

## Assignments

### Financial Plan Assignments

As you read through this chapter, think about the purpose of each financial concept. Use either a calculator or the Excel financial calculator from the Learning Tools chapter to make sure you understand how to solve problems of present value and future value.

### Learning Tools

The following Learning Tools may also be helpful as you prepare your Personal Financial Plan:

#### 3. Financial Calculator Tutorial

This document is a financial calculator tutorial about most of the major financial calculators. It also includes the financial formulas if you would prefer to program your own calculator.

#### 12. Excel Financial Calculator

This Excel spreadsheet is a simple financial calculator for those who prefer to use spreadsheets. This tool can perform most of the functions of a financial calculator, including present value, future value, payments, interest rates, and number of periods.

### Review Materials

#### Review Questions

##### 1. What is compound interest?

2. What are the four variables of the present value equation?
3. What are the 13 financial terms mentioned in the chapter? What do they mean?
4. What is the relationship between the compounding period and the effective interest rate?

### Case Studies

#### Case Study 1

Data

Brian has a goal to have \$500,000 saved by the time he turns 65, which is 40 years from now.

Calculation

Assuming he can make 6 percent on his money, what is the value of that money now (this indicates present value)? The math formula is as follows:

$$PV = FV / (1 + I)^N$$

**Case Study 1 Answer**

The formula is  $PV = FV / (1 + I)^N$ , or  $PV = 500,000 / (1.06)^{40}$ , or \$48,611.10. This formula shows you how this equation would be calculated on a standard calculator.

Using a financial calculator, you would clear the memories and then enter the following information:

$$\$500,000 = FV$$

6% = I, which is the interest rate (the annual interest, or discount, rate)

40 = N, or the number of years

You would then solve for PV:

PV = the present value, in today's dollars, of a sum of money you have invested or plan to invest. If you use a financial calculator for this equation, the present value should come out as \$48,611.10.

**Case Study 2**

Data

Ron has \$2,500 saved.

Calculation

If his investment earns 8 percent per year for 20 years, how much will his investment be worth in 20 years (the investment's future value)? The formula is as follows:

$$FV = PV (1 + I)^N$$

**Case Study 2 Answer**

The equation would be  $FV = \$2,500 * (1 + .08)^{20}$  or \$11,652.39

If you were using a financial calculator, you would clear the memories and then enter the following:

$$\$2,500 = PV$$

8% = I, which is the interest rate (the annual interest, or discount, rate)

20 = N, or the number of years

You would then solve for FV:

$$FV = \$11,652.3$$