

7. Suppose Rita waits for a month. The interest rate has increased to 8.75%.
- Calculate the monthly payment.
  - What is the total interest paid for this mortgage?
12. Ryan bought a home. He needs a mortgage of \$125 000. The bank offers him a 25-year mortgage at 7.75%.
- Calculate the monthly payment.
  - Calculate the total interest paid on this mortgage.
  - How much is still owing on this mortgage after the first 3 years?
16. **Application** In the early 1980s, interest rates soared to over 20%. To understand the devastating effect this had on some homeowners, consider a family with a mortgage of \$75 000 amortized over 25 years. Calculate the monthly payment for each interest rate.
- 7%
  - 12%
  - 20%
17. **Communication** Why do you think Canadian law requires that mortgage interest rates be compounded semi-annually?
19. A family moves into its new home. The \$90 000 mortgage is amortized over 25 years at 7.5% for a 3-year term.
- Calculate the monthly mortgage payment.
  - At the end of the 3-year term, interest rates increase by 1%. The family renews its mortgage at current rates. Calculate the new monthly payment.
20. Mike estimates that he can afford a monthly mortgage payment of \$575. Current interest rates are 6.75%.
- Calculate the mortgage Mike could afford for each amortization period.
    - 15 years
    - 20 years
    - 25 years
  - What other factors should Mike consider before he assumes the mortgage?

7. a) \$811.61

b) \$143 483

12. a) \$934.15

b) \$155 245

c) \$119 372.99

16. a) \$525.31

b) \$773.92

c) \$1211.21

19. a) \$658.40

b) \$711.22

20. a) i) \$65 358.69

ii) \$76 174.65

iii) \$83 935.52