# Depreciation and Amortization

## Questions

(From Klein & Bankman Teachers Manual, with MJM Adaptions)

1. May a depreciation deduction be taken for the following assets?

   a. A copyright.
   b. An office building.
   c. Land on which an office building sits.
   d. Improvements made to an office building.
   e. A valuable painting placed in the office building lobby.
   f. An owner-occupied house.

2. A deduction for depreciation of an intangible asset is often called ___________.

3. Which, if any, of the following statements are true?

   a. IRC § 168(e) establishes six different recovery periods for personal tangible property.
   b. The recovery periods are generally based upon the class life periods set forth in IRC § 168(e)(1).
   c. The applicable recovery period for 5-year property is 5 years.
   d. More favorable recovery periods apply to certain property leased to tax-exempt entities or purchased with proceeds from tax-exempt bonds.
   e. The half-year convention applies to real property except in abuse cases.
   f. Taxpayers generally must take salvage value into account if the amount of the salvage value is large and a failure to take it into account would distort income.

4. State the applicable recovery period for the following forms of property.

   a. Residential rental real property.
   b. Non-residential real property.
   c. An automobile or light truck.

5. What method of depreciation must be used with respect to real property?

6. Assume that asset X cost $100,000 and may be depreciated over 10 years. Assume further that the asset may receive a full year's depreciation during the first year the asset is placed in service.

   a. If the asset is depreciated under the straight-line method, how much depreciation may be taken in the first year?

b. If the asset is depreciated under the 200 percent declining balance method of depreciation (switching to straight-line in the first year in which straight-line will yield a larger deduction), how much depreciation may be taken in the first year? The second year?

7. Joan purchases an asset for use in her business on December 20, year 1. She places the asset in service on May 5, year 2. The asset has a five-year recovery period.

a. What portion of the otherwise allowable first year depreciation will Joan receive in year 1?
b. What portion of the otherwise allowable first year depreciation will Joan receive in year 2?

8. Which, if any, of the following statements are true?

a. A taxpayer who purchases $90,000 of section 179 property may elect to expense, rather than depreciate it.
b. Section 179 property consists of any depreciable property used in the active conduct of a trade or business.
c. A taxpayer may not use IRC § 179 to produce a loss that is deductible in the current taxable year.
d. The election to expense, rather than depreciate, section 179 property is not available to a taxpayer who purchases more than $205,000 of property in a taxable year.

9. Invent Co. spends $100,000 to develop a medical patent. Prog. Co. spends $100,000 to purchase new patent. Patents are granted for 17 years.

a. May Invent Co. depreciate its patent?
b. Must Prog. Co. depreciate its patent over 17 years?
c. May Prog. Co. depreciate its patent using 200 percent declining balance method (switching to straight-line in the taxable year in which straight-line maximizes the depreciation deduction)? determined under IRC § 168?

10. X purchases a machine for $10,000. After two years, she has properly taken depreciation deductions of $5,200. What tax consequences if she sells the machine for:

a. $6,000
b. $11,200
c. $2,000

## Answers

1. (a) YES. A copyright is an intangible wasting asset generally having a fixed life.
(b) YES.
(c) NO. Land is not a wasting asset.
(d) YES.
(e) NO. Valuable art work would not appear to have a limited useful life and so would not be depreciable. A painting that does not have artistic value and is merely decorative probably would be depreciable. The frame of a work of art might also be depreciable.
(f) NO. Only assets used in a trade or business or held for the production of income are depreciable. An owner-occupied home is treated as an asset which does not produce taxable income and is therefore not depreciable. The tax law ignores the imputed income realized in the form of free rent.

2. Amortization.

3a. TRUE. The "general" rules of IRC § 168(e) establish recovery periods of 3, 5, 7, 10, 15, and 20 years.

3b. TRUE. The Treasury Department is authorized to "monitor" those period to see if they reflect actual taxpayer experiences. IRC § 168(i)(1).

3c. TRUE. See IRC § 168(c)(1).

3d. FALSE. Less favorable recovery periods and rules apply to so-called "tax-exempt use property" (non-residential real property leased to tax-exempt entities) and tax-exempt bond financed property. IRC § 168(g).

3e. FALSE. The mid-month convention applies to real property in all cases. IRC § 168(d)(2).

3f. FALSE. Salvage value is ignored. IRC §§ 168(b)(4) and 168(g)(2)(A).

4a. 27.5 years. IRC § 168(c)(1).

4b. 39 years. IRC § 168(c)(1).

4c. 5 years. IRC § 168(e)(3)(B)(i). The recovery period for automobiles and light trucks is stated in IRC § 168(e)(3)(B)(i) and is not determined by the class life midpoint of such assets.

5. The straight-line method. IRC § 168(b). The same is true of improvements to real property. IRC § 168(i)(6).

6a. $10,000. The straight-line method requires an equal amount of depreciation in each recovery year. Annual depreciation is therefore equal to original property basis divided by recovery period. Special rules govern the year property is placed in service and the last recovery period year. These rules are explored *infra*, in the answer to question 7.

