expense Dain's may deduct for the year?

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a) The maximum §179 expense is $53,000, computed as follows:

Description	Amount	Explanation
(1) Property placed in service this year	$185,000	Total of qualifying assets
(2) Threshold for §179 phase-out	(2,700,000)	2022 amount (§179(b)(2))
(3) Phase-out of maximum §179 expense	$0	(1) – (2) (*permanently disallowed*), not less than $0
(4) Maximum 179 expense before phase-out	$1,080,000	2022 amount (§179(b)(1))
(5) Phase-out of maximum §179 expense	$0	From (3)
(6) Maximum §179 expense after phase-out	$1,080,000	(4) – (5)
(7) Taxable income before §179 deduction	$53,000	Assumed in problem
§179 expense deductible after taxable income limitation.	$53,000	Lesser of (6) and (7)

b) Dain's depreciation deduction would be $83,402, calculated as follows:

Asset	Original Basis	§179 Expense	Remaining Basis	Rate	Depreciation Deduction
Drill Bits (5 year)	$90,000	$53,000	$37,000	20.00%	$7,400

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Drill Bits (5 year)	$95,000	$95,000	20.00%	$19,000
Commercial Building (39 year)	$220,000	$220,000	1.819%	$4,002
§179 Expense				$53,000
Total Depreciation Deduction				$83,402

Note that to maximize the current year's total depreciation deduction, Dain would only elect §179 expense equal to the taxable income limitation.

c) The maximum section 179 expense would be $53,000:

Description	Amount	Explanation
(1) Property placed in service	$2,970,000	Total of qualifying assets
(2) Threshold for §179 phase-out	(2,700,000)	2022 amount (§179(b)(2))
(3) Phase-out of maximum §179 expense	$270,000	(1) – (2) (*permanently disallowed*)
(4) Maximum 179 expense before phase-out	$1,080,000	2022 amount (§179(b)(1))
(5) Phase-out of maximum §179 expense	$270,000	From (3)
(6) **Maximum §179 expense after phase-out**	**$810,000**	(4) – (5)
(7) Taxable income before §179 deduction	$53,000	Assumed in problem
Maximum §179 expense after taxable income limitation.	**$53,000**	Lesser of (6) and (7)

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d) The maximum section 179 expense would be $0:

Description	Amount	Explanation
(1) Property placed in service	$3,970,000	Total of qualifying assets
(2) Threshold for §179 phase-out	(2,700,000)	2022 amount (§179(b)(2))
(3) Phase-out of maximum §179 expense	$1,270,000	(1) – (2) (*permanently disallowed*)
(4) Maximum 179 expense before phase-out	$1,080,000	2022 amount (§179(b)(1))
(5) Phase-out of maximum §179 expense	$1,270,000	From (3)
(6) Maximum §179 expense after phase-out	$0	(4) – (5), not less than $0
(7) Taxable income before §179 deduction	$53,000	Assumed in problem
Maximum §179 expense after taxable income limitation.	**$0**	Lesser of (6) and (7)

60. [LO 2, LO 3] {Research} Assume that ACW Corporation has 2022 taxable income of $1,500,000 for purposes of computing the §179 expense. The company acquired the following assets during 2022 (assume no bonus depreciation):

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Asset	Placed in Service	Basis
Machinery	September 12	$470,000
Computer equipment	February 10	70,000
Delivery truck	August 21	93,000
Qualified real property (MACRS, 15 year, 150% DB)	April 2	1,380,000
Total		$2,013,000

a) What is the maximum amount of §179 expense ACW may deduct for 2022?
b) What is the maximum *total* depreciation deduction that ACW may deduct in 2022 on the assets it placed in service in 2022?

a. The maximum §179 expense is $1,080,000.

Description	Amount	Explanation
(1) Qualifying property placed in service during year	$2,013,000	Total of qualifying assets
(2) Threshold for §179 phase-out	(2,700,000)	2022 amount [§179(b)(2)]
(3) Phase-out of maximum §179 expense	$-0-	(1) – (2) (*permanently disallowed*), not less than $0
(4) Maximum 179 expense before phase-out	$1,080,000	2022 amount [§179(b)(1)]
(5) Phase-out of maximum §179 expense	$-0-	From (3)
Maximum §179 expense after phase-out	**$1,080,000**	(4) – (5)

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b. The maximum depreciation deduction is $1,194,763 (half-year convention). Depreciation is maximized by applying the §179 expense against the qualified real property up to its maximum amount. The remaining basis in the qualified real property is then depreciated over 15 years.

Asset	Original Basis	§179 Expense	Remaining Basis*	Rate	Depreciation Deduction
Machinery (7-year)	$470,000		$470,000	14.29%	$67,163
Computers (5- year)	$70,000		$70,000	20.00%	$14,000
Delivery Truck (5-year)	$93,000		$93,000	20.00%	$18,600
Qualified real property (15-year)	$1,380,000	1,080,000	$300,000	5.00%	15,000
§179 Expense					$1,080,000
Total Depreciation Deduction					$1,194,763

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61. (LO2, LO3) Chaz Corporation has taxable income in 2022 of $312,000 for purposes of computing the §179 expense and acquired the following assets during the year:

Asset	Placed in Service	Basis
Office furniture	September 12	$780,000
Computer equipment	February 10	930,000
Delivery truck	August 21	68,000
Qualified real property (MACRS, 15 year, 150% DB)	September 30	1,500,000
Total		$3,278,000

What is the maximum *total* depreciation that Chaz may deduct in 2022?

Chaz can recover the full cost of the property placed in service using bonus depreciation determined as follows:

Asset	Original Basis	Bonus Depreciation	Remaining Basis	Rate	Depreciation Deduction
Furniture (7-year)	$780,000	780,000	-0-	14.29%	$0
Computers (5- year)	930,000	930,000	-0-	20.00%	0
Delivery truck (5 year)	68,000	68,000	-0-	20.00%	0
Qualified real property (15-year)	$1,500,000	1,500,000	-0-	5.00%	0
Bonus depreciation		$3,278,000			$3,278,000
Total Depreciation Deduction					$3,278,000

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62. (LO2, LO3) {Planning} {Research} Woolard Supplies (a sole proprietorship) has taxable income in 2022 of $240,000 before any depreciation deductions (§179, bonus, or MACRS) and placed some office furniture into service during the year. The furniture does not qualify for bonus depreciation.

Asset	Placed in Service	Basis
Office furniture (used)	March 20	$1,200,000

a. If Woolard elects $50,000 of §179, what is Woolard's total depreciation deduction for the year?
b. If Woolard elects the maximum amount of §179 for the year, what is the amount of deductible §179 expense for the year? What is the *total* depreciation that Woolard may deduct in 2022? What is Woolard's §179 carryforward to next year, if any?

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c. Woolard is concerned about future limitations on its §179 expense. How much §179 expense should Woolard expense this year if it wants to maximize its depreciation this year and to avoid any carryover to future years?

a. Woolard's total deductible depreciation is $214,335 calculated as follows:

Description	Amount	Explanation
(1) Property placed in service	$1,200,000	Total of qualifying assets
(2) Elected §179 amount	(50,000)	Given in problem
(3) Remaining asset basis	$1,150,000	(1) – (2)
(4) MACRS depreciation rate	14.29%	7-yr, half-year convention
(5) MACRS depreciation	$164,335	(3) × (4)
(6) Taxable income limitation for §179	75,665	$240,000 – (5);
(7) Deductible §179	50,000	Lesser of elected amount or (6)
(7) Total deductible depreciation	$214,335	(5) + (7)

The furniture does not qualify for bonus depreciation.

b. Woolard deducts $222,852 of §179. Woolard carries forward §179 expense of $857,148 to next year. The total deductible depreciation is $240,000 determined as follows:

Description	Amount	Explanation
(1) Property placed in service	$1,200,000	Total of qualifying assets
(2) Threshold for §179 phase-out	(2,700,000)	2022 amount [§179(b)(2)]
(3) Phase-out of maximum §179 expense	0	(1) – (2) (*permanently disallowed*), not less than $0
(4) Maximum 179 expense before phase-out	$1,080,000	2022 amount [§179(b)(1)]
(5) Phase-out of maximum §179 expense	0	From (3)
(6) Maximum §179 expense after phase-out	$1,080,000	(4) – (5), limited to amount of qualifying property placed in service. This is the amount Woolard elects for the year.
(7) Remaining basis in furniture	120,000	(1) – (6)
(8) MACRS depreciation rate	14.29%	7-year, half-year convention
(9) MACRS depreciation	17,148	(7) × (8)
(10) §179 taxable income limitation	$222,852	$240,000 – (9)
(11) Maximum deductible §179 expense after taxable income limitation.	**$222,852**	Lesser of (6) or (10)
Excess §179 expense carried forward	$857,148	(6) – (11)
Woolard's total depreciation deduction	$240,000	(9) + (11)

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Woolard elects the maximum allowed for the year and must reduce the assets' bases by this amount. The remaining basis is subject to regular MACRS depreciation. The furniture is not eligible for bonus depreciation. The §179 taxable income limitation is taxable income after regular depreciation deductions but before the §179 expense. Woolard's §179 deduction is limited to this taxable income amount. The remaining §179 amount that Woolard elected but is not allowed to deduct this year can be carried over to future years.

