Question | 1 | 2 | 3 | 4 | 5 | 6

Instructions

Name_____

Section_____

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1. 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.

[ ] 35.1 ft (smaller value)

[ ] 45.1 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	14.1	18.8	19.4	20

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2. Question Details SCalc8 4.1.025. [3353919]

Determine a region whose area is equal to the given limit. Do not evaluate the limit.

$$\lim_{n \to \infty} \sum_{i=1}^{n} \frac{\pi}{9n} \tan\left(\frac{i\pi}{9n}\right)$$

- $x \tan(x)$ on $\left[-\frac{\pi}{9}, \frac{\pi}{9}\right]$
- $\tan(x)$ on $\left[0, \frac{\pi}{9}\right]$
- $x \tan(x)$ on $\left[0, \frac{\pi}{9}\right]$
- $\tan(x)$ on $[0, 9\pi]$
- $\tan(x)$ on $\left[-\frac{\pi}{9}, \frac{\pi}{9}\right]$

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3. Question Details SCalc8 4.2.019. [3353632]

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

$$\lim_{n \to \infty} \sum_{i=1}^{n} [9(x_i^*)^3 - 7x_i^*]\Delta x, \quad [2, 5]$$

$$\int_{2}^{[\ ]} \left([\ ] \right) dx$$

[ ] 5

[ ] $9x^3 - 7x$

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4. Question Details SCalc8 4.2.043. [3354077]

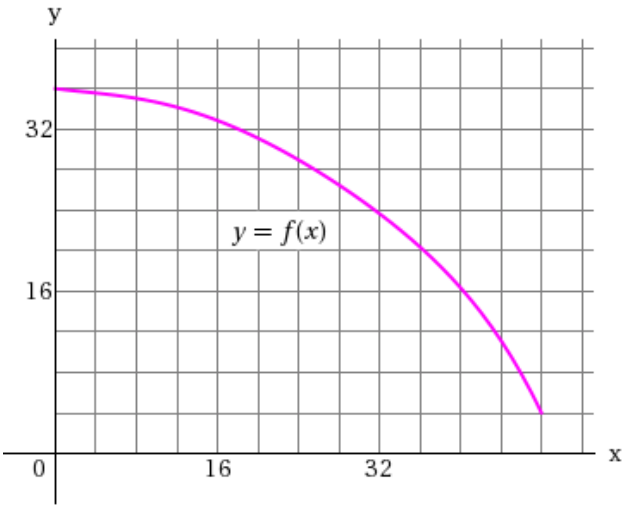
Given that $\int_0^1 x^2\,dx = \frac{1}{3}$, use this fact and the properties of integrals to evaluate $\int_0^1 (4 - 6x^2)\,dx$.

[ ]

2

5. Question Details SCalc8 4.1.002. [3391079]

Consider the following.



(a) Use six rectangles to find estimates of each type for the area under the given graph of f from $x = 0$ to $x = 48$.

(i) Sample points are left endpoints.

L_6 = [ ] 1385.6

(ii) Sample points are right endpoints.

R_6 = [ ] 1129.6

(iii) Sample points are midpoints.

M_6 = [ ] 1270.4

(b) Is L_6 an underestimate or overestimate of the true area?

- overestimate
- underestimate

(c) Is R_6 an underestimate or overestimate of the true area?

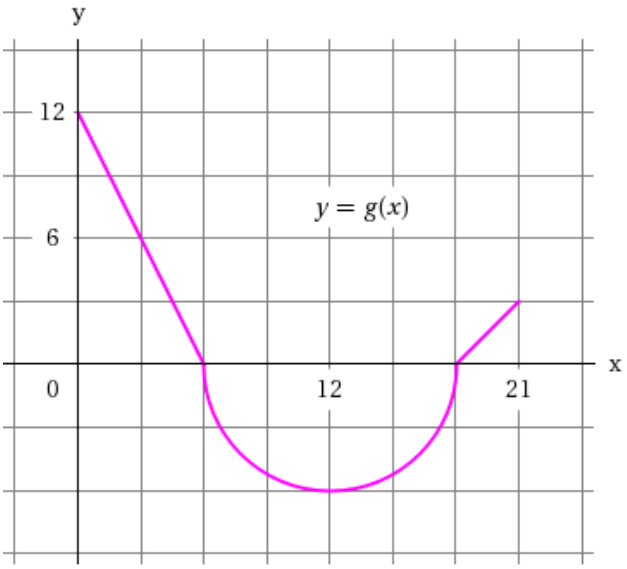
- overestimate
- underestimate

(d) Which of the numbers gives the best estimate?

- L_6
- M_6
- R_6

6. Question Details SCalc8 4.2.034.MI. [3353598]

The graph of g consists of two straight lines and a semicircle. Use it to evaluate each integral.



(a) $\int_0^6 g(x)\,dx$

36

(b) $\int_6^{18} g(x)\,dx$

-18π

(c) $\int_0^{21} g(x)\,dx$

$\frac{81}{2} - 18\pi$

Assignment Details

Name (AID): **241 Sec 12, 13 Week 13 Worksheet (15665801)**
Submissions Allowed: **5**
Category: **Homework**
Code:
Locked: **No**
Author: **Greuling, Jason** (jlgreuling@math.hawaii.edu)
Last Saved: **Nov 15, 2019 06:36 PM HST**
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