Solutions

Each answer shows the steps, then the **result**.

2.1

- $\Delta x = \dfrac{10 - 2}{4} = 2$

2.2

- $\Delta x = \dfrac{2}{n}$, $x_k = \dfrac{2k}{n}$; sum $= \displaystyle\sum_{k=1}^{n} f\left(\tfrac{2k}{n}\right) \cdot \tfrac{2}{n}$

2.3

- Integrand $3x + 2$; limits of integration 1 and 5

3.1 B

- the definite integral is the limit of Riemann sums

3.2

(a)

- $\Delta x = \dfrac{4}{n}$, so $b - a = 4$; the sample $2 + \tfrac{4k}{n}$ starts at 2, so $[a, b] = [2, 6]$

(b)

- $\displaystyle\int_{2}^{6} x^2 \, dx$

3.3

- More signed area lies **below** the axis than above it over $[0, 6]$