c. *Woolard should elect to expense $79,944 of §179 to maximize its depreciation this year and to avoid any carryover determined as follows:*

Description	Amount	Explanation
(1) Property placed in service	$1,200,000	Total of qualifying assets
(2) Threshold for §179 phase-out	(2,700,000)	2022 amount [§179(b)(2)]
(3) Phase-out of maximum §179 expense	0	(1) – (2) (*permanently disallowed*)
(4) Maximum 179 expense before phase-out	$1,080,000	2022 amount [§179(b)(1)]
(5) Phase-out of maximum §179 expense	0	From (3)
(6) Maximum §179 expense after phase-out	$1,080,000	(4) – (5)
(7) §179 amount Woolard elects to maximize the current year total depreciation deduction	$79,944	See discussion below
(8) Remaining basis in furniture	1,120,056	(1) – (7)
(9) MACRS depreciation rate	14.29%	7-year, half-year convention
(10) MACRS depreciation	160,056	(9) × (8)
(11) §179 taxable income limitation	$79,944	$240,000 – (10)
(12) Maximum §179 expense after taxable income limitation.	**$79,944**	Lesser of (6) or (11). This is the amount Woolard elects for the year.
Excess §179 expense	$-0-	(7) – (12)
Woolard's total depreciation deduction	$240,000	(10) + (12)

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Woolard must determine the maximum §179 amount allowed for the year without being limited by the taxable income limitation. To do this, Woolard determines the §179 amount as follows:
§179 amount = Taxable income before any depreciation minus regular MACRS depreciation.

The MACRS depreciation amount is determined after the §179 elected amount because the depreciable basis is reduced by the elected §179 amount and would be determined as follows:

MACRS depreciation = Depreciation rate × (asset cost minus elected §179)

To solve this, assume the following labels:
I = taxable income before any depreciation

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R = MACRS depreciation rate
C = asset cost
S = §179 expense

The elected §179 amount will equal:
S = I – R(C – S)

Rearranging and solving for S:
S = (I – RxC)/(1 – R)

Substituting in Woolard's facts:
S = ($240,000 – 14.29% × $1,200,000)/(1 – 14.29%)
S = $79,944.

This amount of §179 minimizes Woolard's required basis reduction of its assets and produces the most depreciation Woolard is eligible to take this year.

63. [LO 2, LO 3] {Planning} Assume that Sivart Corporation has 2022 taxable income of $1,750,000 for purposes of computing the §179 expense and acquired several assets during the year. Assume the delivery truck does not qualify for bonus depreciation.

Asset	Placed in Service	Basis
Machinery	June 12	$1,440,000
Computer equipment	February 10	70,000
Delivery truck - used	August 21	93,000
Furniture	April 2	310,000
Total		$1,913,000

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a) What is the maximum amount of §179 expense Sivart may deduct for 2022?
b) What is the maximum *total* depreciation (§179, bonus, MACRS) that Sivart may deduct in 2022 on the assets it placed in service in 2022?

a. The maximum §179 expense is $1,080,000.

Description	Amount	Explanation
(1) Property placed in service during year	$1,913,000	Total of tangible assets
(2) Threshold for §179 phase-out	2,700,000	2022 amount [§179(b)(2)]
(3) Phase-out of maximum §179 expense	$0	(1) – (2) (*permanently disallowed*), not less than $0
(4) Maximum §179 expense before phase-out	$1,080,000	2022 amount [§179(b)(1)]
(5) Phase-out of maximum §179 expense	$0	From (3)

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(6) **Maximum §179 expense after phase-out**	**$1,080,000**	(4) – (5), not limited by taxable income

b. The maximum depreciation deduction is $1,913,000. Depreciation is maximized by applying the §179 expense against delivery truck first because the truck is not eligible for bonus depreciation. Sivart would then apply the remaining §179 amount to 7-year rather than 5-year property. As a general rule, the taxpayer will maximize current year depreciation deduction by applying the §179 expense against the asset with the lowest depreciation percentage. The remaining assets are eligible for 100 percent bonus. Alternatively, Sivart could elect only $93,000 of §179 expense and take bonus on the remaining assets with the same outcome.

Asset	Original Basis	§179 Expense	Remaining Basis	Bonus Depreciation	Remaining Basis	Rate	Depreciation Deduction
Machinery (7-year)	$1,440,000	$987,000	$453,000	$453,000	$0	14.29%	$0
Computer equipment (5- year)	70,000		70,000	70,000	0	20.00%	0
Delivery Truck (5 year)	93,000	93,000		-		20.00%	0
Furniture (7 year)	310,000		310,000	310,000	0	14.29%	0
§179 Expense		$1,080,000					$1,080,000
Bonus depreciation				$833,000			$833,000
Total Depreciation Deduction							**$1,913,000**

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64. [LO 2, LO 3] {Planning} Acorn Construction (calendar-year-end C corporation) has had rapid expansion during the last half of the current year due to the housing market's recovery. The company has record income and would like to maximize its cost recovery deduction for the current year. Acorn provided the following information:

Assets	Placed in Service	Basis
New equipment and tools	August 20	$3,800,000
Used light-duty trucks	October 17	2,000,000
Used machinery	November 6	525,000
Total		$6,325,000

The used assets had been contributed to the business by its owner in a tax-deferred transaction.

a) What is Acorn's maximum cost recovery expense in the current year?
b) What planning strategies would you advise Acorn to consider?

a) Acorn is not eligible for §179 expensing because its new assets exceed the $2,700,000 threshold by more than $1,080,000; therefore, its maximum §179 amount

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is reduced to zero. Acorn is eligible to take bonus depreciation (100 percent) on its new assets. The used assets are not eligible for bonus depreciation because they had been used by the taxpayer within the past five years. In addition, because Acorn places more than 40 percent of its assets into service in the last quarter of the year, it must use the mid-month convention to determine depreciation. Acorn's maximum cost recovery is $3,918,743, calculated as follows:

Asset	Original Basis	Bonus Depr	Remaining Basis	MACRS Rate	Depreciation Deduction
New Equipment and Tools (7-year)	$3,800,000	$3,800,000	0	10.71%	$0
Used Light Duty Trucks (5- year)	2,000,000	-0-	2,000,000	5.00%	100,000
Used Machinery (7-year)	525,000	-0-	525,000	3.57%	18,743
Bonus depreciation					3,800,000
Total	6,325,000				$3,918,743

b) Acorn may want to consider the timing of its asset contributions. It may want to spread the contributions out over two years to reduce the §179 expense limitation on these assets.

65. [LO 3] Phil owns a ranch business and uses four-wheelers to do much of his work. Occasionally, though, he and his boys will go for a ride together as a family activity. During year 1, Phil put 765 miles on the four-wheeler that he bought on January 15 for $6,500. Of the miles driven, only 175 miles were for personal use. Assume four-wheelers qualify to be depreciated according to the five-year MACRS schedule and the four-wheeler was the only asset Phil purchased this year.

    a. Calculate the allowable depreciation for year 1 (ignore the §179 expense and bonus depreciation).
    b. Calculate the allowable depreciation for year 2 if total miles were 930 and personal-use miles were 400 (ignore the §179 expense and bonus depreciation).

a) The depreciation deduction will be $1,003 in year 1, calculated as follows:

Description	***Amount***	***Explanation***
(1) Original basis of 4-wheeler	*$6,500*	*Assumed in problem*
(2) MACRS depreciation rate	*20%*	*5-yr prop, yr. 1, ½ yr. convention.*
(3) Full MACRS depreciation	*$1,300*	*(1) × (2)*
(4) Business use percentage	*77.12%*	*590 miles/765 miles*
Depreciation deduction for year	***$1,003***	*(3) × (4)*

b) The depreciation deduction will be $1,185 in year 2, calculated as follows:

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Description	***Amount***	***Explanation***
(1) Original basis of 4-wheeler	*$6,500*	*Assumed in problem*
(2) MACRS depreciation rate	*32%*	*5-yr prop, yr. 2, ½ yr. convention.*
(3) Full MACRS depreciation	*$2,080*	*(1) × (2)*
(4) Business use percentage	*56.99%*	*530 miles/930 miles*
Depreciation deduction for year	***$1,185***	*(3) × (4)*

66. [LO 3] Assume that Ernesto purchased a digital camera on July 10 of year 1 for $3,000. In year 1, 80 percent of his camera usage was for his business and 20 percent was for his personal photography activities. This was the only asset he placed in service during year 1. Ignoring any potential §179 expense and bonus depreciation, answer the questions for each of the following alternative scenarios:

    a. What is Ernesto's depreciation deduction for the camera in year 1?
    b. What would be Ernesto's depreciation deduction for the camera in year 2 if his year 2 usage were 75 percent business and 25 percent for personal use?
    c. What would be Ernesto's depreciation deduction for the camera in year 2 if his year 2 usage were 45 percent business and 55 percent for personal use?

a) The depreciation deduction will be $480 in year 1, calculated as follows:

Description	***Amount***	***Explanation***
(1) Original basis of camera	*$3,000*	*Assumed in problem*
(2) MACRS depreciation rate	*20%*	*5-yr prop, yr. 1, ½ yr. convention.*
(3) Full MACRS depreciation	*$600*	*(1) × (2)*
(4) Business use percentage	*80%*	*Assumed in the problem*
Depreciation deduction for year	***$480***	*(3) × (4)*

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b) The depreciation deduction will be $720 in year 2, calculated as follows:

Description	***Amount***	***Explanation***
(1) Original basis of camera	*$3,000*	*Assumed in problem*
(2) MACRS depreciation rate	*32%*	*5-yr prop, yr. 1, ½ yr. convention.*
(3) Full MACRS depreciation	*$960*	*(1) × (2)*
(4) Business use percentage	*75%*	*Assumed in the problem*
Depreciation deduction for year	***$720***	*(3) × (4)*

c) $30. Because his business usage is below 50 percent, Ernesto must use the straight-line method to determine depreciation. Using this method, his depreciation deduction for year 2 is $270. However, because his business usage dropped from above to below 50 percent, he must also recalculate prior year depreciation using the straight-line method. Any accelerated depreciation that he claimed in the prior year in excess of the straight-line amount for that prior year reduces the $270 of depreciation deduction for

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year 2. In this case, the excess $240 depreciation reduces the $270, leaving 1020$30 of depreciation deduction as computed below.

