

What are some things you can pay rent for?

7.7 Simple Interest

Students will be able to calculate interest earned and account balances.

Vocab

Interest - The amount earned or paid for the use of money

Principal - The amount of money deposited or borrowed *Starting amt*

Simple interest - Interest that is earned or paid only on the principal

Annual interest rate - The percent of the principal earned or paid per year

Simple Interest Formula

Simple interest I is given by the formula

$$* I = P \cdot r \cdot t \rightarrow \text{time yrs}$$

Interest *Principal* *rate*

Where P is the principal, r is the annual interest rate (written as a decimal), and t is the time in years.

Finding Simple Interest

Your grandma gives you a bond as a way to earn money. She gave you a \$1500 bond that earns 4% simple interest per year on its purchase price, how much will it earn in interest after 2 years?



$$I = Prt$$

$$I = (1500)(.04)(2)$$

$$I = \$120$$

A \$1000 bond earns 6% simple annual interest. What is the interest earned after 4 years and 3 months?

$$1000 \cdot (.06)(4.25)$$




Balance

The balance A of an account that earns simple annual interest is the sum of the principal P and the interest Prt .

* $A = P + Prt$ ~~$A = P(1+rt)$~~

Final *Starting* *Interest*

Angie just purchased a new sports car. She financed \$45,000 and must pay it back over 5 years with 11% interest. How much will she have paid in all for her car?

$A = 45,000 + 24,750$ 

$A = 69,750$

$I = Prt$
 $I = (45000)(.11)(5)$
 $I = 24,750$

Emily has a balance of \$2,348 on her credit card. She threw the card away so she could never use it again. She has 3 years and 6 months to pay off the balance. The interest rate on her card is 21%. When Emily finally pays off her credit card, how much will she have paid in all?



Finding an Interest Rate

You get a summer job at Gary's bakery. Suppose you save \$1400 of your pay and deposit it into an account that earns simple annual interest. After 9 months, the balance is \$1421. Find the annual interest rate.



in 9 months
\$21

$I = Prt$
 $21 = (1400)(r)(.75)$
 $21 = \frac{1050}{1050} r$

$\frac{9}{12} = \frac{3}{4}$

Julie deposits a certain amount of her tax refund into an account that earns 4% simple annual interest. After 6 months, the balance is \$2040. Find the principal.



<http://bit.ly/2EEKBS9>

Homework

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