

What is Declining Balance Depreciation?

Worksheet

Declining balance depreciation applies a fixed rate to the asset's beginning-of-year book value each period:
Depreciation Expense = Book Value Depreciation Rate, so the expense shrinks every year.

$$D = BV \times \frac{2}{n}$$

Questions

1. An asset has a \$10,000 beginning book value and a 20% declining balance rate. What is this year's depreciation?
A) \$2,000
B) \$1,800
C) \$2,500
D) \$8,000
2. Under declining balance, depreciation expense over time is
A) Constant
B) Increasing
C) Decreasing
D) Zero
3. For double-declining balance with a 10-year useful life, what is the rate?
A) 10%
B) 20%
C) 5%
D) 40%
4. What value does declining balance depreciation apply the rate to?
A) Original cost every year
B) Salvage value
C) Beginning-of-year book value
D) Market value
5. A machine costs \$20,000. Using the double-declining balance method with a 5-year useful life (rate = 40%), find year 1 depreciation.
6. Using the same machine, find year 2 depreciation.
7. Equipment costs \$15,000 with a depreciation rate of 25%. Find the depreciation expense for year 1 and the resulting book value.
8. Define: What is declining balance depreciation?
9. Define: What is the declining balance formula?
10. Define: What is double-declining balance?

Answer Key

1. A) $\$2,000 - 10,000 \cdot 0.20 = 2,000$.
2. C) Decreasing - Because the rate applies to a shrinking book value, expense decreases each year.
3. B) $20\% - \text{Rate} = 2 \cdot (1/10) = 20\%$.
4. C) Beginning-of-year book value - The rate is applied to the current beginning book value, not the original cost.
5. $\text{Rate} = 2/5 = 40\%$ Year 1 depreciation = $20,000 \cdot 0.40 = \$8,000$ End-of-year book value = $20,000 - 8,000 = \$12,000$
6. Beginning book value (year 2) = $\$12,000$ Year 2 depreciation = $12,000 \cdot 0.40 = \$4,800$ End-of-year book value = $12,000 - 4,800 = \$7,200$
7. Year 1 depreciation = $15,000 \cdot 0.25 = \$3,750$ Book value = $15,000 - 3,750 = \$11,250$
8. An accelerated depreciation method that applies a fixed rate to the asset's beginning book value, so expense is highest in early years.
9. $D = \text{Book Value} \cdot \text{Depreciation Rate}$.
10. A common version where the rate equals $2 \cdot (1/\text{Useful Life})$.

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