

## Multiple-Choice Test

### Chapter 03.01

### Background Nonlinear Equations

- The value of  $x$  that satisfies  $f(x) = 0$  is called the
  - root of an equation  $f(x) = 0$
  - root of a function  $f(x)$
  - zero of an equation  $f(x) = 0$
  - none of the above
- A quadratic equation has \_\_\_\_\_ root(s).
  - one
  - two
  - three
  - four
- For a certain cubic equation, at least one of the roots is known to be a complex root. How many total complex roots does the cubic equation have?
  - one
  - two
  - three
  - cannot be determined
- An equation such as  $\tan x = x$  has \_\_\_\_\_ root(s).
  - zero
  - one
  - two
  - infinite
- A polynomial of order  $n$  has \_\_\_\_\_ zeros.
  - $n - 1$
  - $n$
  - $n + 1$
  - $n + 2$
- The velocity of a body is given by  $v(t) = 5e^{-t} + 4$ , where  $t$  is in seconds and  $v$  is in m/s. The velocity of the body is 6 m/s at  $t =$  \_\_\_\_\_ seconds.
  - 0.1823
  - 0.3979
  - 0.9163
  - 1.609

For a complete solution, refer to the links at the end of the book.