Description	***Amount***	***Explanation***
(1) Straight-line depreciation in current year	*$270*	*$3,000/5 years × 45% business*
(2) Prior year straight-line depreciation	*$240*	*$3,000/5 × ½ year convention × 80% business use percentage*
(3) Prior year accelerated depreciation	*$480*	*From part "a" above*
(4) Excess accelerated depreciation	*$240*	*(3) – (2)*
Current year depreciation deduction	***$30***	*(1) – (4).*

67. [LO 3] Lina purchased a new car for use in her business during 2022. The auto was the only business asset she purchased during the year, and her business was extremely profitable. Calculate her maximum depreciation deductions (including §179 expense unless stated otherwise) for the automobile in 2022 and 2023 (Lina doesn't want to take bonus depreciation for 2022 or 2023) in the following alternative scenarios (assuming half-year convention for all):

a. The vehicle cost $35,000, and business use is 100 percent (ignore §179 expense).
b. The vehicle cost $80,000, and business use is 100 percent.
c. The vehicle cost $80,000, and she used it 80 percent for business.
d. The vehicle cost $80,000, and she used it 80 percent for business. She sold it on March 1 of year 2.
e. The vehicle cost $80,000, and she used it 20 percent for business.
f. The vehicle cost $80,000 and is an SUV that weighed 6,500 pounds. Business use was 100 percent.

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a. The depreciation deduction is $7,000 in 2022 and $11,200 in 2023, calculated as follows:

Description	***2022 Amount***	***2023 Amount***	***Explanation***
(1) Original basis of auto	*$35,000*	*$35,000*	*Given in problem*
(2) MACRS depreciation rate	*20%*	*32%*	*5-yr prop, yr. 1 & 2, ½ yr. convention.*
(3) Full MACRS depreciation	*$7,000*	*$11,200*	*(1) × (2)*
(4) Maximum auto depreciation	*$10,200*	*$16,400*	*Luxury auto limits*
Depreciation deduction for year	***$7,000***	***$11,200***	*Lesser of (3) or (4))*

b. The depreciation deduction is $10,200 in 2022 and $16,400 in 2023, calculated as follows:

Description	***2022 Amount***	***2023 Amount***	***Explanation***
(1) Original basis of auto	*$80,000*	*$80,000*	*Given in problem*

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(2) MACRS depreciation rate	*20%*	*32%*	*5-yr prop, yr. 1 & 2, ½ yr. convention.*
(3) Full MACRS depreciation	*$16,000*	*$25,600*	*(1) × (2)*
(4) Maximum auto depreciation	*$10,200*	*$16,400*	*Luxury auto limits*
Depreciation deduction for year	***$10,200***	***$16,400***	*Lesser of (3) or (4)*

Note that when the depreciation is limited by the automobile limitations, §179 expense will not provide any additional benefit, so it does not make sense to elect §179.

c. The depreciation deduction will be $8,160 in 2022 and $13,120 in 2023, calculated as follows:

Description	***2022 Amount***	***2023 Amount***	***Explanation***
(1) Original basis of auto	*$80,000*	*$80,000*	*Given in problem*
(2) MACRS depreciation rate	*20%*	*32%*	*5-yr prop, yr. 1 & 2, ½ yr. convention.*
(3) Full MACRS depreciation	*$16,000*	*$25,600*	*(1) × (2)*
(4) Maximum auto depreciation	*$10,200*	*$16,400*	*Luxury auto limits*
(5) ***Depreciation deduction for year based on 100% business use***	***$10,200***	***$16,400***	*Lesser of (3) or (4)*
(6) Business use percentage	*80%*	*80%*	*Assumed in problem*
Depreciation deduction for year	***$8,160***	***$13,120***	*(5) × (6)*

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d. The depreciation deduction will be $8,160 in 2022 (as calculated in part c above). The depreciation deduction will be $6,560 in 2023, calculated as follows:

Description	***2023 Amount***	***Explanation***
(1) Original basis of auto	*$80,000*	*Given in problem*
(2) MACRS depreciation rate	*32%*	*5-yr prop, yr. 2, ½ yr. convention.*
(3) Full MACRS depreciation	*$25,600*	*(1) × (2)*
(4) Maximum auto depreciation	*$16,400*	*Luxury auto limit year 2*
(5) Depreciation for entire year	***$16,400***	*Lesser of (3) or (4)*
(6) Partial year	***50%***	*Half year of depreciation (half-year convention)*
(7) Depreciation deduction for year	***$8,200***	
(8) Business use percentage	*80%*	*Assumed in problem*
Depreciation deduction for year	***$6,560***	*(7) × (8)*

e. The depreciation deduction will be $1,600 in 2022 and $3,200 in 2023, calculated as follows:

Description	***2022 Amount***	***2023 Amount***	***Explanation***
(1) Original basis of auto	*$80,000*	*$80,000*	*Given in problem*

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(2) MACRS (Straight-line) depreciation rate	*10%*	*20%*	*5-yr straight-line, ½ yr. convention.*
(3) Full MACRS depreciation	*$8,000*	*$16,000*	*(1) × (2)*
(4) Maximum auto depreciation	*$10,200*	*$16,400*	*Luxury auto limits*
(5) ***Depreciation deduction for year based on 100% business use***	***$8,000***	***$16,000***	*Lesser of (3) or (4)*
(6) Business use percentage	*20%*	*20%*	*Assumed in problem*
Depreciation deduction for year	***$1,600***	***$3,200***	*(5) × (6)*

f. The depreciation deduction will be $37,600 in 2022 and $16,960 in 2023, calculated as follows:

Description	***2022 Amount***	***2023 Amount***	***Explanation***
(1) Original basis of auto	*$80,000*	*N/A*	*Given in problem*
(2) Section 179 expense	*$27,000*	*N/A*	*Maximum §179 expense for SUV*
(3) Depreciable basis	*$53,000*	*$53,000*	*(1) – (2)*
(4) MACRS depreciation rate	*20%*	*32%*	*5-yr prop, yr. 1 &2, ½ yr. convention.*
(5) Full MACRS depreciation	*$10,600*	*$16,960*	*(3) × (4)*
Depreciation deduction including §179 expense for year	***$37,600***	***$16,960***	*(2) + (5)*

The depreciation deduction on the SUV is not restricted by the automobile limitations because the vehicle weighs more than 6,000 pounds and therefore is excluded from these limitations.

Note that the depreciation is maximized in b – e even without the §179 expense.

68. [LO 2, LO 3] Tamika Meer purchased a new car for use in her business during 2022 for $75,000. The auto was the only business asset she purchased during the year, and her business was very profitable. Calculate Tamika's maximum depreciation deductions for the automobile in 2022 and 2023 under the following scenarios:

a. Tamika does not want to take §179 expense and she elects out of bonus depreciation.
b. Tamika wants to maximize her 2022 depreciation using bonus depreciation.

a. The depreciation deduction is $10,200 in 2022 and $16,400 in 2023, calculated as follows:

Description	***2022 Amount***	***2023 Amount***	***Explanation***
(1) Original basis of auto	*$75,000*	*$75,000*	*Given in problem*
(2) MACRS depreciation rate	*20%*	*32%*	*5-yr prop, yr. 1, ½ yr. convention.*
(3) Full MACRS depreciation	*$15,000*	*$24,000*	*(1) × (2)*

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(4) Maximum auto depreciation	*$10,200*	*$16,400*	*Luxury auto limits*
Depreciation deduction for year	***$10,200***	***$16,400***	*Lesser of (3) or (4)*

b. The depreciation deduction is $18,200 in 2022 and $16,400 in 2023, calculated as follows:

Description	***Amount***	***Explanation***
(1) Automobile	*$75,000*	*Given in problem*
(2) Bonus percentage	*100%*	*§168(k)(1) and §168(k)(6)(A)(i)*
(3) MACRS depreciation	*$75,000*	*(1) × (2)*
(4) Luxury car limitation	*18,200*	*Luxury car limitation [$10,200 (§280F(a)(1)) + $8,000 (§168(k)(2)(F))]*
Depreciation deduction for 2022	***$18,200***	*Lesser of (3) or (4)*

Description	***Amount***	***Explanation***
(1) Year 1 depreciation	*$18,200*	*Calculated above*
(2) Adjusted depreciable basis	*56,800*	*Adjusted depreciable basis is initial basis less depreciation taken in the first year ($18,200)*
(3) Depreciation rate	*32%*	*From Appendix Table 1 (5-year property, year 2 MACRS percentage)*
(4) Year 2 calculated depreciation before limitation	*18,176*	*(2) × (3)*
(4) Depreciation deduction for 2023	***$ 16,400***	*Lesser of (4) or $16,400 (Year 2 limitation)*

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69. [LO 2, LO 3] Burbank Corporation (calendar year-end) acquired the following property this year:

Asset	**Placed in Service**	**Basis**
Used copier	November 12	$7,800
New computer equipment	June 6	14,000
Furniture	July 15	32,000
New delivery truck	October 28	19,000
Luxury auto	January 31	70,000
Total		$142,800

Burbank acquired the copier in a tax-deferred transaction when the shareholder contributed the copier to the business in exchange for stock.

a) Assuming no bonus or §179 expense, what is Burbank's maximum cost recovery for this year?
b) Assuming Burbank would like to maximize its cost recovery by electing bonus and §179 expense, which assets should Burbank immediately expense?

