

Example 3

Janice and Elmo found a house to purchase with a price of \$225 000. They are going to make a 5% down payment. They will finance the remainder of the purchase price with a mortgage at an annual interest rate of 4.75% amortized over 25 years.

- a) Calculate the required mortgage amount.

$$\text{mortgage Amount} = \text{Purchased Price} - \text{Down payment.}$$

$$\text{Down payment} = 5\% \text{ of } \$225\,000 = \frac{5}{100} \times 225\,000 = \$11\,250$$

$$\text{Purchased Price} = \$225\,000$$

$$\text{mortgage Amount} = \$225\,000 - \$11\,250 = \$213\,750$$

- b) Calculate the monthly mortgage payment if the amortization rate is \$5.67 per \$1000.

$$\text{Monthly mortgage payment} = \text{Amortization rate} \times \text{mortgage}$$

$$= \frac{5.67}{1000} \times 213\,750$$

$$= \$1\,211.96$$

- c) Calculate the total amount paid in monthly payments over the life of the mortgage.

$$\text{TOTAL Amount paid} = \text{monthly payment} \times 12 \times \# \text{ of years}$$

$$= \$1\,211.96 \times 12 \times 25$$

$$= \$363\,588.75$$

- d) Calculate the total amount of interest paid over the life of the mortgage.

$$\text{Interest paid} = \text{Total paid} - \text{Borrowed}$$

$$= \$363\,588 - \$213\,750$$

$$= \$149\,838.00$$