Sum of the Years-Digits Depreciation

A third commonly used depreciation method is the sum of the years-digits method. Like double declining-balance depreciation, this method expenses more of the purchase price in the early years.

Study Tip

In Examples 3 and 4, you saw that double declining-balance depreciation often requires an adjustment in the last year or last few years. This is not true of straight-line depreciation or of sum of the years-digits depreciation.

Sum of the Years-Digits Depreciation

For **sum of the years-digits depreciation,** the depreciation rate for year k using a useful life of n years is given by dividing $(n + 1 - k)$ by the sum of the years of useful life digits.

$$\frac{\text{Depreciation}}{\text{rate for year } k} = \frac{n + 1 - k}{\text{sum of the years of useful life digits}}$$

To find the depreciation, multiply this rate by the difference between the purchase price and the salvage value.

EXAMPLE 5   Making a Depreciation Schedule

You open a pizza shop and buy 2 delivery vans for a total of $60,000. Make a sum of the years-digits depreciation schedule using a useful life of 5 years and a total salvage value of $15,000.

SOLUTION

The sum of the years digits is $1 + 2 + 3 + 4 + 5 = 15$.

1st Year Rate	2nd Year Rate	3rd Year Rate	4th Year Rate	5th Year Rate
$\dfrac{5}{15}$	$\dfrac{4}{15}$	$\dfrac{3}{15}$	$\dfrac{2}{15}$	$\dfrac{1}{15}$

These are always in reverse order.

The difference between the purchase price and the salvage value is $60,000 - 15,000 = \$45,000$.

DATA

	A	B	C	D
1	Year	Value before Depreciation	Depreciation	Value after Depreciation
2	1	$60,000	$15,000	$45,000
3	2	$45,000	$12,000	$33,000
4	3	$33,000	$9,000	$24,000
5	4	$24,000	$6,000	$18,000
6	5	$18,000	$3,000	$15,000
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Notice that the schedule arrives at the salvage value of $15,000 exactly.

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Make a sum of the years-digits depreciation schedule for the delivery vans using a useful life of 4 years. Use the same total salvage value of $15,000.