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c) What is Burbank's maximum cost recovery this year assuming it elects §179 expense and claims bonus depreciation?

a) Burbank Corporation uses the half-year convention to determine its cost recovery and the cost recovery on the luxury auto is limited to the maximum $10,200 for the year. Burbank's cost recovery is $22,933, calculated as follows:

Asset	*Original Basis*	*Rate*	*Depreciation Deduction*
Used Copier (5 yr)	*$7,800*	*20.00%*	*$1,560*
New Computer Equipment (5 yr)	*14,000*	*20.00%*	*2,800*
Furniture (7 yr)	*32,000*	*14.29%*	*4,573*
New Delivery Truck (5 yr)	*19,000*	*20.00%*	*3,800*
Luxury Auto (5 yr – limited)	*70,000*	*-*	*10,200*
Total			*$22,933*

b) Burbank is not subject to the §179 property limitation ($2,700,000) and may expense all of its assets using §179 expense except the used copier and the luxury auto. The copier is not eligible for either §179 or bonus depreciation because the taxpayer had prior use of the copier. The depreciation on the copier remains at $1,560 as in part (a). The luxury auto depreciation will be limited to $18,200 using §179 expense and bonus depreciation.

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c) Burbank's maximum cost recovery assuming it elects bonus and §179 expense is $84,760. Burbank cannot use §179 expense or bonus depreciation for the copier because it is ineligible (acquired in a tax-deferred transaction). The depreciation for the other assets will be the same under either §179 or bonus depreciation except for the luxury auto. Burbank should use bonus depreciation to recover the luxury auto to increase the automobile depreciation limitation by $8,000 this year.

Asset	Original Basis	§179 Expense	Remaining Basis	Bonus Depreciation	Depreciation Deduction
Copier (5-year)	$7,800	$0	$7,800	$-0-	$1,560
Computer Eq (5- year)	14,000	14,000	-0-	-0-	-0-
Furniture (7-year)	32,000	32,000	-0-	-0-	-0-
Delivery Truck (5 year)	19,000	19,000	-0-	-0-	-0-
Luxury Auto (5-year)	$70,000	0	70,000	8,000	10,200
§179 Expense					$65,000
Bonus depreciation				$8,000	$8,000
Total Cost Recovery					$84,760

70. [LO 3] [Research] Paul Vote purchased the following assets this year (ignore §179 expensing and bonus depreciation when answering the questions below):

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Asset	Purchase Date	Basis
Machinery	May 12	$23,500
Computers	August 13	$20,000
Warehouse	December 13	$180,000

a. What is Paul's allowable MACRS depreciation for the property?
b. What is Paul's allowable alternative minimum tax (AMT) depreciation for the property? You will need to find the AMT depreciation tables to compute the depreciation.

a. $7,551, under the half-year convention, calculated as follows:

Asset	*Original Basis*	*Rate*	*Depreciation Deduction*
Machinery	*$23,500*	*14.29%*	*$3,358*
Computers	*$20,000*	*20.00%*	*$4,000*
Nonresidential building	*$180,000*	*0.107%*	*$193*
Total Depreciation Deduction			*$7,551*

b. $5,710, using the AMT table and the half-year convention, calculated as follows:

Asset	*Original Basis*	*Rate*	*Depreciation Deduction*
Machinery (7-year 150% DB)	*$23,500*	*10.71%*	*$2,517*
Computers (5-year 150% DB)	*$20,000*	*15.00%*	*$3,000*
Nonresidential building (39-year straight-line)	*$180,000*	*0.107%*	*$193*
Total Depreciation Deduction			*$5,710*

71. [LO 4] After several profitable years running her business, Ingrid decided to acquire the assets of a small competing business. On May 1 of year 1, Ingrid acquired the competing business for $300,000. Ingrid allocated $50,000 of the purchase price to goodwill. Ingrid's business reports its taxable income on a calendar-year basis.

a. How much amortization expense on the goodwill can Ingrid deduct in year 1, year 2, and year 3?
b. In lieu of the original facts, assume that Ingrid purchased only a phone list with a useful life of 5 years for $10,000. How much amortization expense on the phone list can Ingrid deduct in year 1, year 2, and year 3?

a. Ingrid could deduct $2,222 amortization expense on the goodwill in year 1 and $3,333 of amortization expense on the goodwill in years 2 and 3, computed as follows:

Description	*Amount*	*Explanation*
(1) Basis of Goodwill	*$50,000*	*Provided*

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(2) Recovery period	*180*	*15 years*
(3) Monthly amortization	*$277.78*	*(1) / (2)*
(4) Months in year 1	*x 8*	*May through December*
(5) ***Year 1 straight-line amortization***	***$2,222***	*(3) × (4)*
(6) Months in years 2 and 3	*x 12*	*January through December*
(7) ***Years 2 and 3, annual straight-line amortization***	***$3,333***	*(3) × (6)*

b. Ingrid's amortization for the phone list for year 1 is $444, years 2 and 3 is $667, computed as follows:

Description	***Phone List***	***Explanation***
(1) Basis of phone list	*$10,000*	*Provided*
(2) Recovery period in months	*180*	*15 years*
(3) Monthly amortization	*$55.55*	*(1) / (2)*
(4) Months in year 1	*x 8*	*May through December*
(5) ***Year 1 straight-line amortization***	***$444***	*(3) × (4)*
(6) Months in years 2 and 3	*x 12*	*January through December*
(7) ***Years 2 and 3, annual straight-line amortization***	***$667***	*(3) × (6)*

Although Ingrid purchased only the phone list, it is still considered a §197 intangible and will be amortized over 180 months (see §197).

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72. [LO 4] Juliette formed a new business to sell sporting goods this year. The business opened its doors to customers on June 1. Determine the amount of start-up costs Juliette can immediately expense (not including the portion of the expenditures that are amortized over 180 months) this year in the following alternative scenarios.

a. She incurred start-up costs of $2,000.
b. She incurred start-up costs of $45,000.
c. She incurred start-up costs of $53,500.
d. She incurred start-up costs of $63,000.
e. How would you answer parts (a) through (d) if she formed a partnership or a corporation and she incurred the same amount of organizational expenditures rather than start-up costs (how much of the organizational expenditures would be immediately deductible)?

a. $2,000, computed as follows:

Start-up Expenses		
Description	***Amount***	***Explanation***
(1) Maximum immediate expense	*$5,000*	
(2) Total start-up costs	*$2,000*	*Given in problem*

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(3) Phase-out threshold	*50,000*	
(4) Immediate expense phase-out	*$0*	*(2) – (3)*
Allowable immediate expense	***$2,000***	*Lesser of (2) or [(1) minus – (4)]*

b. $5,000, computed as follows:

Start-up Expenses		
Description	***Amount***	***Explanation***
(1) Maximum immediate expense	*$5,000*	
(2) Total start-up costs	*$45,000*	*Given in problem*
(3) Phase-out threshold	*50,000*	
(4) Immediate expense phase-out	*$0*	*(2) – (3), not less than $0*
Allowable immediate expense	***$5,000***	*Lesser of (2) or [(1) minus – (4)]*

c. $1,500, computed as follows:

Start-up Expenses		
Description	***Amount***	***Explanation***
(1) Maximum immediate expense	*$5,000*	
(2) Total start-up costs	*$53,500*	*Given in problem*
(3) Phase-out threshold	*50,000*	
(4) Immediate expense phase-out	*$3,500*	*(2) – (3), not less than $0*
Allowable immediate expense	***$1,500***	*Lesser of (2) or [(1) minus – (4)]*

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d. $0, computed as follows:

Organizational Expenditures		
Description	***Amount***	***Explanation***
(1) Maximum immediate expense	*$5,000*	
(2) Total start-up costs	*$63,000*	*Given in problem*
(3) Phase-out threshold	*50,000*	
(4) Immediate expense phase-out	*$13,000*	*(2) – (3), not less than $0*
Allowable immediate expense	***$0***	*Lesser of (2) or [(1) minus – (4)] (not less than $0)*

e. The answers would be the same if these were organizational expenditures instead of start-up costs. Note, however, that organizational expenditures only apply to corporations and partnerships and do not apply to businesses organized as sole proprietorships.

