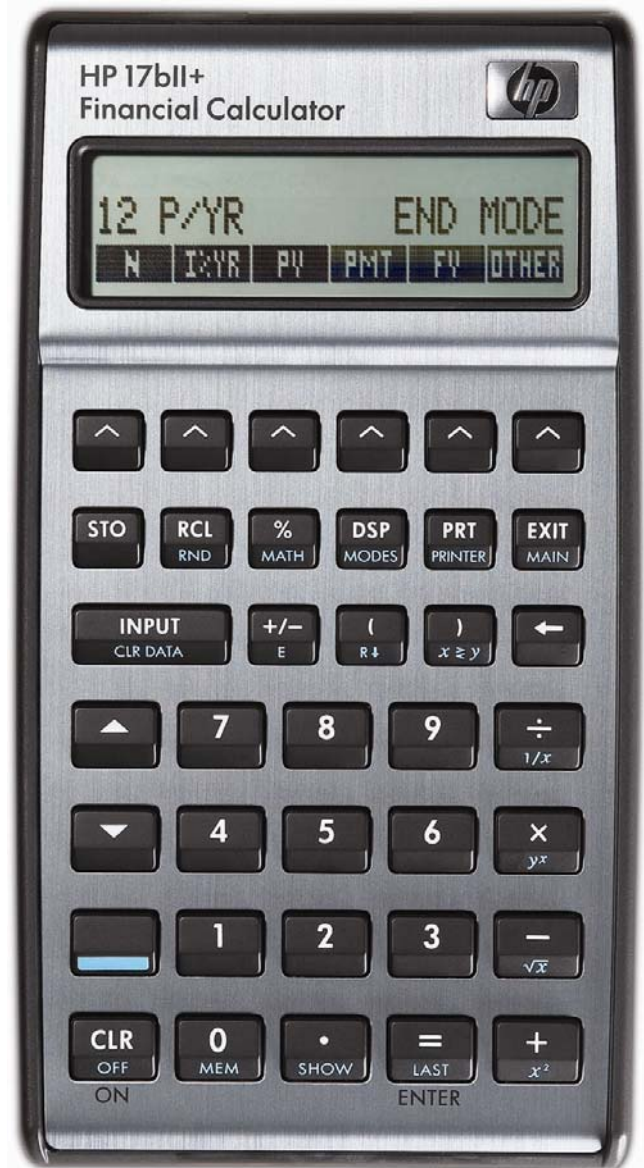**hp calculators**

HP 17bII+ Depreciation

Depreciation

Depreciation on the HP 17bII+

Practice solving depreciation problems

Depreciation

Depreciation is an accounting term that may be defined as the permanent and continuing decrease in the quality, quantity or the value of an asset over time. This is due to many reasons, from deterioration and obsolescence to impending retirement. It applies particularly to physical assets like equipment. In industry, for accounting purposes, depreciation is also a method of deducting the cost of business property related to capital assets as they wear out, lose value, or become obsolete in order to recover their cost as a business expense. A capital asset can be a piece of equipment, a building or a vehicle expected to be used for several years. The purchase price of the asset on the purchase date is called book value.

Straight line depreciation is calculated as: (Basis – Salvage Value) ÷ Life of Asset.

Declining balance is calculated as: Remaining book value x Factor% ÷ Life of Asset.

Sum of the years' digits is calculated as: (Basis – Salvage Value) x (Years remaining ÷ Sum of years of life)

As an example for the sum of the years' digits, if an asset has an estimated life of 5 years, the sum of the years of life would be 5 + 4 + 3 + 2 + 1, or 15. A shortcut formula to determine this sum is of the form N x (N + 1) ÷ 2. In this example, this shortcut would produce 5 x 6 ÷ 2, or 15. The value for years remaining would begin at 5 and be decreased by one each year until it held the value of 1 for the final year.

Depreciation on the HP 17bII+

The HP 17bII+ has functions that allow three different approaches: straight-line depreciation, depreciation using declining balance, and depreciation using sum of the years' digits. To access these functions, press ▓▓▓▓ and then ▓▓▓▓.

```
0.00
 FIN | BUS | SUM |TIME|SOLVE|CURRX
```
Figure 1

```
SELECT A MENU
 TVM |ICNV| CFLO|BOND|DEPRC
```
Figure 2

The depreciation menu is then displayed as shown in figure 3 below. The menu labels on this screen are explained below as well.

```
0.00
BASIS|SALV|LIFE|ACRS%|ACRS|MORE
```
Figure 3

▓▓▓▓ – The cost basis of the asset to be depreciated is entered and stored in this menu position.

▓▓▓▓ – The salvage value of the asset to be depreciated is entered and stored in this menu position.

▓▓▓▓ – The life of the asset is entered and stored in this menu position.

▓▓▓▓ – The ACRS depreciation percentage for the current year's depreciation is entered and stored in this menu position. Note: an MACRS percentage is entered here for depreciation problems.

▓▓▓▓ – Calculates the depreciation using the entered ACRS% percentage.

▓▓▓▓ – Displays the second page of depreciation menu options, which is shown below in figure 4.

```
0.00
YR# |FACT%| DB |SOYD| SL |MORE
```
Figure 4

▓▓▓ – The year number for which the deprecation to be calculated is entered and stored in this menu position.

