

Math 3 Written homework due Friday, November 3

Consider the function

$$f(x) = 1 - \frac{x}{3}.$$

- (1) Approximate $\int_0^3 f(x) dx$ using four rectangles and left endpoints.
- (2) Approximate $\int_0^3 f(x) dx$ using 7 rectangles and midpoints.
- (3) Evaluate $\int_0^3 f(x) dx$ exactly using high school geometry by interpreting the area between the graph of $f(x)$ on $[0, 3]$ and the x -axis as a familiar geometrical figure.
- (4) Evaluate $\int_0^3 f(x) dx$ exactly by using antiderivatives; be sure to indicate where you are using the Fundamental Theorem of Calculus in your answer.

All the work on this homework is mine. I have written it on my own and in my own words. I have acknowledged in writing anyone with whom I have worked or from whom I have received help.

Signature