

Calculus 12

4.2 Approximating Area

Find the left pt., right pt., and mid pt. approximation for the area under each function on the given interval with given number of rectangles:

1) $f(x) = x^2 + 3$ $[0, 2]$ 5 rectangles

2) $f(x) = \sqrt{x} + 1$ $[1, 4]$ 6 rectangles

3) $f(x) = \frac{1}{x}$ $[2, 4]$ 4 rectangles

4) $f(x) = \sqrt{1 - x^2}$ $[0, 1]$ 5 rectangles

KEY (left, mid, right)

1) 7.92, 8.64, 9.52

2) 7.41, 7.67, 7.91

3) 0.76, 0.69, 0.63

4) 0.86, 0.79, 0.66