

## Chapter 6: Depreciation (Numerical problems)

1. A machine now in use was purchased four years ago at a cost of \$20,000. It has a book value of \$6,246. It can be sold for \$7,000, but could be used for three more years, at the end of which time it would have no salvage value. What is the current amount of economic depreciation for this asset?

2. General Service Contractor Company paid \$200,000 for a house and lot. The value of the land was appraised at \$65,000 and the value of the house at \$135,000. The house was then torn down at an additional cost of \$5,000 so that a warehouse could be built on the lot at a cost of \$250,000. What is the total value of the property with the warehouse? For depreciation purposes, what is the cost basis for the warehouse?

3. A firm is trying to decide whether to keep an item of construction equipment for another year. The firm is using DDB for book purposes, and this is the fourth year of ownership of the equipment, which cost \$150,000 new. What is the depreciation in year 3?

4. Consider the following data on an asset:

Compute the annual depreciation allowances and the resulting book values, using the DDB and switching to SL.

Cost of the asset, $I$	\$50,000
Useful life, $N$	7 years
Salvage value, $S$	\$0

5. The double-declining-balance method is to be used for an asset with a cost of \$68,000, an estimated salvage value of \$12,000, and an estimated useful life of six years.

(a) What is the depreciation for the first three fiscal years, assuming that the asset was placed in service at the beginning of the year?

(b) If switching to the straight-line method is allowed, when is the optimal time to switch?

6. Compute the double-declining-balance (DDB) depreciation schedule for the following asset:

Cost of the asset, $I$	\$76,000
Useful life, $N$	8 years
Salvage value, $S$	\$ 6,000

7. Compute the SOYD depreciation schedule for the following asset:

(a) What is the denominator of the depreciation fraction?

(b) What is the amount of depreciation for the second full year of use of the asset?

(c) What is the book value of the asset at the end of the fourth year?

Cost of the asset, $I$	\$46,000
Useful life, $N$	5 years
Salvage value, $S$	\$10,000

8. Upjohn Company purchased new packaging equipment with an estimated useful life of five years. The cost of the equipment was \$35,000, and the salvage value was estimated to be \$5,000 at the end of year 5. Compute the annual depreciation expenses over the five-year life of the equipment under each of the following methods of book depreciation:

(a) Straight-line method.

(b) Double-declining-balance method. (Limit the depreciation expense in the fifth year to an amount that will cause the book value of the equipment at year-end to equal the \$5,000 estimated salvage value.)

(c) Sum-of-years'-digits method.

9. A secondhand bulldozer acquired at the beginning of the fiscal year at a cost of \$68,000 has an estimated salvage value of \$9,500 and an estimated useful life of 12 years. Determine

(a) The amount of annual depreciation by the straight-line method.

(b) The amount of depreciation for the third year, computed by the double-declining balance method.

(c) The amount of depreciation for the second year, computed by the sum-of-years'- digits method.

10. If a truck for hauling coal has an estimated net cost of \$100,000 and is expected to give service for 250,000 miles, resulting in a salvage value of \$5,000, depreciation would be charged at a rate of 38 cents per mile. Compute the allowed depreciation amount for the same truck's usage amounting to 55,000 miles.