▓▓▓ – The declining balance factor to be used (if any) is entered and stored in this menu position. For example, to calculate using "double-declining balance", a value of 200 would be entered representing 200% of the straight line rate.

▓▓ – Calculates the declining balance depreciation amount for the year and factor % specified.

▓▓▓ – Calculates the sum of the years' digits depreciation amount for the year specified.

▓▓▓ – Calculates the straight line depreciation amount for the year specified.

▓▓▓ – Displays the first page of depreciation menu options again.

Once you have calculated a depreciation amount, pressing ▼ will display the remaining balance left to depreciate.

Practice solving depreciation problems

Example 1: The R&D department of a crystal refinement company spent $28,000 for new equipment for the digital spectrometer lab. The expected life for this equipment is 12 years, and the salvage value is $2,500. What is the depreciation per year using the straight line method?

Solution: ▓▓▓ ▓▓▓▓
2 8 0 0 0 ▓▓▓
2 5 0 0 ▓▓▓
1 2 ▓▓▓
▓▓▓▓
1 ▓▓▓
▓▓
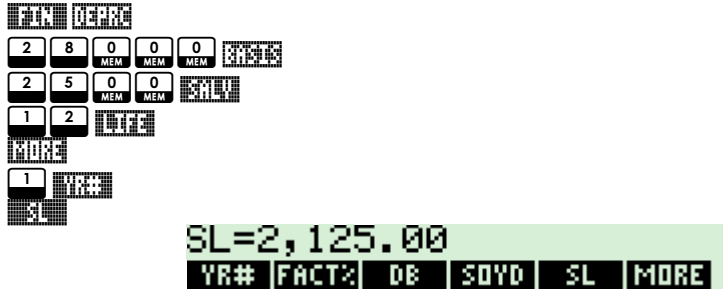
```
SL=2,125.00
YR# FACT% DB SOYD SL MORE
```
Figure 5

Answer: The annual amount of depreciation calculated with the SL method is $2,125. You can verify that this is the same every year by entering other years (2 through 12) into ▓▓▓ and pressing ▓▓▓.

Example 2: For the equipment from example 1, calculate the declining balance depreciation for the fifth and eighth years and compare the values to the straight-line fixed depreciation. Use the DB method with a 2× weight (200%) related to the SL. Assume that example 1 has just been worked.

Solution: 2 0 0 ▓▓▓
5 ▓▓▓
▓▓

```
DB=2,250.52
YR# FACT% DB SOYD SL MORE
```
Figure 6

8 ▓▓▓
▓▓

```
DB=1,302.38
YR# FACT% DB SOYD SL MORE
```
Figure 7

Answer: The amount of depreciation using a 200% DB method for the 5th year is $2,250.52 and $1,302.38 for the 8th year. With the same figures, the annual amount of depreciation calculated with the SL method is $2,125.

Example 3: For the equipment from example 1, calculate the sum of the years' digits depreciation amount for the fifth and eighth years and compare the values to the straight-line fixed depreciation. Assume that example 1 has just been worked.

Solution: 5 YR#
            SOYD

            SOYD=2,615.38
            YR# FACT% DB SOYD SL MORE   Figure 8

            8 YR#
            SOYD

            SOYD=1,634.62
            YR# FACT% DB SOYD SL MORE   Figure 9

Answer: The amount of depreciation the sum of the years' digits for the 5th year is $2,615.38 and $1,634.62 for the 8th year. With the same figures, the annual amount of depreciation calculated with the SL method is $2,125.

Example 4: Professional video equipment bought for $15,000 has a useful life of 8 years with a salvage value of $1,100. Using the SOYD method, find the amount of depreciation for the fourth year.
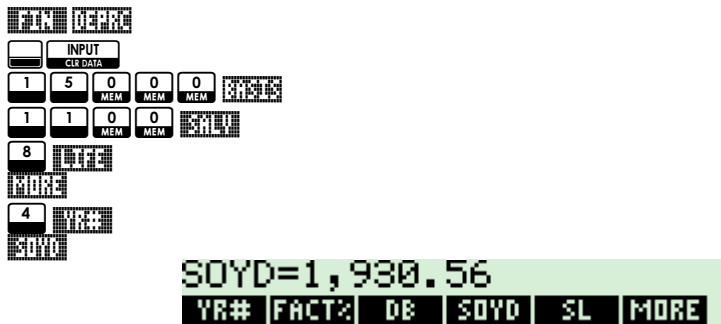
Solution: FIN DEPRC
            INPUT
            CLR DATA
            1 5 0 0 0 BASIS
            1 1 0 0 SALV
            8 LIFE
            MORE
            4 YR#
            SOYD

            SOYD=1,930.56
            YR# FACT% DB SOYD SL MORE   Figure 10

Answer: The depreciation for the fourth year is $1,930.56

Example 5: A computer server is purchased for $8,500 that falls under the MACRS 5-year property class. If the MACRS depreciation percent for year 3 is 19.2%, what is the allowed depreciation for that year?

Solution: FIN DEPRC
            INPUT
            CLR DATA
            1 5 0 0 0 BASIS
            1 9 . 2 ACRS%
            ACRS

            ACRS=1,632.00
            BASIS SALV LIFE ACRS% ACRS MORE   Figure 11

Answer: The depreciation for the third MACRS year is $1,632.