Solution 1.16

A new engineering graduate who started a consulting business borrowed money for 1 year to furnish the office. The amount of the loan was $45,800, and it had an interest rate of 10% per year. However, because the new graduate had not built up a credit history, the bank made him buy loan-default insurance that costs $900. In addition, the bank charged a loan set-up fee of 1% of the loan principal. What was the effective interest rate the engineer paid for the loan?

Solution:

Interest on loan = 45,800(0.10) = $4,580

Default insurance = $900

Set-up fee = 45,800(0.01) = 458

Total amount paid = 4,580 + 900 + 458 = $5938

Effective interest rate = (5,938/45,800)*100 = 12.97%