**Solution 1.40**

In order to make CDs look more attractive as an investment than they really are, some banks adver­tise that their rates are higher than their competi­tors’ rates; however, the fine print says that the rate is based on simple interest. If you were to deposit $10,000 at 10% per year simple interest in a CD, what compound interest rate would yield the same amount of money in 3 years? Solve by formula and write the spreadsheet function to display the *i* value.

*Solution:*

Simple: F = 10,000 + 10,000(3)(0.10)

= $13,000

Compound: 13,000 = 10,000(1 + i) (1 + i) (1 + i)

(1 + i)3 = 1.3000

3log(1 + i) = log 1.3

3log (1 + i) = 0.1139

log(1 + i) = 0.03798

1 + i = 1.091

i = 9.1% per year

Spreadsheet function: = RATE(3,,-10000,13000) displays 9.14%