1. You have decided to deposit $2,200 of your annual bonus into a TFSA at the beginning of each year. You have also decided to deposit $350 of your monthly salary into a RRSP at the beginning of each month. Both of these investments have a rate of return of 5.31% compounded annually. How much will you have saved up in 25 years? How much interest will you have earned?

2. Today you have just leased a car for the next five years. The contract states that you must make your first monthly payment of $189.91 and a $2,500 down payment on the date of purchase. The lease also states that the car has a residual value of $5,000 in five years. If the stated interest rate is an effective rate of 2.81%, what was the purchase price of the car?

3. You would like to save up half of the $15,000 you need to make a purchase of a car in three years. Your investment will earn you 6.75% compounded quarterly. How much would you have to pay each month starting today?

4. For how long can you receive withdrawals of $1,000 every three months, beginning today, if you have $25,000 in a special savings account? The special savings account pays you 4.35% compounded monthly.

5. An $85,000 annuity will pay you $600 at the beginning of each month for 25 years. What is the nominal rate of return if interest is compounded semiannually?

6. You have just purchased a bedroom set with no money down and payments starting one year from today. When you start making payments you will be paying $156.58 each month for two years. If you are being charged 16% compounded quarterly, what was the purchase price of the bedroom set?
7. If RRC would like to award an annual $1,500 scholarship in perpetuity, starting one year from today, how large of a fund is required today? The fund can earn 7.5% compounded annually.

8. What dollar amount can be awarded for an annual perpetual scholarship beginning today from a $17,200 fund? This fund can be invested at 9% compounded annually.

9. A $250,000 mortgage is to be amortized by monthly payments for 25 years. The interest rate being charged on this loan is 6.82% compounded annually.

   a) What will be the size of the payments?
   b) What will be the principal portion of payment 180?
   c) What will be the interest portion of payment 75?
   d) What will be the principal reduction in year 15?
   e) What will be the interest paid by payments 120 to 144 inclusive?
   f) What will be the balance owing at the end of three years?
   g) What will be the size of the final payment?

10. You have already saved up $30,000 for a down payment on a house. You believe you can make monthly payments of $750 on the mortgage for the next thirty years. If interest rates are 3.69% compounded semiannually, what is the maximum price of the house you could afford?

11. You are looking to get a new car and are looking at whether you should buy or lease the car. If you buy the car you must pay $13,500 today. The car will have a resale value of $5,000 in five years. If you lease the car you will be required to make monthly payments of $175 for five years starting today. If the auto dealership is willing to finance the lease at 2.85% compounded monthly, which alternative is better in today’s dollars? How much money would you save by choosing the preferred alternative?

12. To bring a new product to market a company would have to make an immediate investment of $150,000 and then sell it for $35,000 in five years. The product is expected to return profits of $60,000 in each of the five years. The company needs to have a return on capital of 12% compounded annually. Should the company bring this new product to market? What is the economic value today of this new product?