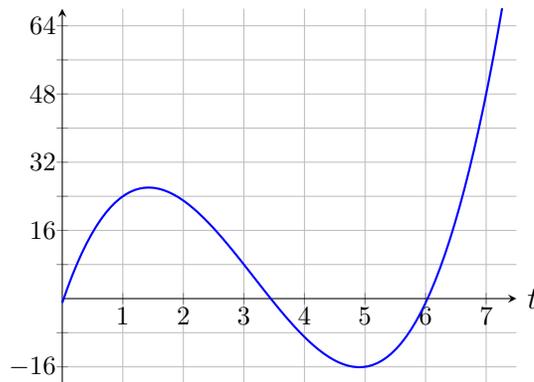UNIT 23: WORKSHEET

Riemann Sums

Problem 1: The number of people in the math 4th floor common room changes over time, as people get in and out. Suppose $f(t)$ gives the net change of people at time t. Are there more folks in the department at 7 PM than at 12 PM? To do so, look at the areas you see in the picture.

Problem 2: Now do a left Riemann sum with rectangles of width $\Delta x = 1$ and give a rough estimate how many folks there are in the department at 7 PM.
P.S. You sum up 5 rectangles from $x_0 = a = 1$, $x_1 = 2$, to $x_5 = 6$ because $x_k = a + k(b-a)/6$ and $a = 1$ and $b = 7$.