Extending Concepts



MACRS In Exercises 21–26, use the information below.

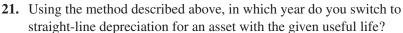
You can also use the modified accelerated cost recovery system (MACRS) to depreciate assets. One method available under MACRS is double declining-balance depreciation with a switch to straight-line depreciation.

Under this method, you compare the annual rates of depreciation for double declining-balance depreciation and straight-line depreciation each year. When the rate for straight-line depreciation is greater than or equal to the rate for double declining-balance depreciation, you switch to straight-line depreciation. The annual rate of depreciation for straight-line depreciation is given by

Annual rate of depreciation =
$$\frac{1}{\text{remaining useful life}}$$
.

In the exercises, you should use the half-year convention, which begins depreciation halfway through the year that an asset is put into service. An asset with a useful life of n years will have a depreciation schedule with n+1 years because you start and end the useful life halfway through the year. For straight-line depreciation, the remaining useful life in year 2 is $n-\frac{1}{2}$. After year 2, the remaining useful life decreases by 1 each

year. For both methods, the depreciation deductions in the first year and last year are reduced by half. (*Note:* Salvage value is not used under MACRS.)



- **a.** 5 years
- **b.** 10 years
- **22.** Using the method described above, in which year do you switch to straight-line depreciation for an asset with the given useful life?
 - **a.** 3 years
- **b.** 7 years
- **23.** You purchase a \$4000 copy machine. The useful life of the machine is 5 years. Make a depreciation schedule using the method described above.
- **24.** You purchase a \$10,000 knitting machine. The useful life of the machine is 5 years. Make a depreciation schedule using the method described above.
- **25.** You purchase a \$24,000 digital printing press. The useful life of the machine is 7 years. Make a depreciation schedule using the method described above.
- **26.** You purchase a \$3000 ticket booth. The useful life of the booth is 7 years. Make a depreciation schedule using the method described above.

