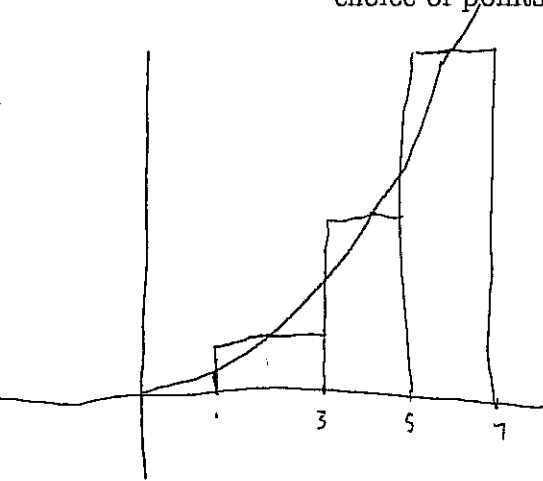


Math 132 Quiz
8 AM - 9 AM

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.



$$\begin{aligned} A &\approx 2(f(2) + f(4) + f(6)) \\ &= 2(20 + 64 + 132) \\ &= 2 \cdot 216 \\ &= 432 \end{aligned}$$

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

$$A = \int_1^7 4x + 3x^2 dx = 2x^2 + x^3 \Big|_1^7 = 2(49) + 343 - 2 - 1 = 438$$
