Excerpt from
***Introduction to Real Estate Finance and Investment: Sample Problems, Student Edition*, by Frank Gallinelli**

Chapter 1: Simple Interest

Simple interest is exactly that: simple. You apply the rate of interest always to the original principal amount only. Contrast this to the concept in the next chapter, compound interest.

You can calculate the interest with the first formula below; or, by using the second formula, you can figure the total to which a starting amount of principal grows.

Interest = Principal x Rate x Time

Amount = Principal x [1 + (Rate x Time)]

Problem 1-1:

You invest $6,000 at 4% annual simple interest for 3 years. At the end of the term, how much interest have you earned in dollars?

Problem 1-2:

You loan $7,250 to a friend. He has agreed to pay you simple interest only, at 6% per annum. How much do you expect to collect from him over two years?

Problem 1-3:

You borrow $8,500 from your mother-in-law on June 1. The interest rate is 8% per annum, payable quarterly. Your payments are simple interest only and your first payment is due September 1. How much interest will you have paid after you make your December 1 payment the same year?

Problem 1-4:

You deposit $9,750 in a bank that pays 1.2% simple interest per year, payable monthly. How much will you have in your account at the end of 3½ years?

Answer 1-1:

Apply the formula, Interest = Principal x Rate x Time

6,000 x 0.04 x 3 = 720

Answer 1-2:

7,250 x 0.06 x 2 = 870

Answer 1-3:

Since the annual rate is 8%, the quarterly rate is 2%. You will have made two payments: one on September 1, and the other on December 1. So you calculate the amount of each interest payment and multiply it by the number of payments:

8,500 x 0.02 x 2 = 340

Answer 1-4:

You need to apply the second formula shown above.

Final Amount = Principal x [1 + (Rate x Time)]

9,750 x [1 + (0.012 x 3.5)]

9,750 x [1 + 0.042]

9,750 x 1.042 = 10,159.50