Topic: Finding Simple Interest

Interest is a cost charged for the use of money borrowed or lent. If you have a savings account, you are lending your money to the bank. The money borrowed or lent is called the **principal**. The amount of **interest** earned depends on the interest **rate** and the length of **time** that the money is borrowed.

The formula for finding simple interest is **Interest = Principal x Rate x Time** or **I=prt**
>   **Principal** is the amount of money saved, lent or borrowed.
>   **Rate** is the annual percentage rate charged. (Annual = one year)
>   **Time** is the length of the loan measured and expressed in years.
>   **Examples: 9 months = 9/12 or ¾ or .75 of a year.   18 months =   1 ½ years = 1.5 of a year.**

Example: What is the interest on $200 borrowed for 3 years at 10% rate?
Interest = $200 (the **principal**) x .10 (the **rate** 10% as a decimal) x 3 (the **time** in years) = $60.
Note: The **total** amount owed back is principal + interest = $200 + $60 = $260.

Math skills needed: ➔Multiply using fractions and decimals
➔Read and follow the steps of a formula   ➔Express months as a fractional part of a year
➔Convert % rates to fractions or decimals   ➔Solve multi step word problems

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Simple Interest Problem 1
You borrow $50 for 1 year at 5% interest rate. What is the interest owed?

The principal is _____   I = prt

The rate is _____

The time in years is _____

>   The interest owed is _____

Simple Interest Problem 2
$500 is earning 8% simple interest for 6 months. What is the interest earned?

The principal is _____   I = prt

The rate is _____

The time in years is _____

>   The interest earned is _____

Simple Interest Practice   Try this problem.   Your answer should be $21.00
$700 is earning 6% simple interest for 6 months. What is the interest earned?

The principal is _____   I = prt

The rate is _____

The time in years is _____

>   The interest earned is _____

Answers to Practice Problems back page: 1. $288   2. $91   3. $135   4. $2.50

Practice Problems Solving for Simple Interest   Show your work

1. What is the interest on $1,600 at 18% for 1 year?	**Answer:**
2. What is the interest on $2,600 for 6 months at a rate of 7%?	**Answer:**
3. What is the interest on $500 at a rate of 9% for 3 years?	**Answer:**
4. What is the interest owed on a loan of $100 at 10% for 3 months?	**Answer:**

Note: You could think of interest problems as **% P W** problems and **use a ratio proportion method** to solve for annual (one year's worth) interest. Then multiply the annual interest by the length of the specific loan expressed in years.

The rate is the **%.** The interest is the **Part**. The loan is the **Whole**

Example: What is the interest charged on a$45 loan at 5% for 2 years?

$$\frac{P}{W} = \frac{\%}{100}$$

- The interest formula can be used to find missing information when the interest is given.

Example: If I borrow $250 for 6 months and I am charged $12.50 interest, what is the interest rate of my loan?   **I = prt**

12.50 = 250 times rate times ½

12.50 = 125 times rate

rate = 12.50 divided by 125 = .10 = 10%