

▶ Extending Concepts

DATA **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

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

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.)

21. Using the method described above, in which year do you switch to straight-line depreciation for an asset with the given useful life?
 - 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.

