UNIT 12

Capital Appreciation and Capital Depreciation



12.1 Capital Appreciation

Capital appreciation refers to an increase in the value of an asset over time. It occurs when the market price or fair value of an asset rises, resulting in a higher worth or valuation than its initial purchase price. Capital appreciation is commonly associated with investments in assets such as stocks, real estate, and financial securities.

When an asset appreciates in value, the difference between the current market value and the initial purchase price represents the capital appreciation. It is an important concept in investment and finance as it measures the potential returns and growth of an asset.

Investors and individuals track capital appreciation to assess the performance of their investments and make informed decisions regarding buying, selling, or holding assets. It is an essential factor in evaluating the overall profitability and growth potential of an investment portfolio or specific assets.

Capital appreciation can be calculated using the following formulas:

Capital Appreciation (Dollar Amount):

$$\textit{Current Market Value-Initial Purchase Price}$$

Capital Appreciation (Percentage/Rate):

$$\frac{\textit{Current Market Value} - \textit{Initial Purchase Price}}{\textit{Initial Purchase Price}} \times 100$$

Let's try some questions by applying the capital appreciation formula.

1 You purchased a stock for $50 per share, and after one year, the stock price increased to $65 per share. What is the percentage of capital appreciation?

2 You bought a house for $200,000, and after three years, the house value rose to $250,000. What is the percentage of capital appreciation?

3 You invested $10,000 in a mutual fund, and after five years, your investment grew to $15,000. What is the percentage of capital appreciation?

4 You purchased a piece of artwork for $2,500, and a few years later, its value increased to $3,800. What is the percentage of capital appreciation?

5 You acquired 100 shares of a company's stock for $20 per share, and after two years, the stock price rose to $30 per share. What is the percentage of capital appreciation?

6 You invested $5,000 in a real estate property, and over five years, its value increased to $7,500. What is the percentage of capital appreciation?

7 You purchased a vintage car for $30,000, and after three years, its value went up to $45,000. What is the percentage of capital appreciation?

8 You invested $1,000 in a cryptocurrency, and after six months, its value increased to $2,500. What is the percentage of capital appreciation?

9 You bought a piece of land for $50,000, and over seven years, its value appreciated to $80,000. What is the percentage of capital appreciation?

10 You acquired 500 shares of a company's stock for $10 per share, and after four years, the stock price increased to $25 per share. What is the percentage of capital appreciation?

12.2 Capital Depreciation

Capital depreciation refers to the decrease in value or the wear and tear of an asset over time. It represents the expense incurred

by a business as a result of the reduction in the asset's value. Depreciation is an important concept in accounting and finance as it allows businesses to allocate the cost of an asset over its useful life, reflecting the gradual loss of value due to factors such as obsolescence, wear and tear, or technological advancements.

Straight-Line Depreciation Method

The most commonly used formula to calculate capital depreciation is the straight-line depreciation method. The formula for straight-line depreciation is as follows:

Depreciation Expense = (*Initial Cost* – *Salvage Value*)/ *Useful Life*

- **Initial Cost:** This refers to the original cost or purchase price of the asset.
- **Salvage Value:** Also known as residual value or scrap value, it represents the estimated value of the asset at the end of its useful life.
- **Useful Life:** This is the estimated lifespan or duration over which the asset is expected to be used by the business before it becomes obsolete or has no economic value.

The formula subtracts the salvage value from the cost of the asset to determine the depreciable base, which is the amount that will be spread over the useful life of the asset. The depreciable base is then divided by the useful life to calculate the annual depreciation expense.

It's worth noting that there are other depreciation methods as well, such as the double-declining balance method, sum-of-years-digits method and units-of-production method. These methods may have different formulas and approaches to calculate depreciation based on factors such as accelerated depreciation, varying rates or production output.

The first question has been solved for you.

1 Initial Cost = $10,000

Salvage Value = $2,000

Useful Life = 5 years.

What is the depreciation expense each year using the annual straight-line formula?

SOLUTION

Depreciation Expense = ($10,000 - $2,000)/5

Depreciation Expense = $8,000/5

Depreciation Expense = $1,600 per year

2 A car was purchased for $30,000. If it has a useful life of 10 years and a salvage value of $5,000, calculate the annual straight-line depreciation.

3 A computer was purchased for $2,000. After 3 years, it is expected to have a salvage value of $500. Calculate the annual straight-line depreciation.

4 A building was purchased for $500,000. It has a useful life of 40 years and is expected to have a salvage value of $50,000. Calculate the annual straight-line depreciation.

5 A company purchases machinery for $100,000. It has a useful life of 5 years and is expected to have no salvage value. Calculate the annual straight-line depreciation.

6 A company purchased equipment for $80,000. It has a useful life of 8 years and is expected to have a salvage value of $5,000. Calculate the annual straight-line depreciation.

7 Marissa bought an office space for $450,000 and one year later its current value was $340,000. Calculate the rate of depreciation as a percentage.

8 Carlos purchases a motorcycle for $26,700. It has a salvage value of $2,500 and a useful life of 5 years. Calculate the (a) annual depreciation expense, (b) the percentage of capital depreciation and (c) the annual rate of depreciation as a percentage?

9 Stanos purchases a laptop for $1,500. It is expected to have a useful life of 4 years and a salvage value of $200. Calculate the book value of the laptop after 3 years using the straight-line method.

10 Marcos purchases a mattress for $458. It is expected to have a useful life of 5 years and a salvage value of $80. (a) Calculate the book value of the mattress after 2 years using the straight-line method.

11 **Declining Balance Method**

A company buys a piece of machinery for $80,000. The machinery has a useful life of 10 years and a salvage value of $5,000. Calculate the book value and annual depreciation for year 1 and year 2 using the straight-line method. (b) Calculate the book value for year 1 and year 2 using the declining balance method with a depreciation rate of 20% per year.

In the **declining balance method**, the depreciation rate is applied to the remaining book value each year using this formula:

$$\textit{Initial value} \times \textit{Depreciation rate}$$

12 **Sum of the Years' Digits:**

A business purchases a delivery truck for $50,000. The truck is expected to have a useful life of 6 years and zero salvage value. Calculate the annual depreciation for years 1, 2 and 3 using the sum-of-the-years' digits (SYD) method.

In the **SYD method**, the annual depreciation is determined based on the sum of the years of useful life.

- Calculate the SYD
  SYD = $n \times \left(\frac{n+1}{2}\right)$ *where n is the useful life of the asset*
- Then, calculate the annual depreciation expense
  Annual depreciation expense:
  (*Years remaining*/*SYD*) *x* (*Initial value – Salvage value*)