**Solution 1.50**

For the following five spreadsheet functions, (*a*) write the values of the engineering economy symbols *P*, *F*, *A*, *i*, and *n*, using a ? for the symbol that is to be determined, and (*b*) state whether the displayed answer will have a positive sign, a nega­tive sign, or it can’t be determined from the entries.

(1) = FV(8%, 10, 3000, 8000)

(2) = PMT(12%, 20, –16000)

(3) = PV(9%, 15, 1000,600)

(4) = NPER(10%, –290,, 12000)

(5) = FV(5%, 5, 500, –2000)

*Solution:*

(a) (1) F = ?; i = 8%; n = 10; A = $3000; P = $8000

(2) A = ?; i = 12%; n = 20; P = $-16,000; F = 0

(3) P = ?; i = 9%; n = 15; A = $1000; F = $600

(4) n = ?; i = 10%; A = $-290; P = 0; F = $12,000

(5) F = ?; i = 5%; n = 5; A = $500; P = $-2000

(b) (1) negative

(2) positive

(3) negative

(4) positive (years)

(5) can’t determine if 5% per year will cover the 5 withdrawals of $500