Depreciation

6 questions | 14 marks

Equivalent correct methods earn the corresponding marks.

1. Find the value of a 5000-dollar model losing 8% annually after 3 years. [2 marks]

$5000(0.92)^3 = 3893.44$.

Answer: 3893.44 dollars

2. A device loses 90 dollars annually from 720 dollars. Find its value after 4 years. [2 marks]

$720 - 90(4) = 360$.

Answer: 360 dollars

3. For $V = 18000(0.84)^t$, state the initial value and annual percentage loss. [2 marks]

The coefficient is the initial value; $1 - 0.84 = 0.16$.

Answer: 18000 dollars; 16% loss.

4. A value halves every 3 years from 6400 dollars. Find its value after 6 years. [2 marks]

Two halving periods give $6400(\frac{1}{2})^2 = 1600$.

Answer: 1600 dollars

5. Compare year-2 values from 1000 dollars with fixed loss 100 annually versus 10% reducing-balance loss. [3 marks]

$1000 - 2(100) = 800$ and $1000(0.9)^2 = 810$.

Answer: 800 dollars fixed; 810 dollars reducing balance.

6. Give a sensible nonnegative time interval for $V = 1500 - 250t$, with t in years. [3 marks]

Both time and value are nonnegative. $1500 - 250t \geq 0$ gives $t \leq 6$.

Answer: $0 \leq t \leq 6$