

## 5B Checkup

1. The region R is enclosed between the graph of the function  $y = 2x - x^2$  and the x-axis for  $0 \leq x \leq 2$ .

(a) Sketch the region R

(b) Partition  $[0,2]$  into 4 subintervals and show the four rectangles that LRAM uses to approximate the area of R. Compute the LRAM without a calculator.

2. (a) use the Trapezoidal rule with  $n=4$  to approximate the value of the integral. (b) Use the concavity of the function to predict whether the approximation is an overestimate or an underestimate. Finally, (c) find the integral's exact value to check your answer.

$$\int_1^2 \frac{1}{x} dx$$