Problem set



Evaluate the Riemann sum for $f(x) = x^2$ over [0,2], taking the sample points to be the Midpoints with napproximating rectangles of equal widths.

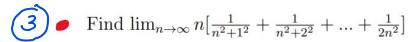












Posslem 11

- 11. Some computer algebra systems have commands that will draw approximating rectangles and evaluate the sums of their areas, at least if x_i^* is a left or right endpoint. (For instance, in Maple use leftbox, rightbox, leftsum, and rightsum.)
 - (a) If $f(x) = 1/(x^2 + 1)$, $0 \le x \le 1$, find the left and right sums for n = 10, 30,and 50.
 - (b) Illustrate by graphing the rectangles in part (a).
 - (c) Show that the exact area under f lies between 0.780 and 0.791.