





**Section 5.4: Simple Interest**

\_\_\_\_\_ setting money aside for short-term goals

- Guaranteed to earn a small amount of money
- Get the money out whenever you want

\_\_\_\_\_ setting money aside for future income, benefit, or profit to meet long-term goals

- No guarantee that your money will grow or increase
- Earnings and losses are more than you would make in a saving account

\_\_\_\_\_ when the price of goods and services rise

- Usually averages between 3% and 4% per year
- A dollar in the future won't buy you as much as a dollar today
- Make sure investment rates are higher than the rates of inflation

\_\_\_\_\_ The potential that your investment may cause you to lose money. The greater the risk of the investment the greater the potential to earn rewards

- \_\_\_\_\_ spreading invested dollars among several different saving and investments/ plans to reduce the risk

\_\_\_\_\_ a person who lends their money to a business or the government

\_\_\_\_\_ a person who buys a piece of the business

\_\_\_\_\_ interest earned on the amount deposited

- \_\_\_\_\_ the amount of money initially deposited into the bank
- \_\_\_\_\_ how many **years** (or fractional part of a year) the money is in the savings account
- \_\_\_\_\_ percent as a decimal (given as an annual rate)

Simple interest = \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_

**Ex1:** Ray put \$1,000 into a saving account. The interest on the account is 3.5%. He wants to put the money away for 18 months. How much will Ray have at the end of that time period?



**Ex4:** On May 1 Gerry opened a savings account that paid 3.5 percent interest with a deposit of \$3600. Ten days later he deposited \$3000. Fourteen days later he deposited \$5000. No other deposits or withdrawals were made. Six days later the bank calculated the daily interest.

a) How much simple interest does she earn in the **1<sup>st</sup> 10 days?**

b) How much simple interest does she earn in the next **14 days?**

c) How much simple interest does she earn in the last **6 days?**

d) What is the amount in the account at the end of the month?

<b>Section 5.5: Compound Interest</b>
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\_\_\_\_\_ interest earned not only on the original principal but also on the interest earned during previous interest period

\_\_\_\_\_ balance in the account at the end of an interest period

Interest = \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_

Amount in account = \_\_\_\_\_ + \_\_\_\_\_

Compound Interest = \_\_\_\_\_ - \_\_\_\_\_

Compounding Period	Descriptive Adverb	Fraction of one year
1 day		
1 month		
3 months		
6 months		
1 year		

**Ex1:** Alice's savings account has a principal of \$1200. It earns 6% interest compounded quarterly.

a) What is the amount in the account at the end of the second quarter?

b) How much is the compound interest?

**Ex2:** The Smiths opened a saving account with a deposit of \$200 on January 1. The account pays interest at 6% compounded semiannually. On July 1 they deposited another \$2000.

a) What amount will they have in their account on July 1?

b) What will they have in the account on January 1 one year later?

c) How much is the compounded interest?

**Ex3:** Erin had \$3620 on deposit at Savings Bank on July 1. The money earns interest at a rate of 6.5% compounded quarterly.

a) What amount will she have in her account on April 1 of the following year if no withdrawals were made during the period?

b) How much is the compound interest?

**Section 5.6 – 7: Compound Interest Tables and Daily Compounding**

\_\_\_\_\_ shows the amount of \$1.00 for many various interest rates and interest periods. To use you need to know:

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Amount in Account = _____ x _____
Compound Interest = _____ - _____



**Ex1:** State Bank pay 6 percent interest compound quarterly on regular savings account. Marta deposited \$3000 for 2 years. She made no other deposits or withdrawals. How much interest did Marta earn during the 2 years?

**Ex2:** Juan opens an account and deposits \$4379.47. The account pays 6 percent annual interest and compounds quarterly. Six months later he deposits \$2000. How much will he have in the account 1.5 years later if he continues to pay 6 percent interest compounded quarterly? What is the total interest earned?

**Ex3:** Dan opened a savings account at Dallas Trust Bank on March 1. Dallas Trust pays 12 percent compounded quarterly. Dan opened his account with an initial deposit of \$10,000. He made \$1000 deposits at the end of each quarter. How much is in the account at the end of the 4 quarters?

\_\_\_\_\_ interest that is computed each day and added to the account.

**Ex4:** On May 31 Ralph deposited \$1000 in a saving account that pays 5.5 percent interest compounded daily. On July 1 how much interest had been earned on the principal in his account?

**Ex5:** On Apr 15 Sarah deposited \$1000 in a saving account that pays 5.5 percent interest compounded daily. On Aug 3 how much interest had been earned on the principal in her account?

**Ex6:** Debra's saving account shows a balance of \$904.31 on March 1. In the same day, she made a deposit of \$375.00 to the account. She also made deposits of \$500.00 on April 1 and May 1. The bank pays interest at a rate of 5.5% compounded daily. What will be the amount in her account on May 29?

**Section 5.8: Annuities**

\_\_\_\_\_ a continuing payment of an equal amount of money that is deposited into an account at equal periods of time.

\_\_\_\_\_ found when equal deposits are made at the end of each interest period.

\_\_\_\_\_ found when you have regular deposits at the beginning of the period (such as rent). The money immediately starts earning interest because it is deposited at the beginning of the interest period. Essentially when the value is calculated at the end of the month you get an additional period of interest

Future Value of an Ordinary Annuity = _____ x _____
Future Value of Annuity Due = _____ x _____

**Ex1:** Andrew deposits \$500 in an ordinary annuity at the end of each quarter in an account earning 6 percent interest compounded quarterly. What is the future value of the account in 2 years?

**Ex2:** Suppose that Andrew (from example 1) had made \$500 deposits in an annuity due at the beginning of each quarter in an account earning 6 percent interest compounded quarterly. What is the future value of the account in 2 years?

**Ex3:** Five thousand dollars is deposited into an ordinary annuity after each quarter for 3 years. The account pays 6 percent compounded quarterly. What is the future value of the account in 3 years?

**Ex4:** Jane and her husband deposited \$500 in an account on their wedding day and each subsequent anniversary. The money was deposited in an account that pays 7 percent compounded annually. How much will they have on their 25<sup>th</sup> anniversary?