Quiz 1

Name: key Row: _____

[10] **1.** Give the definition of the definite integral as a limit of Riemann sums. Briefly explain the meaning of the symbols you use.

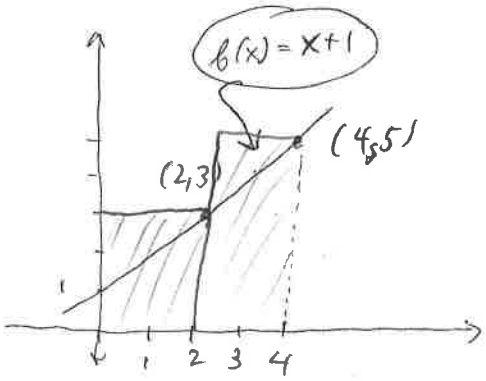
$$\int_a^b f(x)\,dx = \lim_{n\to\infty} \sum_{i=1}^{n} f(x_i^*)\,\Delta x$$

(2) (2) (2) (2)

where $[a,b]$ is split into n subintervals, each of length Δx, (2) and x_i^* is a point in the i^{th} subinterval. (2)

[10] **2.** Evaluate the Riemann sum for $f(x) = x + 1$, $0 \le x \le 4$, with two subintervals, taking the sample points to be right endpoints. Show all work.

$$R_2 = f(2)\cdot 2 + f(4)\cdot 2$$
$$= 3\cdot 2 + 5\cdot 2$$
$$= 16$$



(2 pts off for wrong number of intervals)

(2 pts off for wrong choice of points to evaluate f at)