6.3 Home Mortgages

- Compare rates and terms for a home mortgage.
- Analyze the effect of making principal payments.
- Compare the costs of buying and renting.

Study Tip

If you are considering buying a home, spend some time looking into the finances, insurance, fees, taxes, condition, and location of the house. Signing up for a mortgage that is unrealistic compared to one's monthly income is a common mistake.

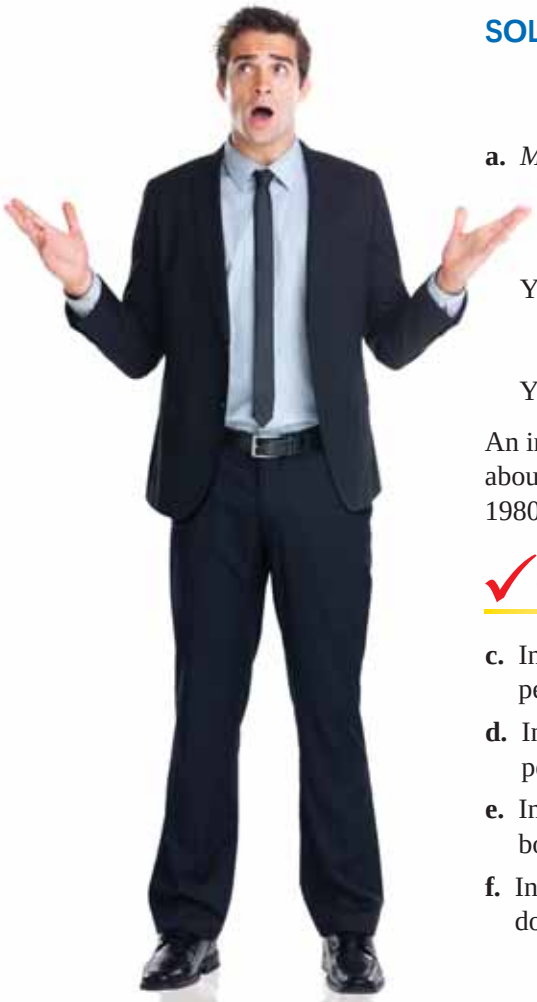
Comparing Rates and Terms for Home Mortgages

A **home mortgage** is an installment loan that is taken out to pay for a home. For most people, it is the largest loan they will ever assume. For this reason, consider the following when purchasing a home.

1. Understand the annual percentage rate for the loan. Is it fixed throughout the term or is it adjustable?
2. Make sure the contract allows you to make extra payments toward the principal.
3. Shop for or negotiate the best possible rate. A difference of even 1% can save you tens of thousands of dollars.
4. Shop for real estate agents. The fee an agent charges you is negotiable.

EXAMPLE 1 Comparing Rates for a Home Mortgage

You take out a home mortgage for $250,000 for 30 years. Compare the total interest you pay for annual percentage rates of (a) 4% and (b) 6%.



SOLUTION

a. $M = 250{,}000\left[\dfrac{0.003333}{1-\left(\dfrac{1}{1.003333}\right)^{360}}\right]$ (0.04/12)

$= \$1193.54$

Your payments total

$360(1193.54) = \$429{,}674.40.$

You pay $179,674.40 in interest.

b. $M = 250{,}000\left[\dfrac{0.005}{1-\left(\dfrac{1}{1.005}\right)^{360}}\right]$ (0.06/12)

$= \$1498.88$

Your payments total

$360(1498.88) = \$539{,}596.80.$

You pay $289,596.80 in interest.

An increase of only 2 percentage points increases the interest that you pay by about $110,000! Can you imagine how much interest people paid in the early 1980s, when home mortgage rates were about 20%?

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c. In Example 1, do you pay about $110,000 more in interest when the annual percentage rate is 8%? Explain your reasoning.

d. In general, does the amount of interest you pay double when the annual percentage rate doubles? Explain your reasoning.

e. In Example 1, does the amount of interest you pay double when the amount borrowed doubles? Explain your reasoning.

f. In general, does the amount of interest you pay double when the principal doubles? Explain your reasoning.