

Example 1

Ken purchases a house for \$205 900 at an annual interest rate of 5% amortized over 20 years. He plans to make a \$20 000 down payment.

- a) Calculate the amount borrowed for the mortgage.

$$\begin{aligned} \text{Amount Borrowed} &= \text{Purchased Price} - \text{Down payment} \\ &= 205\,900 - 20\,000 \\ \text{(mortgage)} &= \$185\,900 \end{aligned}$$

- b) Calculate the monthly mortgage payment if it costs \$6.57 per month for each \$1000 borrowed.

$$\begin{aligned} \text{monthly mortgage payment} &\equiv \text{Amortization rate} \times \text{mortgage} \\ &= \frac{6.57}{1000} \times 185\,900 \\ &= \$1221.36 \end{aligned}$$

- c) Calculate the total amount that Ken will pay in monthly payments over the life of the mortgage.

$$\begin{aligned} \text{TOTAL Amount} &= \text{monthly payments} \times 12 \times \text{years} \\ &= \$1221.36 \times 12 \times 20 \\ &= \$293\,127.12 \end{aligned}$$

- d) Calculate the cost of financing (interest) paid over the life of the mortgage.

$$\begin{aligned} \text{Cost of Financing} &= \text{TOTAL Amount Paid} - \text{Amount borrowed} \\ \text{(Interest Paid)} &= \$293\,127.12 - \$185\,900 \\ &= \$107\,227.12 \end{aligned}$$

Example 2

That is a large amount of interest in example 1! There are three main ways that a person can pay less mortgage interest overall. State three ways to reduce interest below.

1. Increase monthly payments
2. Make a larger down payments
3. Make weekly mortgage payments
4. Make an annual down payment.