

Name: _____

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Instructor: Bueler | Jurkowski | Maxwell

There are 25 points possible on this quiz. No aids (book, calculator, etc.) are permitted. Show all work for full credit.

1. [5 points] Sketch the region enclosed by the given curves and calculate its area. [You may use either part of the Fundamental Theorem of Calculus.]

$$y = \sqrt{x}, \quad y = 0, \quad x = 4$$

2. [5 points] Use the Midpoint Rule with $n = 2$ subintervals to approximate the integral:

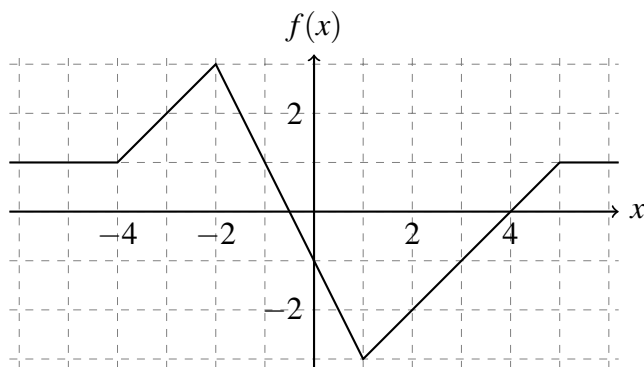
$$\int_0^4 \frac{x}{x+1} dx \approx$$

3. [3 points] The graph of f is shown. Evaluate each integral by interpreting it in terms of areas.

a. $\int_{-4}^{-2} f(x) dx =$

b. $\int_{-4}^1 f(x) dx =$

c. $\int_4^1 f(x) dx =$



4. [4 points] Evaluate the integral.

$$\int_1^3 (x-2)(x+4) dx =$$

5. [4 points] Evaluate the integral.

$$\int_0^1 (e + x^e + e^x) dx =$$

6. [4 points] Let $F(x) = \int_2^x e^{t^2} dt$. Find an equation of the tangent line to the curve $y = F(x)$ at the point where $x = 2$.