

## EXAMPLE 4.5

Tesla Motors manufactures high-performance battery electric vehicles. An engineer is on a Tesla committee to evaluate bids for new-generation coordinate-measuring machinery to be directly linked to the automated manufacturing of high-precision vehicle components. Three bids include the interest rates that vendors will charge on unpaid balances. To get a clear understanding of finance costs, Tesla management asked the engineer to determine the effective semiannual and annual interest rates for each bid. The bids are as follows:

- Bid 1:** 9% per year, compounded quarterly
- Bid 2:** 3% per quarter, compounded quarterly
- Bid 3:** 8.8% per year, compounded monthly

- (a) Determine the effective rate for each bid on the basis of semiannual periods.
- (b) What are the effective annual rates? These are to be a part of the final bid selection.
- (c) Which bid has the lowest effective annual rate?