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73. [LO 4] Nicole organized a new corporation. The corporation began business on April 1 of year 1. She made the following expenditures associated with getting the corporation started:

Expense	**Date**	**Amount**
Attorney fees for articles of incorporation	February 10	$32,000
March 1 – March 30 wages	March 30	$4,500
March 1 – March 30 rent	March 30	$2,000
Stock issuance costs	April 1	$20,000
April 1 – May 30 wages	May 30	$12,000

a. What is the total amount of the start-up costs and organizational expenditures for Nicole's corporation?
b. What amount of the start-up costs and organizational expenditures may the corporation immediately expense in year 1 (excluding the portion of the expenditures that are amortized over 180 months)?
c. What amount can the corporation deduct as amortization expense for the organizational expenditures and for the start-up costs for year 1 [not including the amount determined in part (b)]?
d. What would be the total allowable organizational expenditures if Nicole started a sole proprietorship instead of a corporation?

a. The only qualifying organizational expenditure is the $32,000 of attorney fees related to the drafting articles of incorporation. The start-up costs are the wages ($4,500) and rent ($2,000) before business began. Therefore, total start-up costs are $6,500.

b. The corporation may immediately expense $5,000 of the organizational expenditure and $5,000 of the start-up costs because the amount of organizational expenditures is under $50,000 and the amount of start-up costs is under $50,000.

c. The corporation will deduct amortization expense of $1,350 for organizational expenditures and $75 of amortization for start-up costs, computed as follows:

Start-up costs		
Description	***Amount***	***Explanation***
(1) Maximum immediate expense	*$5,000*	*§195(b)(1)(A)(ii)*
(2) Total start-up expenditures	*$6,500*	
(3) Phase-out threshold	*50,000*	*§**195(b)(1)(A)(ii)***
(4) Immediate expense phase-out	*$0*	*(2) – (3), not less than $0*
*(5) **Allowable immediate expense***	***$5,000***	*(1) – (4)*
(6) Remaining organizational expenditures	*$1,500*	*(2) – (5)*
(7) Recovery period in months	*180*	*15 years §**195(b)(1)(B)***

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(8) Monthly straight-line amortization	*8.33*	*(6) / (7)*
(9) Teton business months during year 1	*× 9*	*April through December*
Year 1 straight-line amortization for start-up costs	***$75***	*(8) × (9)*

Organizational expenditures		
Description	***Amount***	***Explanation***
(1) Maximum immediate expense	*$5,000*	*§248(a)(1)*
(2) Total organizational expenditures	*$32,000*	*Given in problem*
(3) Phase-out threshold	*50,000*	*§248(a)(1)(B)*
(4) Immediate expense phase-out	*$0*	*(2) – (3), not less than $0*
(5) ***Allowable immediate expense***	***$5,000***	*(1) – (4)*
(6) Remaining organizational expenditures	*$27,000*	*(2) – (5)*
(7) Recovery period in months	*180*	*15 years §248(a)(2)*
(8) Monthly straight-line amortization	*150*	*(6) / (7)*
(9) Teton business months during year 1	*× 9*	*April through December*
Year 1 straight-line amortization for organizational expenditures	***$1,350***	*(8) × (9)*

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d. Organizational expenditures are only authorized for corporations (§248) and partnerships (§709). They are not authorized for sole proprietorships. Typically, sole proprietorships do not incur many of the expenses that would qualify as organizational expenditures anyway.

74. [LO 4] Bethany incurred $20,000 in research and experimental costs for developing a specialized product during July 2022. Bethany went through a lot of trouble and spent $10,000 in legal fees to receive a patent for the product in August 2024. Bethany expects the patent to have a remaining useful life of 10 years.
    a. What amount of research and experimental expenses for 2022, 2023, and 2024 may Bethany deduct?
    b. How much *patent* amortization expense would Bethany deduct 2024?
    c. If Bethany chose to capitalize but *not* amortize the research and experimental expenses she incurred in 2022, how much patent amortization expense would Bethany deduct 2024?

a. The amortization of the research expenditures is $2,000 in 2022, $4,000 in 2023, and $2,333 in 2024, computed as follows:

Description	***Amount***	***Explanation***
(1) ***Research and experimental expenses***	***$20,000***	*Given in problem*
(2) Recovery period in years	*5*	*§174*
(3) Straight-line amortization	*4,000*	*(1) / (2)*

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(4) Mid-year convention	× .5	*July through December*
(5) 2022 straight-line amortization	***$2,000***	*(3) × (4)*
(6) 2023 straight-line amortization	***$4,000***	*Same as (3) (full year)*
(7) Bethany's business months 2024 before patent is issued in August	***7***	*January through July*
(8) 2024 straight-line amortization on research and experimentation costs	***2,333***	*(3) × (7)/12 months*
(9) Accumulated amortization through July of 2024	*8,333*	*(5) + (6) + (8)*
(10) Unamortized research and experimentation expenditures as of August, 2024	*$11,667*	*(1) – (9) Used in answer to part b*

b. The patent amortization is $902.79, computed as follows:

Description	***Amount***	***Explanation***
(1) Unamortized research and experimental expenses	***$11,667***	*See (10) part a above*
(2) Legal expenses related to patent	*$10,000*	*Given in problem*
(3) Amortizable expenses for patent	*$21,667*	*(1) + (2)*
(4) Recovery period in months	*120*	*10-year useful life*
(5) Monthly straight-line amortization	*180.56*	*(3) / (4)*
(6) Bethany's business months from August through December	× 5	
2024 straight-line amortization for patent	***$902.79***	*(5) × (6)*

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c. The patent amortization is $1,250, computed as follows:

Description	***Amount***	***Explanation***
(1) ***Research and experimental expenses***	***$20,000***	*Given in problem (not amortized)*
(2) Legal expenses related to patent	*$10,000*	*Given in problem*
(3) Amortizable expenses	*$30,000*	*(1) + (2)*
(4) Recovery period in months	*120*	*10-year useful life*
(5) Monthly straight-line amortization	*250*	*(3) / (4)*
(6) Bethany's business months from August through December	× 5	
Year 3 straight-line amortization for patent	***$1,250***	*(5) × (6)*

75. [LO 5] Last Chance Mine (LCM) purchased a coal deposit for $750,000. It estimated it would extract 12,000 tons of coal from the deposit. LCM mined the coal and sold it, reporting gross receipts of $1 million, $3 million, and $2 million for years 1 through 3, respectively. During years 1 – 3, LCM reported net income (loss) from the coal deposit activity in the amount of ($20,000), $500,000, and $450,000, respectively. In years 1 – 3, LCM extracted 13,000 tons of coal as follows:

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		Depletion	Tons extracted per year		
(1)	(2)	(2)/(1)			
Tons of Coal	Basis	Rate	Year 1	Year 2	Year 3
12,000	$750,000	$62.50	2,000	7,200	3,800

a. What is LCM's cost depletion for years 1, 2, and 3?
b. What is LCM's percentage depletion for each year (the applicable percentage for coal is 10 percent)?
c. Using the cost and percentage depletion computations from parts (a) and (b), what is LCM's actual depletion expense for each year?

a. LCM's *cost depletion is $125,000 for year 1, $450,000 for year 2, and $175,000 for year 3, calculated as follows:*

	Year 1	*Year 2*	*Year 3*	*Explanation*
(1) Tons extracted	*2,000*	*7,200*	*3,800*	
(2) Depletion rate	*$62.50*	*$62.50*	*$62.50*	
Cost Depletion Expense	*$125,000*	*$450,000*	*$175,000**	*(1) × (2)*

**This is the remaining basis. Under the cost depletion method, the taxpayer's amortization is limited to the cost basis in the natural resource. The full amount of amortization would have been $237,500 if this were not the case.*

b. LCM's *percentage depletion for each year is calculated as follows:*

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	Year 1	*Year 2*	*Year 3*	*Explanation*
(1) Net income from activity (before depletion expense)	*($20,000)*	*$500,000*	*$450,000*	*Given in problem*
(2) Gross Income	*$1,000,000*	*$3,000,000*	*$2,000,000*	
(3) Percentage	*× 10%*	*× 10%*	*× 10%*	
(4) Percentage Depletion Expense before limit	*$100,000*	*$300,000*	*$200,000*	*(2) × (3)*
(5) 50% of net income limitation	*$0*	*$250,000*	*$225,000*	*(1) × 50%*
Allowable percentage depletion	***$0***	***$250,000***	***$200,000***	*Lesser of (4) or (5)*

Note that percentage depletion is not limited to the basis in the property.

c. Depletion expense is the greater of cost depletion or percentage depletion calculated as follows:

Tax Depletion Expense

	Year 1	***Year 2***	***Year 3***	***Explanation***
(1) Cost depletion	*$125,000*	*$450,000*	*$175,000*	*Part a*
(2) Percentage depletion	*$0*	*$250,000*	*$200,000*	*Part b*
Deductible depletion expense	***$125,000***	***$450,000***	***$200,000***	*Greater of (1) or (2)*

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Comprehensive Problems

76. Karane Enterprises, a calendar-year manufacturer based in College Station, Texas began business in 2021. In the process of setting up the business, Karane has acquired various types of assets. Below is a list of assets acquired during 2021:

Asset	Cost	Date Place in Service
Office furniture	$150,000	02/03/2021
Machinery	1,560,000	07/22/2021
Used delivery truck*	40,000	08/17/2021

*Not considered a luxury automobile.

