Simple Interest

Lee is going to the bank to deposit $1700 that he earned at his summer job. The banker explains the simple interest at the bank is a rate of 6.1% per year. “**Interest** is money the bank pays you for letting them use *your* money. The **interest rate** tells you how much money the bank will give you. The bank pays you 6.1% of whatever amount you let us hold for a year. So at the end of a year, you can get back the amount you deposited, called the **principal**, plus the 6.1% the bank pays you.”

In your own words, explain what each term means:

1. Interest
2. Interest rate

**c.** Principal

1. How much interest will Lee get at the end of one year as long as no other money is deposited or withdrawn during the year? Show your work.
2. How much money will Lee have in that bank account at the end of one year?

The teller further explains, “Every year you leave your money in the bank, you receive an additional 6.1% of the *original* principal. Although you have more money than you originally deposited in your account, after the first year, your interest is still based on your *original* deposit. This is what is meant by ***simple* interest**.”

1. How much money will Lee have in the bank after two years?
2. Complete this table to show how much *simple interest* the bank will pay Lee after a given number of years.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Years** | **1** | **2** | **3** | **4** | **5** |
| **Simple**  **Interest** |  |  |  |  |  |

**5.** Lee thinks there must be a formula for finding simple interest.

**a.** What operation is used to calculate interest?

**b.** Write an equation that represents the amount of simple

interest, *I*, earned after *t* years. Let *r* = interest rate and

*P* = principal.

**6.** If *t* represents the number of whole years, show how you

would find simple interest after 6 months? After 3 months?

**7.** What is the least number of whole years Lee must keep the

money in the bank to make at least $1,000 in simple interest?

**Additional Practice:**

1. Erica’s parents gave her $500 for her high school graduation. She put the money into a savings account that earned 7.5% annual interest. She left the money in the account for 2 years months before she withdrew it. How much interest did the account earn at the end of the 2 years?
2. Arnold puts $580 into a savings account. The account pays 3% simple interest. How much interest will he earned in 5 years?
3. An x-ray machine for animals costs $125,000. If the loan is for 10 years, and the interest paid is $65,625 what is the interest rate on the loan?
4. Dr. Jones would like a computer system for the office to help with management of the clinic. The cost is $15,000 and the interest rate is 4.6%. The amount of interest to be paid is $3450. How many months is the loan for?
5. Jimmy is purchasing a car and paying the loan out over 3 years. If the original interest rate is 5% and he has paid $900 in interest in addition to the principal amount what was the original cost of the car?