

1. Given the function $f(x) = e^{-x^2}$, $-3 \leq x \leq 3$
Estimate the area under the graph of $f(x)$ using six
(hint: $n = 6$) approximating rectangles and taking the sample points
to be: (2 Pts Each)

a) right endpoints

b) left endpoints

c) midpoints

2. Use the Midpoint Rule with the given value of n to approximate
the integral. Round your answer to four decimal places. (2 Pts)

$$\int_1^2 5 + \sqrt{2 - x^2} dx \quad n = 5$$

3. If $\int_8^2 f(x)dx = -0.7$ and $\int_5^8 f(x)dx = 2.5$ and $\int_2^5 g(x)dx = 8$

Evaluate the following (if possible; otherwise, indicate N/A as your answer) (2 pts each)

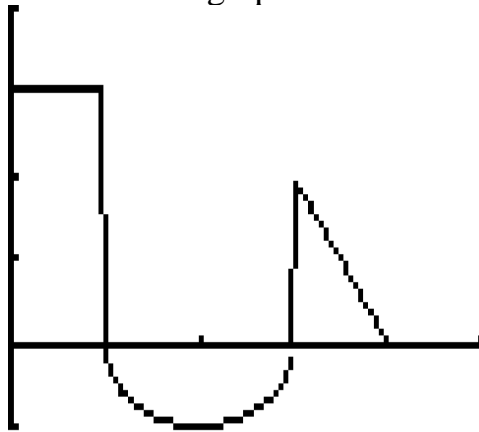
a) Find $\int_2^5 f(x)dx$.

b) Find $\int_2^5 f(x)g(x)dx$

c) Find $\int_2^5 \frac{f(x)}{g(x)} dx$

4. If $\int_a^3 3x^2 dx = 37$, find the value of "a". (3 points)

5. Consider the graph of the function $f(x)$ and



Using geometry compute the following:

(3 Points)

a) $\int_0^1 f(x) dx$

b) $\int_1^3 f(x) dx$

c) $\int_0^4 f(x) dx$