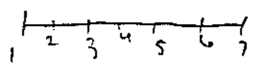
Peter
Townsend

Math 132 Quiz
8 AM - 9 AM

1. Approximate the area A under the graph of $y = 4x + 3x^2$ and over the interval $[1, 7]$ by using a Riemann sum with $N = 3$ subintervals. For the choice of points, use the midpoint of each of the subintervals.

$\Delta x = \frac{7-1}{3} = 2$, Midpt. Riemann Sum



$= 2f(2) + 2f(4) + 2f(6)$

$= 2(20 + 64 + 132)$

$= 432$

2. Calculate the area A of the preceding problem *exactly*.

$\int_1^7 (4x + 3x^2)\,dx = 2x^2 + x^3\Big]_1^7$

$= 441 - 3 = 438$

Peter
Towns (n)

Math 132 Quiz
9 AM - 10 AM

1. Approximate the area A under the graph of $y = 2x + 6x^2$ and over the interval $[1, 7]$ by using a Riemann sum with $N = 3$ subintervals. For the choice of points, use the midpoint of each of the subintervals.

$\Delta x = 2$ Midpt. Riem Sum $= 2(f(2) + f(4) + f(6))$

$= 2(28 + 104 + 228)$

$= 720$

2. Calculate the area A of the preceding problem *exactly*.

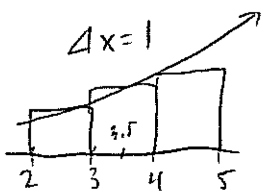
$\int_1^7 (2x + 6x^2)\,dx = x^2 + 2x^3 \Big]_1^7$

$= 735 - 3 = 732$

Peter Townsend

Math 132 Quiz
12 Noon - 1 PM

1. Approximate the area A under the graph of $y = 2x + 6x^2$ and over the interval $[2, 5]$ by using a Riemann sum with $N = 3$ subintervals. For the choice of points, use the right endpoint for the subinterval on the left, the midpoint for the middle subinterval, and the left endpoint for the subinterval on the right.



Riem Sum $= 1\cdot(f(3)+f(3.5)+f(4))$

$= 60+80.5+104$

$= 244.5$

2. Calculate the area A of the preceding problem *exactly*.

$$\int_2^5 (2x+6x^2)\,dx = x^2+2x^3\Big]_2^5$$

$$= 275-20$$

$$= 255$$