During 2021, Karane was very successful (and had no §179 limitations) and decided to acquire more assets in 2022 to increase its production capacity. These are the assets acquired during 2022:

Asset	Cost	Date Place in Service
Computers & info. system	$400,000	03/31/2022
Luxury auto†	80,000	05/26/2022
Assembly equipment	1,200,000	08/15/2022
Storage building	700,000	11/13/2022

†Used 100% for business purposes.

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Karane generated taxable income in 2022 of $1,732,500 for purposes of computing the §179 expense limitation.

Required

a. Compute the maximum 2021 depreciation deductions, including §179 expense (ignoring bonus depreciation).
b. Compute the maximum 2022 depreciation deductions, including §179 expense (ignoring bonus depreciation).
c. Compute the maximum 2022 depreciation deductions, including §179 expense, but now assume that Karane would like to take bonus depreciation.
d. Now assume that during 2022, Karane decides to buy a competitor's assets for a purchase price of $1,350,000. Compute the maximum 2022 cost recovery, including §179 expense and bonus depreciation. Karane purchased the following assets for the lump-sum purchase price.

Asset	Cost	Date Placed in Service
Inventory	$220,000	09/15/2022
Office furniture	230,000	09/15/2022
Machinery	250,000	09/15/2022
Patent	198,000	09/15/2022
Goodwill	2,000	09/15/2022

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Building	430,000	09/15/2022
Land	20,000	09/15/2022

e. Complete Part I of Form 4562 for part (b) (use the most current form available).

a) The 2021 depreciation deduction is $1,152,314.

Description	***Cost***	***§179 Expense***	***MACRS Basis***		***Current MACRS Depreciation***	***Total Cost Recovery Deduction***
Office furniture	*150,000*	*-*	*150,000*		*$ 21,435*	*$ 21,435*
Machinery	*1,560,000*	*1,050,000*	*510,000*		*72,879*	*1,122,879*
Delivery truck	*40,000*	*-*	*40,000*		*8,000*	*8,000*
Total 2021 Cost Recovery	*1,750,000*	*1,050,000*	*700,000*		*102,314*	***$ 1,152,314***

b) The 2022 depreciation deduction is $1,364,029.

Description	***Cost***	***Sec. 179 Expense***	***MACRS Basis***	***Current MACRS Depreciation***	***Total Cost Recovery Deduction***
2021 Assets					
Office furniture	*150,000*	*-*	*150,000*	*36,735*	*36,735*
Machinery	*1,560,000*	*-*	*510,000*	*124,899*	*124,899*
Used delivery truck	*40,000*	*-*	*40,000*	*12,800*	*12,800*
2022 Assets					
Computers & Info. System	*400,000*	*-*	*400,000*	*80,000*	*80,000*
Luxury Auto	*80,000*	*-*	*80,000*	*10,200*	*10,200*
Assembly Equipment	*1,200,000*	*1,080,000*	*120,000*	*17,148*	*1,097,148*
Storage Building	*700,000*	*-*	*700,000*	*2,247*	*2,247*
Total 2022 Cost Recovery	*4,130,000*	*1,080,000*	*2,000,000*	*284,029*	***$1,364,029***

c) The 2022 depreciation deduction is $1,794,881.

Description	***Cost***	***§179 Expense***	***Bonus***	***MACRS Basis***	***Current MACRS Depreciation***	***Total Cost Recovery Deduction***
2021 Assets						
Office Furniture	*150,000*	*-*		*150,000*	*36,735*	*36,735*
Machinery	*1,560,000*	*-*		*510,000*	*124,899*	*124,899*
Used Delivery Truck	*40,000*	*-*		*40,000*	*12,800*	*12,800*

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2022 Assets						
Computers & Info. System	*400,000*	*-*	*400,000*	*-*	*-*	*400,000*
Luxury Auto	*80,000*	*-*	*8,000*	*72,000*	*10,200*	*18,200*
Assembly Equipment	*1,200,000*	*1,080,000*	*120,000*	*-*	*-*	*1,200,000*
Storage Building	*700,000*	*-*	*-*	*700,000*	*2,247*	*2,247*
Total 2022 Cost Recovery	*4,130,000*	*1,080,000*	*528,000*	*1,472,000*	*186,881*	***$ 1,794,881***

d) 2022 cost recovery is $2,282,546.

Description	***Cost***	***§179 Expense***	***Bonus***	***MACRS Basis***	***Current MACRS Depreciation***	***Current Amortization***	***Total Cost Recovery Deduction***
2021 Assets							
Office Furniture	*150,000*	*-*		*150,000*	*36,735*		*36,735*
Machinery	*1,560,000*	*-*		*510,000*	*124,899*		*124,899*
Used Delivery Truck	*40,000*	*-*		*40,000*	*12,800*		*12,800*
2022 Assets							
Computers & Info. System	*400,000*	*-*	*400,000*	*-*	*-*		*400,000*
Luxury Auto	*80,000*	*-*	*8,000*	*72,000*	*10,200*		*18,200*
Assembly Equipment	*1,200,000*	*1,080,000**	*120,000*	*-*	*-*		*1,200,000*
Storage Building	*700,000*	*-*	*-*	*700,000*	*2,247*		*2,247*
Inventory	*220,000*	*-*	*n/a*	*-*	*-*		*-*
Office Furniture	*230,000*	*-*	*230,000*	*-*	*-*		*230,000*
Machinery	*250,000*	*-*	*250,000*	*-*	*-*		*250,000*
Patent	*198,000*					*4,400*	*4,400*
Goodwill	*2,000*					*44*	*44*
Building	*430,000*			*430,000*	*3,221*		*3,221*
Land	*20,000*			*n/a*		*-*	*-*
Totals	*$5,480,000*	*$1,080,000*	*$1,008,000*	*$1,902,000*	*$190,102*	*$4,444*	***$ 2,282,546***

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** Alternatively, Karane can take bonus depreciation rather than §179 on the assembly equipment to recover the full cost in 2022.*

e) Complete Part I of Form 4562 for part (b) (use the most current form available).

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Form **4562**

Department of the Treasury
Internal Revenue Service (99)

Depreciation and Amortization
(Including Information on Listed Property)

▶ Attach to your tax return.
▶ Go to *www.irs.gov/Form4562* for instructions and the latest information.

OMB No. 1545-0172

2021

Attachment Sequence No. **179**

Name(s) shown on return	Business or activity to which this form relates	Identifying number
Karane Enterprises		

Part I Election To Expense Certain Property Under Section 179
Note: If you have any listed property, complete Part V before you complete Part I.

1	Maximum amount (see instructions)	1	1,080,000
2	Total cost of section 179 property placed in service (see instructions)	2	1,680,000
3	Threshold cost of section 179 property before reduction in limitation (see instructions)	3	2,700,000
4	Reduction in limitation. Subtract line 3 from line 2. If zero or less, enter -0-	4	0
5	Dollar limitation for tax year. Subtract line 4 from line 1. If zero or less, enter -0-. If married filing separately, see instructions	5	1,080,000

6 (a) Description of property	(b) Cost (business use only)	(c) Elected cost
Assembly equipment	1,200,000	1,080,000

7	Listed property. Enter the amount from line 29	7	
8	Total elected cost of section 179 property. Add amounts in column (c), lines 6 and 7	8	1,080,000
9	Tentative deduction. Enter the **smaller** of line 5 or line 8	9	1,080,000
10	Carryover of disallowed deduction from line 13 of your 2020 Form 4562	10	
11	Business income limitation. Enter the smaller of business income (not less than zero) or line 5. See instructions	11	1,080,000
12	Section 179 expense deduction. Add lines 9 and 10, but don't enter more than line 11	12	1,080,000
13	Carryover of disallowed deduction to 2022. Add lines 9 and 10, less line 12 ▶	13	

Note: Don't use Part II or Part III below for listed property. Instead, use Part V.

Part II Special Depreciation Allowance and Other Depreciation (Don't include listed property. See instructions.)

14	Special depreciation allowance for qualified property (other than listed property) placed in service during the tax year. See instructions	14	
15	Property subject to section 168(f)(1) election	15	
16	Other depreciation (including ACRS)	16	

Part III MACRS Depreciation (Don't include listed property. See instructions.)

