The goal is to estimate the shaded area in the middle figure. You will do this by finding the values of the Riemann sums $L_{4}$ and $R_{4}$. This will give you lower and upper bounds for the shaded area.



(A) Draw in the rectangles for the left sum $L_{4}$.
(B) Find the value of $L_{4}$.
(C) Draw in the rectangles for the right sum $R_{4}$.
(D) Find the value of $R_{4}$.
(E) Use the values from questions (B)and (D) to build a true inequality
$\qquad$ < unknown area < $\qquad$

## Class Drill: Computing Riemann Sums

The goal is to find approximations for the signed area between the graph of the function $f(x)=\frac{1}{x}$ and the $x$ axis on the interval [1,7] by computing Left and Right Riemann Sums with 3 rectangles. That is, find values for $L_{3}$ and $R_{3}$. Show all details clearly. (Hand calculations! No calculators or cell phones!)

