

Simple Interest

Objectives:

- Calculate the simple interest on a loan.
- Calculate the future value of a simple interest loan.
- Calculate the present value of a simple interest loan given the future value.
- Calculate the payments for an add-on interest loan.
- Calculate the average daily balance for a billing period.
- Calculate the finance charges for a billing period.

Suggested Problems:

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problems 1a, 3a, 7a, 9a, 11a,
13a, 17a, 21a, 23, 25, 27, 29,
31, 35

Vocabulary:

- present value
- principal
- future value
- interest rate
- simple interest
- loan amount
- maturity value
- add-on interest
- average daily balance

Formulas:

Simple Interest Formula:

Simple Interest Future Value Formula

Possible Classroom Examples:

Find the simple interest of each of the loan amounts below

- loan amount of \$35,037 at 6% for 2 years
- loan amount of \$8950 at $9\frac{1}{2}\%$ for 10 months
- loan amount of \$5682 at $11\frac{3}{4}\%$ for 278 days

Find the future value of \$3670 deposited at $2\frac{3}{4}\%$ for 7 years

Find the maturity value of \$2720 borrowed at $12\frac{3}{4}\%$ for 275 days.

Find the present value of a future value of \$420 at $5\frac{1}{2}\%$ simple interest for 2 years

How much must be deposited now at $5\frac{7}{8}\%$ interest so that in 2 years and 7 months an account will contain \$3,000?

Sam Spade inherited \$7,000. He wants to buy a used car, but the type of car he wants typically sells for around \$8,000. If his money can earn $6\frac{1}{2}\%$ interest, how long must he invest his money?

Ray and Teresa Martinez buy a bedroom set at Fowler's Furniture for \$3,700. They put \$500 down and finance the rest through the store at 9.8% add-on interest. If they agree to make 36 monthly payments, find the size of each payment.

The activity on Denise Helling's Sears account for one billing period is shown below. Find the average daily balance and the finance charge if the billing period is March 1 through March 31. The previous balance was \$157.14, and the annual interest rate is 21%.

March 5	payment	\$25.00
March 17	tools	\$36.12

The Clintons bought a house from the Bushes for \$389,400. In lieu of a 20% down payment, the Bushes accepted a 10% down payment at the time of the sale and a promissory note from the Clintons for an additional 10%, due in 4 years. The Clintons also agreed to make monthly interest payments to the Bushes at 11% interest until the note expires. The Clintons obtained a loan from their bank for the remaining 80% of the purchase price. The bank in turn paid the sellers the remaining 80% of the purchase price, less a sales commission (6% of the purchase price) paid to the sellers' and buyers' real estate agents.

- a. Find the Clintons' down payment.
- b. Find the amount that the Clintons borrowed from the bank.
- c. Find the amount that the Clintons borrowed from the Bushes.
- d. Find the Clintons' monthly interest payment to the Bushes.
- e. Find the Bushes' total income from all aspects of the down payment.
- f. Find the Bushes' income from the Clintons' bank.
- g. Find the Bushes' total income from all aspects of the sale.