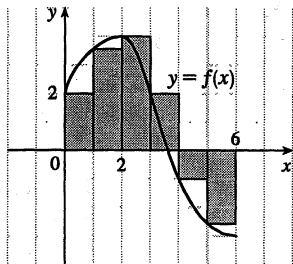


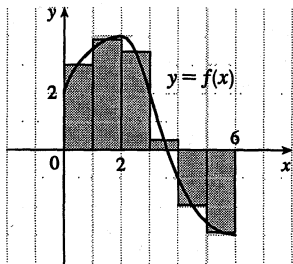
1. (a)



$$\begin{aligned}
 L_6 &= \sum_{i=1}^6 f(x_{i-1}) \Delta x \quad [\Delta x = \frac{6-0}{6} = 1] \\
 &= f(x_0) \cdot 1 + f(x_1) \cdot 1 + f(x_2) \cdot 1 \\
 &\quad + f(x_3) \cdot 1 + f(x_4) \cdot 1 + f(x_5) \cdot 1 \\
 &\approx 2 + 3.5 + 4 + 2 + (-1) + (-2.5) = 8
 \end{aligned}$$

The Riemann sum represents the sum of the areas of the four rectangles above the x -axis minus the sum of the areas of the two rectangles below the x -axis.

(b)



$$\begin{aligned}
 M_6 &= \sum_{i=1}^6 f(\bar{x}_i) \Delta x \quad [\Delta x = \frac{6-0}{6} = 1] \\
 &= f(\bar{x}_1) \cdot 1 + f(\bar{x}_2) \cdot 1 + f(\bar{x}_3) \cdot 1 \\
 &\quad + f(\bar{x}_4) \cdot 1 + f(\bar{x}_5) \cdot 1 + f(\bar{x}_6) \cdot 1 \\
 &= f(0.5) + f(1.5) + f(2.5) + f(3.5) + f(4.5) + f(5.5) \\
 &\approx 3 + 3.9 + 3.4 + 0.3 + (-2) + (-2.9) = 5.7
 \end{aligned}$$

The Riemann sum represents the sum of the areas of the four rectangles above the x -axis minus the sum of the areas of the two rectangles below the x -axis.