**Solution 1.42**

A company that manufactures general-purpose trans­ducers invested $2 million 4 years ago in high-yield junk bonds. If the bonds are now worth $2.8 million, what rate of return per year did the com­pany make on the basis of (*a*) simple interest, and (*b*) compound interest? (*c*) What is the spreadsheet function to find the answer for compound interest?

*Solution:*

(a) Simple: F = P + Pni

2,800,000 = 2,000,000 + 2,000,000(4)(i)

i = 10% per year

(b) Compound: F = P(1 + i) (1 + i) (1 + i) (1 + i)

2,800,000 = 2,000,000(1 + i)4

(1 + i)4 = 1.4000

log(1 + i)4 = log1.400

4log(1 + i) = 0.146

log(1 + i) = 0.0365

(1 + i) = 100.0365

(1 + i) = 1.0877

i = 8.77%

(c) Spreadsheet function: = RATE(4,,-2000000,2800000)