# Multiple Choice Test

Chapter 07.02
Trapezoidal Rule

1. The two-segment trapezoidal rule of integration is exact for integrating at most _____ order polynomials.
    (A)   first
    (B)   second
    (C)   third
    (D)   fourth

2. The value of $\int_{0.2}^{2.2} xe^x dx$ by using the one-segment trapezoidal rule is most nearly
    (A)   11.672
    (B)   11.807
    (C)   20.099
    (D)   24.119

3. The value of $\int_{0.2}^{2.2} xe^x dx$ by using the three-segment trapezoidal rule is most nearly
    (A)   11.672
    (B)   11.807
    (C)   12.811
    (D)   14.633

4. The velocity of a body is given by
    $$v(t) = 2t, \qquad 1 \le t \le 5$$
    $$= 5t^2 + 3, \quad 5 < t \le 14$$
    where t is given in seconds, and v is given in m/s. Use the two-segment trapezoidal rule to find the distance in meters covered by the body from $t = 2$ to $t = 9$ seconds.
    (A)   935.00
    (B)   1039.7
    (C)   1260.9
    (D)   5048.9

5.   The shaded area shows a plot of land available for sale. The units of measurement are in meters. Your best estimate of the area of the land in m^2 is most nearly
      (A) 2500
      (B) 4775
      (C) 5250
      (D) 6000
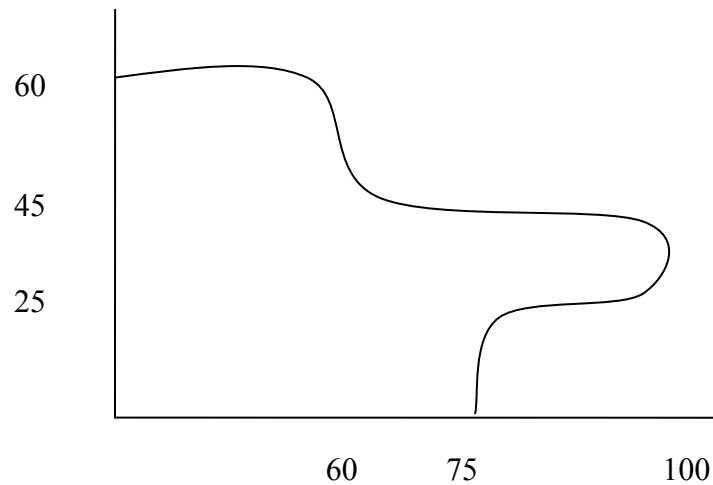
6.   The following data of the velocity of a body is given as a function of time.

Time (s)	0	15	18	22	24
Velocity (m/s)	22	24	37	25	123

The distance in meters covered by the body from $t = 12$ s to $t = 18$ s calculated using the trapezoidal rule with unequal segments is
      (A) 162.90
      (B) 166.00
      (C) 181.70
      (D) 436.50

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