6b. Under the 200 percent declining balance method, annual depreciation is equal to 200 percent times *adjusted* basis divided by recovery period. In the first recovery year, adjusted basis is equal to original basis. Thus, in the first recovery year, 200 percent double declining balance method of depreciation is equal to 200 percent of straight-line method. See example below, year 1. In each succeeding year, the adjusted basis decreases by the amount of the prior year's depreciation deduction, and the depreciation deduction available under the 200 percent declining balance method also decreases. In contrast, the amount of depreciation available under the straight-line method remains constant. See example below, years 2 and 3. Eventually, the amount of depreciation available under the 200 percent declining balance method falls below the amount of depreciation available under the straight-line method. The law allows (requires, really) a taxpayer who has adopted the 200 percent declining balance method to switch to the straight-line method at that time. The straight-line depreciation is computed as if the property were purchased in the year of the switch for the amount of the adjusted basis and if the recovery period were equal to the remaining years of the original recovery period. See example below, years 4 and 5.

The 150 percent declining balance depreciation method, which applies to 15-year and 20-year recovery property, is computed in a like manner. IRC § 168(b)(2)(A).

| | *Straight-line method* | *Double declining balance method* | |
|---|---|---|---|
| Annual Deprec. Formula | $\frac{\text{original basis}}{\text{recovery period}}$ | $\frac{200\% \times \text{adjusted basis}}{\text{recovery period}}$ | |
| Yr. 1 | $10,000/5 = $2,000 | 200% × $10,000/5 = | $4,000 |
| Yr. 2 | $10,000/5 = $2,000 | 200% × $6,000/5 = | $2,400 |
| Yr. 3 | $10,000/5 = $2,000 | 200% × $3,600/5 = | $1,440 |
| Yr. 4 | $10,000/5 = $2,000 | $2,160/2 = | $1,080 |
| Yr. 5 | $10,000/5 = $2,000 | $2,160/2 = | $1,080 |

**Note**: Special rules govern the year property is placed in service and the last recovery period year. These rules are explored in question 7. The above schedule is not an accurate reflection of the actual amounts deductible under ACRS.

7a. Depreciation does not begin until an asset is placed in service. Thus, Joan will receive no depreciation deduction in year 1.

7b. Under the so-called "half-year convention," one-half of a full year's depreciation is allowed during the first year an asset is placed in service. IRC § 168(d)(1). Joan will therefore receive one-half year's depreciation in year 1. What happens to the other half-year's depreciation? It is tacked on to the end of the recovery period.

| *Year* | *Percentage of full year's depreciation allowed* |
|---|---|
| 1 | 50% |
| 2 | 100% |
| 3 | 100% |
| 4 | 100% |
| 5 | 100% |
| 6 | 50% |

The half-year convention encourages taxpayers to place property in service during the last months (or even days) of the year. IRC § 168(d)(3) limits this form of tax planning by providing special rules for taxpayers who place in service a disproportionate amount of tangible personal property during the last three months of the taxable year.

Real property is subject to the "mid-month" convention, under which depreciation is determined on a monthly basis, and all property is deemed placed in service in the middle of the month. IRC § 168(d)(2).

8a. TRUE. The cap on section 179 is $100,000 for taxable years after 2002 and before 2008. IRC § 179(b)(1).

8b. FALSE. Real property may not be expensed. In general, a taxpayer may elect to expense only personal property. More precisely, "section 179 property" is defined as tangible property to which IRC § 168 applies, which is section 1245 property, as defined in IRC § 1245(a)(3), and which is acquired by purchase for use in the active conduct of a trade or business. IRC § 179(d)(1).

8c. TRUE. IRC § 179(b)(3)(A). Any excess in the deduction over taxable income carries forward to future years.

8d. FALSE. The election to expense is phased-out by a dollar for each dollar that the total costs of section 179 property in a single taxable year exceeds $200,000. Thus the election is fully phased out if the cost of section 179 property equals or exceeds $217,500. Note that the 1993 tax act established so-called empowerment zones that provide for a substantial increase in the amount that can be expenses under IRC § 179. See IRC § 1397A.

9a. YES. Patent's have a limited useful life and are therefore subject to depreciation.

9b. NO. The amortization period is now 15 years. IRC § 197.

9c. NO. The cost must be amortized, which means that the taxpayer must allocate the equal amounts of basis to each period, beginning with the first month in which the asset was acquired. This method is equivalent to straight line depreciation. The amount claimed each month is the total basis divided by 180 (15 years × 12 months)

10a. Her basis is $4,800 so she recognizes gain of $1,200 ($6,000 – $4,800). The gain is ordinary income (treated as recovery of excess depreciation deduction.

10b. Her gain is $6,400 ($11,200 – $4,800). Of that amount, $1,200 ($11,200 minus original basis of $10,000) is a capital gain and the rest is ordinary income.

10c. She has a loss of $2,800.