

Section 7.2 The Conditions of an Annuity

1. Determine the monthly payment on \$2700 borrowed at 5.75% per year, compounded monthly for each time period.
 - a) 1 year
 - b) 2 years
 - c) $2\frac{1}{2}$ years
 - d) $3\frac{1}{4}$ years
 - e) $3\frac{3}{4}$ years
2. Refer to question 1. Calculate the total interest paid for each time period.
3. Euka plans to borrow \$25 000 to pay for college. The annual interest rate on the loan is 4.65%, compounded monthly. Determine the number of months, to one decimal place, required to repay the loan for each monthly payment amount.
 - a) \$300
 - b) \$350
 - c) \$400
 - d) \$475
 - e) \$600
4. Refer to question 3. Calculate the total interest paid for each monthly payment amount.
5. For each interest rate, determine the quarterly payment for a three-year loan of \$10 000 if interest is compounded quarterly.
 - a) 6.5%
 - b) 7%
 - c) 8%
 - d) 9.25%
 - e) 9.75%
6. Refer to question 5. Calculate the total interest paid for each interest rate.
7. Mr. Morales is purchasing a television from Etonics. The after-tax cost is \$1299. The interest rate on a personal loan from Etonics is 16.5% per year, compounded monthly. He can manage a monthly payment of \$75.
 - a) Use a TVM Solver to determine the number of months, to the next full month, it will take to repay the loan.
 - b) Round **N** to the nearest multiple of 12 and solve for **PMT**.
 - c) Use your answer to part b) to determine the total amount that Mr. Morales will pay for the television.
 - d) The same television can be purchased at TV Home for the same after-tax price. TV Home is offering personal loans at 14.5% per year, compounded monthly. Repeat parts a) and b), then calculate the amount Mr. Morales will save if he chooses the 14.5% loan.
8. Don is 35 years old and has no savings. His twin sister Donna began saving \$200 a month when she was 19. Her investments have earned an average of 9.25% per year, compounded monthly. Don believes that if he saves \$400 per month he will have as much as Donna by age 54.
 - a) How much has Donna invested to date?
 - b) Calculate the value of each person's investments at age 54.
 - c) How much money did each person invest?
 - d) How much per month would Don have to invest to catch up to his sister?
 - e) Does Don have any other options to catch up to his sister? Explain.

