

## Exercises:

1. Calculate the Left Riemann Sum using 4 rectangles over the interval specified:
  - (a)  $2x + 2$  over  $(1, 5)$
  - (b)  $\cos(x)$  over  $(0, \frac{\pi}{2})$
  - (c)  $\frac{e^x}{x-1}$  over  $(2, 3)$
2. Calculate the Right Riemann Sum using 4 rectangles over the interval specified:
  - (a)  $2x + 2$  over  $(1, 5)$
  - (b)  $\cos(x)$  over  $(0, \frac{\pi}{2})$
  - (c)  $\frac{e^x}{x-1}$  over  $(2, 3)$
3. Calculate the Midpoint Riemann Sum using 4 rectangles over the interval specified:
  - (a)  $2x + 2$  over  $(1, 5)$
  - (b)  $\cos(x)$  over  $(0, \frac{\pi}{2})$
  - (c)  $\frac{e^x}{x-1}$  over  $(2, 3)$
4. Calculate the Trapezoidal Sum using 6 trapezoids over the interval specified:
  - (a)  $2x + 2$  over  $(1, 4)$
  - (b)  $x \sin(x)$  over  $(0, \pi)$
  - (c)  $.5x^3 - 2x^2 + 1$  over  $(-2, 4)$