

1. (1 point) set9/sc5\_2\_3.pg

Consider the integral

$$\int_4^{10} (2x^2 + 3x + 2) dx$$

(a) Find the Riemann sum for this integral using right endpoints and  $n = 3$ .

(b) Find the Riemann sum for this same integral, using left endpoints and  $n = 3$

Answer(s) submitted:

•  
•

(incorrect)

Correct Answers:

- 956
- 584

2. (1 point) set9/sc5\_2\_24.pg

Evaluate the integral below by interpreting it in terms of areas. In other words, draw a picture of the region the integral represents, and find the area using high school geometry.

$$\int_{-2}^2 \sqrt{4 - x^2} dx$$

Answer(s) submitted:

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(incorrect)

Correct Answers:

- 6.283185308

3. (1 point) set9/sc5\_2\_28.pg

Evaluate the integral by interpreting it in terms of areas. In other words, draw a picture of the region the integral represents, and find the area using high school geometry.

$$\int_0^7 |3x - 2| dx$$

Answer(s) submitted:

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(incorrect)

Correct Answers:

- 60.833333333333

4. (1 point) set9/sc5\_2\_30.pg

$$\int_3^{18} f(x) - \int_3^{13} f(x) = \int_a^b f(x)$$

where  $a =$  \_\_\_\_\_ and  $b =$  \_\_\_\_\_

Answer(s) submitted:

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(incorrect)

Correct Answers:

- 13
- 18

5. (1 point) set9/ur\_in\_0\_11.pg

Consider the integral

$$\int_2^6 \left( \frac{3}{x} + 5 \right) dx$$

(a) Find the Riemann sum for this integral using right endpoints and  $n = 4$ .

(b) Find the Riemann sum for this same integral, using left endpoints and  $n = 4$

Answer(s) submitted:

•  
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(incorrect)

Correct Answers:

- 22.85
- 23.85

6. (1 point) set9/ur\_in\_0\_12.pg

Consider the function  $f(x) = -\frac{x^2}{2} + 3$ .

In this problem you will calculate  $\int_0^2 \left( -\frac{x^2}{2} + 3 \right) dx$  by using the definition

$$\int_a^b f(x) dx = \lim_{n \rightarrow \infty} \left[ \sum_{i=1}^n f(x_i) \Delta x \right]$$

The summation inside the brackets is  $R_n$  which is the Riemann sum where the sample points are chosen to be the right-hand endpoints of each sub-interval.

Calculate  $R_n$  for  $f(x) = -\frac{x^2}{2} + 3$  on the interval  $[0, 2]$  and write your answer as a function of  $n$  without any summation signs. You will need the summation formulas in Section 4.1 of the 9-th edition.

**Hint:**  $x_i = \frac{2i}{n}$  and  $\Delta x = \frac{2}{n}$ .

$R_n =$  \_\_\_\_\_

$\lim_{n \rightarrow \infty} R_n =$  \_\_\_\_\_

Answer(s) submitted:

- 
- 

(incorrect)

Correct Answers:

- $3 \cdot 2 + 2 \cdot 3 \cdot (n+1) \cdot (2 \cdot n+1) / (6 \cdot (-2) \cdot n \cdot n^2)$
- $4.666666666666667$

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**7. (1 point)** set9/sc5\_3\_45a.pg

Compute the indefinite integral

$$\int (8x^8 + 2 \sec(x) \tan(x)) dx$$

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Answer(s) submitted:

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(incorrect)

Correct Answers:

- $8 / (8+1) \cdot x^{8+1} + 2 \cdot \sec(x)$