Reading Outline, §5.3

Vocabulary/Definitions

- Interpreting integrals as sums and the meaning of $f(t)dt$
- The Fundamental Theorem of Calculus
- The average value of $f(x)$ between $x = a$ and $x = b$
- The geometric interpretation of the average value of a function

Understand

1. If $F(0) = 3$ and $F'(x) = \sin(x^2)$, use your calculator and the Fundamental Theorem of Calculus to estimate $F(1)$.

2. If the rate of rainfall is given by $r(t)$ cm/hr, with t being the number of hours since the start of the rainstorm, write an integral that gives the depth of water in a rain gage 4 hours after the onset of the storm.