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- Student Perception on Limited F2F Survey (Required)

6.2 Declining Balance Method



Intended Learning Outcomes

At the end of the lesson, the student shall be able to:

1. Describe how the declining balance method works as a depreciation method.
2. Apply the formulas/equations in a declining balance method to solve word problems.

DECLINING BALANCE METHOD

In this method, sometimes called the constant percentage method or the matheson formula. It is assumed that the annual cost of depreciation is a fixed percentage of the salvage value at the beginning of the year. The ratio of the depreciation in any year to the book value at the beginning of that year is constant throughout the life of the property and is designated by "k", the rate of the depreciation.

Useful Equations/Formulas

$$k = 1 - \sqrt[n]{\frac{C_n}{C_o}}$$

$$k = 1 - \sqrt[L]{\frac{C_L}{C_o}}$$

$$C_n = C_o(1 - k)^n$$

$$C_L = C_o(1 - k)^L$$

$$d_n = C_o(1 - k)^{n-1} (k)$$

$$D_n = C_o [1 - (1 - k)^n]$$

where:

- d_n

→ depreciation cost at n^{th} year
- C_o

→ original or first cost
- C_L

→ book value at the end of life of the property
→ salvage or scrap value
- L

→ useful life of the property in years
- D_n

→ total depreciation up to " n " years
- C_n

→ book value at the end of " n " years
- k

→ rate of depreciation

Reference: Engineering Economics by Hipolito Sta. Maria



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