

## HW 2 Due : Wednesday, Sep. 4

(32) Approximate

$$\int_{-1}^1 (1 - x^2) dx$$

using five equal subintervals and left endpoints.

(44) Express the following limits as definite integral.

$$\lim_{\|P\| \rightarrow 0} \sum_{k=1}^n \frac{1}{c_k + 1} \Delta x_k,$$

where  $P = \{x_0 = 1, x_1, \dots, x_n = 2\}$  is a partition of  $[1, 2]$  and  $c_k \in [x_{k-1}, x_k]$

(48) Express the following definite integral as limits of Riemann sum.

$$\int_{-2}^{-1} \frac{x^2}{1 + x^2} dx.$$

(54) Use a graph to interpret the following definite integral and use the (signed) area to find the integral.

$$\int_0^3 (2x + 1) dx.$$