

Corrective Assignment



CALCULATOR ACTIVE



Sketch the following rectangular approximations. Find the width of each subinterval.

1. Midpoint on the interval $[-2,4]$
with $n = 6$ subintervals

Width of each subinterval =



2. Right Endpoint on $[-3,3]$
with $n = 12$ subintervals

Width of each subinterval =



3. Left Endpoint on $[-3,-1]$
with $n = 8$ subintervals

Width of each subinterval =



Approximate the area under the curve using the given rectangular approximation.

4. $f(x) = \frac{1}{5}x^3 - x + 7$

Midpoint on the interval $[-1,2]$
with $n = 6$ subintervals

5. $f(x) = \frac{6}{x} + 5$

Left Endpoint on $[-2,2]$
with $n = 5$ subintervals

6. $f(x) = -0.2x^2 - x + 12$

Right Endpoint on $[-1,3]$
with $n = 8$ subintervals

Use the information provided to answer the following.

7. Let $y(t)$ represent the weight loss per week of a contestant on the Biggest Loser, where y is a differentiable function of t . The table shows the weight loss per week recorded at selected times.

Time (week)	2	4	7	8	11
$y(t)$ (pounds/week)	14	12	18	14	17

- a. Use the data from the table and a left Riemann Sum with four subintervals. Show the computations that lead to your answer.

- b. What does your answer represent in this situation?

Use the information provided to answer the following.

8. Let $v(t)$ represent the rate of change of a hot air balloon over time, where v is a differentiable function of t . The table shows the rate of change at selected times.

Time (minutes)	4	8	10	13	15
$v(t)$ (meters/min)	5.2	6.3	7.1	7.9	8.4

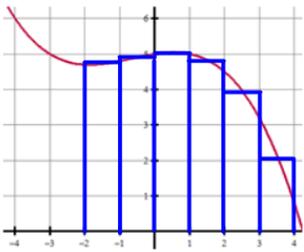
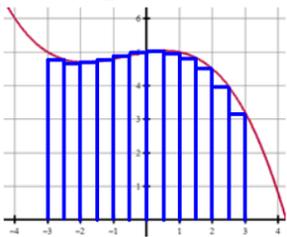
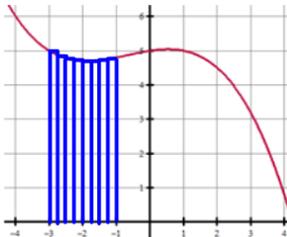
- a. Use the data from the table and a right Riemann Sum with four subintervals. Show the computations that lead to your answer.
- b. What does your answer represent in this situation?

9. A particle moves along a horizontal line with a positive velocity $v(t)$, where v is a differentiable function of t . The time t is measured in seconds, and the velocity is measured in cm/sec. The velocity of the particle at selected times is given in the table below.

Time (sec)	0	2	4	6	8	10	12	14	16
$v(t)$ (cm/sec)	21	18	15	23	27	31	35	32	29

- a. Use the data from the table and a midpoint Riemann Sum with four subintervals. Show the computations that lead to your answer.
- b. What does your answer represent in this situation?

ANSWERS TO CORRECTIVE ASSIGNMENT 7.1

1. width = 1 	2. width = $\frac{1}{2}$ 	3. width = $\frac{1}{4}$ 	4. 20.231
			5. 17.6
			6. 40.7
7. a. 124 b. total pounds lost from week 2 to week 11.	8. a. 79.9 b. total distance travelled by the hot air balloon from 4 minutes to 15 minutes.	9. a. 416 b. total distance travelled by the particle from 0 seconds to 16 seconds.	