

MAP 4C Review: Annuities and Mortgages

Multiple Choice: Choose the best answer for each question.

- Which situation represents an annuity?
 - Making a payment at the end of each month on a 24-month car loan.
 - Calculating the appreciated value of a house.
 - Making a lump sum payment that is 10% of an outstanding mortgage.
 - Depositing \$50 into a savings account.
- Which statement is false?
 - Making weekly payments will pay down a mortgage faster than making monthly payments.
 - Decreasing the term on a loan from five years to four years reduces the total interest paid.
 - Increasing the payment frequency increases the total amount paid on a loan.
 - For all Canadian mortgages, interest is compounded semi-annually.
- You deposit \$100 per month into an account paying 1.25% per year, compounded monthly. Which is the best estimate of the future value of this account after three years?
 - \$4000
 - \$50 000
 - \$2500
 - \$10 000
- Which change would increase the amount of interest paid over the life of a mortgage?
 - Making an extra payment once a year.
 - Choosing a shorter amortization period.
 - Switching from weekly payments to monthly payments.
 - Renewing the mortgage at a lower interest rate.
- Making bi-monthly payments results in how many payments in one year?
 - 12
 - 6
 - 24
 - 26
- The length of time needed to eliminate a debt such as a mortgage is called the:
 - Term
 - Borrowing time
 - Duration
 - Amortization period
- When you sell your home, the difference between the selling price and the amount you still owe on the mortgage is called:
 - Equity
 - Collateral
 - Revenue
 - Profit

8. A fixed rate mortgage offers...
 - a. An interest rate that fluctuates with the prime interest rate for the full amortization period
 - b. An interest rate that stays the same for the term of the mortgage
 - c. An interest rate that fluctuates with the prime interest rate for the term of the mortgage
 - d. An interest rate that stays the same for the full amortization period

 9. A lump sum payment...
 - a. Is applied directly to the outstanding principal of your mortgage
 - b. Can be made only as often and to the maximum amount that your bank will allow
 - c. Reduces the amount of interest paid for the remainder of the mortgage
 - d. All of the above

 10. A shorter amortization period means...
 - a. Larger payments but less total interest paid
 - b. Smaller payments and less total interest paid
 - c. Larger payments and more total interest paid
 - d. Smaller payments and more total interest paid

 11. A professionally managed portfolio of various different investments is called a:
 - a. Stock
 - b. Bond
 - c. Mutual fund
 - d. RRSP
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12. Determine the monthly payment for a four-year loan on a \$18 000 vehicle at 7.8% per year, compounded monthly.
 13. How much interest do you pay on the loan in question 12? Show your work.
 14. Given a monthly mortgage payment of \$1150, determine the payment amount for each payment frequency. Show your work.
 - a. weekly
 - b. bi-weekly
 - c. semi-monthly
 - d. accelerated bi-weekly
 - e. accelerated weekly
 15. For a semi-monthly payment of \$565.00, what is the total amount paid after one year?
 16. For a bi-weekly payment of \$710.00, what is the total amount paid after one year?
 17. Determine the future value of \$425 deposited quarterly for 12 years into a fund that pays 3.25% per year, compounded quarterly.
 18. What is an RRSP and what is the major advantage to investing through one?
 19. Discuss the advantages and disadvantages of renting a home versus buying one.

20. Anna has several debts. She owes \$5000 on a car loan, \$2200 on her credit card, and \$3000 to her parents. She is applying for a consolidation loan that will combine her debts and allow her to start to paying them off.
- Calculate her monthly payment on a 5-year loan at 4.25% per year, compounded monthly.
 - Determine the total amount paid on the loan. Show your work.
 - How much interest will she have to pay to eliminate her debt? Show your work.
 - How much could she save by choosing a 4-year loan? Show your steps.
21. Jack and Jill recently bought their first home for \$329 900. They made a 5% down payment and mortgaged the rest. They get a five-year fixed rate mortgage at 4.2% per year with an amortization period of 25 years.
- Calculate the down payment and the amount to be mortgaged.
 - Determine the monthly payment.
 - Calculate the total amount paid in five years. Show your work.
 - Calculate the total principal and the total interest paid in five years.
(Quit the TVM Solver first, then press Apps, 1, and scroll down to the one you need...).
 - If they decide to make monthly payments to \$2000 instead (from the beginning of the mortgage), how many years would it take to pay off their mortgage?
 - Assuming an appreciation rate of 3.5%, calculate the estimated value of the home at the end of the 5 year term.
22. Hailey is renting a two-bedroom townhouse for \$895 per month plus utilities. She expects to pay \$245 for electricity bi-monthly, \$85 monthly for natural gas, and \$110 quarterly for water.
- Calculate Hailey's average monthly accommodations expenses.
 - Estimate her total expenses for one year.
23. Workbook Pg 157 #9
24. Workbook Pg 157 #10