

Understanding Simple Interest

Interest is an amount you pay in exchange for borrowing money, and it's a percentage of the total loan. This worksheet explores simple interest—interest that's earned only on the initial principal. Here's a helpful formula: **$A = P(1 + rt)$**

A = final amount

A = annual interest rate

P = initial principal balance

P = time (in years)

Here's an example of how to apply it: Say you borrow \$10,000 for a 5-year auto loan with a 4% interest rate.

Here's the equation: $A = 10,000(1 + (0.04 \times 5))$

The solution: $A = 12,000$

Now take A (\$12,000) minus the amount borrowed (\$10,000) to see how much extra you'll pay in interest for that loan (\$2,000).

Let's practice: Calculate simple interest rates for each of the following scenarios.

1. You open a savings account with \$500. The savings account has a 0.05% simple interest rate and you leave the money in the account for 10 years. What's the total amount that would be in the account if you didn't withdraw or deposit anything else in that time?

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2. How much interest would be repaid on a 15-year mortgage of \$40,000 at 2.5%?

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3. How much, in total, would need to be repaid on \$25,000 worth of student loans at 4.8% if paid off after 8 years?

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4. How much would you save if you paid off those same student loans in 4 years?
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