Section A

17	MACRS deductions for assets placed in service in tax years beginning before 2021	17	174,434
18	If you are electing to group any assets placed in service during the tax year into one or more general asset accounts, check here ▶ ☐		

Section B—Assets Placed in Service During 2021 Tax Year Using the General Depreciation System

(a) Classification of property	(b) Month and year placed in service	(c) Basis for depreciation (business/investment use only—see instructions)	(d) Recovery period	(e) Convention	(f) Method	(g) Depreciation deduction
19a 3-year property						
b 5-year property		400,000	5 yr	HY	DDB	80,000
c 7-year property		120,000	7 yr	HY	DDB	17,148
d 10-year property						
e 15-year property						
f 20-year property						
g 25-year property			25 yrs.		S/L	
h Residential rental property			27.5 yrs.	MM	S/L	
			27.5 yrs.	MM	S/L	
i Nonresidential real property	11/2022	700,000	39 yrs.	MM	S/L	2,247
				MM	S/L	

Section C—Assets Placed in Service During 2021 Tax Year Using the Alternative Depreciation System

20a Class life					S/L	
b 12-year			12 yrs.		S/L	
c 30-year			30 yrs.	MM	S/L	
d 40-year			40 yrs.	MM	S/L	

Part IV Summary (See instructions.)

21	Listed property. Enter amount from line 28	21	10,200
22	**Total.** Add amounts from line 12, lines 14 through 17, lines 19 and 20 in column (g), and line 21. Enter here and on the appropriate lines of your return. Partnerships and S corporations—see instructions	22	1,364,029
23	For assets shown above and placed in service during the current year, enter the portion of the basis attributable to section 263A costs	23	

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Form 4562 (2021) Page 2

Part V Listed Property (Include automobiles, certain other vehicles, certain aircraft, and property used for entertainment, recreation, or amusement.)

Note: For any vehicle for which you are using the standard mileage rate or deducting lease expense, complete **only** 24a, 24b, columns (a) through (c) of Section A, all of Section B, and Section C if applicable.

Section A—Depreciation and Other Information (Caution: See the instructions for limits for passenger automobiles.)

24a Do you have evidence to support the business/investment use claimed? ☐ Yes ☐ No **24b** If "Yes," is the evidence written? ☐ Yes ☐ No

(a) Type of property (list vehicles first)	(b) Date placed in service	(c) Business/ investment use percentage	(d) Cost or other basis	(e) Basis for depreciation (business/investment use only)	(f) Recovery period	(g) Method/ Convention	(h) Depreciation deduction	(i) Elected section 179 cost
25 Special depreciation allowance for qualified listed property placed in service during the tax year and used more than 50% in a qualified business use. See instructions .				25				
26 Property used more than 50% in a qualified business use:								
Luxury auto	5/26/2022	100 %	80,000	80,000	5 YR	HY	10,200	
		%						
		%						
27 Property used 50% or less in a qualified business use:								
		%				S/L –		
		%				S/L –		
		%				S/L –		
28 Add amounts in column (h), lines 25 through 27. Enter here and on line 21, page 1 .					28		10,200	
29 Add amounts in column (i), line 26. Enter here and on line 7, page 1							29	

Section B—Information on Use of Vehicles

Complete this section for vehicles used by a sole proprietor, partner, or other "more than 5% owner," or related person. If you provided vehicles to your employees, first answer the questions in Section C to see if you meet an exception to completing this section for those vehicles.

	(a) Vehicle 1		(b) Vehicle 2		(c) Vehicle 3		(d) Vehicle 4		(e) Vehicle 5		(f) Vehicle 6	
30 Total business/investment miles driven during the year (**don't** include commuting miles) .												
31 Total commuting miles driven during the year												
32 Total other personal (noncommuting) miles driven												
33 Total miles driven during the year. Add lines 30 through 32												
	Yes	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
34 Was the vehicle available for personal use during off-duty hours?												
35 Was the vehicle used primarily by a more than 5% owner or related person? . .												
36 Is another vehicle available for personal use?												

Section C—Questions for Employers Who Provide Vehicles for Use by Their Employees

Answer these questions to determine if you meet an exception to completing Section B for vehicles used by employees who **aren't** more than 5% owners or related persons. See instructions.

	Yes	**No**
37 Do you maintain a written policy statement that prohibits all personal use of vehicles, including commuting, by your employees?	✓	
38 Do you maintain a written policy statement that prohibits personal use of vehicles, except commuting, by your employees? See the instructions for vehicles used by corporate officers, directors, or 1% or more owners . .		✓
39 Do you treat all use of vehicles by employees as personal use?		✓
40 Do you provide more than five vehicles to your employees, obtain information from your employees about the use of the vehicles, and retain the information received?		✓
41 Do you meet the requirements concerning qualified automobile demonstration use? See instructions.		
Note: If your answer to 37, 38, 39, 40, or 41 is "Yes," don't complete Section B for the covered vehicles.		

Part VI Amortization

(a) Description of costs	(b) Date amortization begins	(c) Amortizable amount	(d) Code section	(e) Amortization period or percentage	(f) Amortization for this year
42 Amortization of costs that begins during your 2021 tax year (see instructions):					
43 Amortization of costs that began before your 2021 tax year				43	
44 **Total.** Add amounts in column (f). See the instructions for where to report				44	

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77. While completing undergraduate school work in information systems, Dallin Bourne and Michael Banks decided to start a technology support company called eSys Answers. During year 1, they bought the following assets and incurred the following start-up fees:

Year 1 Assets	**Purchase Date**	**Basis**
Computers (5-year)	October 30, Y1	$15,000
Office equipment (7-year)	October 30, Y1	$10,000
Furniture (7-year)	October 30, Y1	$3,000
Start-up costs	October 30, Y1	$17,000

In April of year 2, they decided to purchase a customer list from a company providing virtually the same services, started by fellow information systems students preparing to graduate. The customer list cost $10,000, and the sale was completed on April 30. During their summer break, Dallin and Michael passed on internship opportunities in an attempt to really grow their business into something they could do full time after graduation. In the summer, they purchased a small van (for transportation, not considered a luxury auto) and a pinball machine (to help attract new employees). They bought the van on June 15, Y2, for $15,000 and spent $3,000 getting it ready to put into service. The pinball machine cost $4,000 and was placed in service on July 1, Y2.

Year 2 Assets	**Purchase Date**	**Basis**
Van	June 15, Y2	$18,000
Pinball machine (7-year)	July 1, Y2	$4,000
Customer list	April 30, Y2	$10,000

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Assume that eSys Answers does not claim any §179 expense or bonus depreciation.

a. What are the maximum cost recovery deductions for eSys Answers for Y1 and Y2?
b. Complete eSys Answers' Form 4562 for Y1 (use the most current form available).
c. What is eSys Answers' basis in each of its assets at the end of Y2?

a. eSys Answers' Y1 cost recovery deductions are $6,414, including the expensing of the start-up costs. eSys Answers' Y2 cost recovery deductions are $14,754.

Y1 Cost Recovery

Asset	*Original Basis*	*Expense*	*Remaining Basis*	*Quarter*	*Rate*	*Cost Recovery Expense*
Computer Equipment	*$15,000*		*$15,000*	*4th*	*5.00%*	*$750*
Office Equipment	*$10,000*		*$10,000*	*4th*	*3.57%*	*$357*

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Furniture	*$3,000*		*$3,000*	*4th*	*3.57%*	*$107*
Start-up costs	*$17,000*	*$5,000*	*$12,000*	*N/A*	*See below*	*$200*
Start-up immediate expense						*$5,000*
Total Cost Recovery Expense						*$6,414*

Start-up costs Y1		
Description	***Amount***	***Explanation***
(1) Maximum immediate expense	*$5,000*	*§195*
(2) Total start-up costs	*$17,000*	*Given in problem*
(3) Phase-out threshold	*50,000*	*§195*
(4) Immediate expense phase-out	*$0*	*(2) – (3); not less than $0*
(5) ***Allowable immediate expense***	***$5,000***	*(1) – (4)*
(6) Remaining start-up costs	*$12,000*	*(2) – (5)*
(7) Recovery period in months	*180*	*15 years §195*
(8) Monthly straight-line amortization	*66.67*	*(6) / (7)*
(9) eSys' business months during year 1	*× 3*	*October through December*
Year 1 straight-line amortization for start-up costs	***$200***	*(8) × (9)*

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Y2 Cost Recovery

Asset	*Original Basis*	*Expense*	*Remaining Basis*	*Quarter*	*Rate*	*Cost Recovery Expense*
Computer Equipment	*$15,000*		*$15,000*	*4th*	*38.00%*	*$5,700*
Office Equipment	*$10,000*		*$10,000*	*4th*	*27.55%*	*$2,755*
Furniture	*$3,000*		*$3,000*	*4th*	*27.55%*	*$827*
Start-up costs	*$17,000*	*$5,000*	*$12,000*	*N/A*	*$66.67 × 12*	*$800*
Delivery van	*$18,000*			*HY*	*20.00%*	*$3,600*
Pinball machine	*$4,000*			*HY*	*14.29%*	*$572*
Customer List	*$10,000*			*N/A*	*See below*	*$500*
Total Cost Recovery Expense						*$14,754*

Description	***Amount***	***Explanation***
(1) Customer list (§197 intangible)	***$10,000***	
(2) Recovery period in months	*180*	*§197(a)*
(3) Monthly straight-line amortization	*55.56*	*(1) / (2)*
(4) April through December	*× 9*	
Year 1 straight-line amortization for customer list	***$500***	*(3) × (4)*

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b. eSys Answers' Form 4562 is as follows:

Form 4562 — Department of the Treasury, Internal Revenue Service (99)

Depreciation and Amortization
(Including Information on Listed Property)

▶ Attach to your tax return.
▶ Go to *www.irs.gov/Form4562* for instructions and the latest information.

