

Question

1 2 3 4 5 6

Instructions

Name _____

Sec _____

1. Question Details

SCalc8 3.8.009. [4368767]

Use Newton's method with initial approximation $x_1 = -1$ to find x_2 , the second approximation to the root of the equation $x^3 + x + 8 = 0$. (Round your answer to four decimal places.)

$x_2 =$

2. Question Details

SCalc8 3.9.042. [3354036]

Find f .

$$f'''(x) = \cos(x), \quad f(0) = 7, \quad f'(0) = 6, \quad f''(0) = 8$$

$f(x) =$

3. Question Details

SCalc8 4.1.013.MI. [3354043]

The speed of a runner increased steadily during the first three seconds of a race. Her speed at half-second intervals is given in the table. Find lower and upper estimates for the distance that she traveled during these three seconds.

ft (smaller value)

ft (larger value)

t (s)	0	0.5	1.0	1.5	2.0	2.5	3.0
v (ft/s)	0	6.7	11.2	15.5	18.8	19.4	20.2

4. Question Details

SCalc8 4.2.019. [3353632]

Express the limit as a definite integral on the given interval.

$$\lim_{n \rightarrow \infty} \sum_{i=1}^n [8(x_i^*)^3 - 7x_i^*] \Delta x, \quad [2, 4]$$

$\int_2^{\text{ }} \left(\text{ } \right) dx$

5. Question Details

SCalc8 4.3.007. [3395157]

Use Part 1 of the [Fundamental Theorem of Calculus](#) to find the derivative of the function.

$$g(x) = \int_0^x \sqrt{t^4 + t^6} dt$$

$g'(x) =$

6. Question Details

SCalc8 4.4.042. [3353660]

Evaluate the integral.

$$\int_0^{3\pi/2} 3|\sin(x)| dx$$