OMB No. 1545-0172
2021
Attachment Sequence No. **179**

Name(s) shown on return: eSys Answers | Business or activity to which this form relates | Identifying number

Part I Election To Expense Certain Property Under Section 179
Note: If you have any listed property, complete Part V before you complete Part I.

1	Maximum amount (see instructions)	1	
2	Total cost of section 179 property placed in service (see instructions)	2	
3	Threshold cost of section 179 property before reduction in limitation (see instructions)	3	
4	Reduction in limitation. Subtract line 3 from line 2. If zero or less, enter -0-	4	
5	Dollar limitation for tax year. Subtract line 4 from line 1. If zero or less, enter -0-. If married filing separately, see instructions	5	

6	(a) Description of property	(b) Cost (business use only)	(c) Elected cost

7	Listed property. Enter the amount from line 29	7	
8	Total elected cost of section 179 property. Add amounts in column (c), lines 6 and 7	8	
9	Tentative deduction. Enter the **smaller** of line 5 or line 8	9	
10	Carryover of disallowed deduction from line 13 of your 2020 Form 4562	10	
11	Business income limitation. Enter the smaller of business income (not less than zero) or line 5. See instructions	11	
12	Section 179 expense deduction. Add lines 9 and 10, but don't enter more than line 11	12	
13	Carryover of disallowed deduction to 2022. Add lines 9 and 10, less line 12 ▶	13	

Note: Don't use Part II or Part III below for listed property. Instead, use Part V.

Part II Special Depreciation Allowance and Other Depreciation (Don't include listed property. See instructions.)

14	Special depreciation allowance for qualified property (other than listed property) placed in service during the tax year. See instructions	14	
15	Property subject to section 168(f)(1) election	15	
16	Other depreciation (including ACRS)	16	

Part III MACRS Depreciation (Don't include listed property. See instructions.)

Section A

17	MACRS deductions for assets placed in service in tax years beginning before 2021	17	
18	If you are electing to group any assets placed in service during the tax year into one or more general asset accounts, check here ▶ ☐		

Section B—Assets Placed in Service During 2021 Tax Year Using the General Depreciation System

(a) Classification of property	(b) Month and year placed in service	(c) Basis for depreciation (business/investment use only—see instructions)	(d) Recovery period	(e) Convention	(f) Method	(g) Depreciation deduction
19a 3-year property						
b 5-year property		15,000	5 YR	MQ	DDB	750
c 7-year property		13,000	7 YR	MQ	DDB	464
d 10-year property						
e 15-year property						
f 20-year property						
g 25-year property			25 yrs.		S/L	
h Residential rental property			27.5 yrs.	MM	S/L	
			27.5 yrs.	MM	S/L	
i Nonresidential real property			39 yrs.	MM	S/L	
				MM	S/L	

Section C—Assets Placed in Service During 2021 Tax Year Using the Alternative Depreciation System

20a Class life					S/L	
b 12-year			12 yrs.		S/L	
c 30-year			30 yrs.	MM	S/L	
d 40-year			40 yrs.	MM	S/L	

Part IV Summary (See instructions.)

21	Listed property. Enter amount from line 28	21	
22	**Total.** Add amounts from line 12, lines 14 through 17, lines 19 and 20 in column (g), and line 21. Enter here and on the appropriate lines of your return. Partnerships and S corporations—see instructions	22	1,214
23	For assets shown above and placed in service during the current year, enter the portion of the basis attributable to section 263A costs	23	

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Part VI Amortization

(a) Description of costs	(b) Date amortization begins	(c) Amortizable amount	(d) Code section	(e) Amortization period or percentage	(f) Amortization for this year
42 Amortization of costs that begins during your 2021 tax year (see instructions):					
Start up costs	10/30/Y1	17,000	195	15 years	5,200
43 Amortization of costs that began before your 2021 tax year				43	
44 **Total.** Add amounts in column (f). See the instructions for where to report				44	5,200

Form **4562** (2021)

c. eSys Answers' basis is as follows:

			Adjusted Basis		
Asset	***Original Basis***	***Expense***	***Year 1 Cost Recovery***	***Year 2 Cost Recovery***	***Y2 Ending Basis***
Computer Equipment	*$15,000*		*$750*	*$5,700*	*$8,550*
Office Equipment	*10,000*		*357*	*2,755*	*6,888*
Furniture	*3,000*		*107*	*827*	*2,066*
Start-up costs	*17,000*	*$5,000*	*200*	*800*	*11,000*
Delivery van	*18,000*			*3,600*	*14,400*
Pinball machine	*4,000*			*572*	*3,428*
Customer List	*10,000*			*500*	*9,500*
Totals	*$77,000*	*$5,000*	*$1,414*	*$14,754*	*$55,832*

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78. Diamond Mountain was originally thought to be one of the few places in North America to contain diamonds, so Diamond Mountain Inc. (DM) purchased the land for $1,000,000. Later, DM discovered that the only diamonds on the mountain had been planted there and the land was worthless for mining. DM engineers discovered a new survey technology and discovered a silver deposit estimated at 5,000 pounds on Diamond Mountain. DM immediately bought new drilling equipment and began mining the silver.

    In years 1-3 following the opening of the mine, DM had net (gross) income of $200,000 ($700,000), $400,000 ($1,100,000), and $600,000 ($1,450,000), respectively. Mining amounts for each year were as follows: 750 pounds (year 1), 1,450 pounds (year 2), and 1,800 pounds (year 3). At the end of year 2, engineers used the new technology (which had been improving over time) and estimated there was still an estimated 6,000 pounds of silver deposits.

    DM also began a research and experimentation project with the hopes of gaining a patent for its new survey technology. Diamond Mountain Inc. chose to capitalize research and experimentation expenditures and to amortize the costs over 60 months or until it obtained a patent on its technology. In March of year 1, DM spent $95,000 on research and experimentation. DM spent another $75,000 in February of year 2 for research and experimentation. DM realizes benefits from the research and

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experimentation expenditures when the costs are incurred. In September of year 2, DM paid $20,000 of legal fees and was granted the patent in October of year 2 (the entire process of obtaining a patent was unusually fast). The patent's life is 20 years.

Answer the following questions regarding DM's activities (assume that DM tries to maximize its deductions if given a choice).

a. What is DM's depletion expense for years 1 - 3?
b. What is DM's research and experimentation amortization for years 1 and 2?
c. What is DM's basis in its patent and what is its amortization for the patent in year 2?

a. DM's depletion expense is as follows, actual cost and percentage depletion are shown below:

Actual Depletion	
Original basis	*$ 1,000,000*
Year 1 depletion (cost depletion)	*(150,000)*
Year 1 Ending basis	*850,000*
Year 2 depletion (cost depletion)	*(165,431)*
Year 2 Ending basis	*684,569*
Year 3 depletion (percentage depletion)	*(217,500)*
Year 3 Ending basis	*467,069*

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Cost Depletion Method

	Year 1	***Year 2***	***Year 3***
Year 1 Beginning basis	*$1,000,000*	*$850,000*	*$684,569*
Estimated pounds of silver in mine at beginning of year	*5,000*	*7,450*	*6,000*
Basis depletion per pound	*$ 200*	*$ 114.09*	*$114.09*
Pounds of silver mined in year	*750*	*1,450*	*1,800*
Year depletion	*$150,000*	*$165,431*	*$205,362*
Basis at end of year	*$ 850,000*	*$ 684,569*	*$ 479,207*

Percentage Depletion Method

	Year 1	***Year 2***	***Year 3***
Net income	*$ 200,000*	*$ 400,000*	*$ 600,000*
Gross income	*$ 700,000*	*$1,100,000*	*$ 1,450,000*
Percentage	*15%*	*15%*	*15%*
Percentage depletion expense before limit	*$ 105,000*	*$ 165,000*	*$ 217,500*
50% of net income limitation	*$ 100,000*	*$ 200,000*	*$ 300,000*
Allowable percentage depletion	*$ 100,000*	*$ 165,000*	*$ 217,500*

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b. DM's research and experimentation amortization for years 1 and 2 are as follows:

Description	***Year 1 Amount***	***Year 2 Amount***	
Research and experimental expenses	*$95,000*	*$75,000*	
Recovery period in months	*60*	*60*	
Monthly straight-line amortization	*$1,583.33*	*$1,250*	
DM's business months during year 1	*10*	*0*	
Year 1 straight-line amortization	*$15,833*	*$ -*	
DM's business months during year 2 before the patent is issued	*9*	*8*	
Year 2 straight-line amortization	*$14,250*	*$10,000*	
Accumulated amortization through September of year 2	*$30,083*	*$10,000*	
Unamortized Research and experimentation	*$64,917*	*$65,000*	*$129,917*

c. DM's basis in its patent and amortization for patent in year 2 are as follows:

Description	***Amount***
Unamortized research and experimental expenses	***$129,917***
Legal expenses related to patent	*$20,000*
Amortizable expenses for patent	*$149,917*
Recovery period in months	*240*
Monthly straight-line amortization	*624.65*
DM's business months from October through December	*3*
Year 2 straight-line amortization for patent	***$1,874***

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