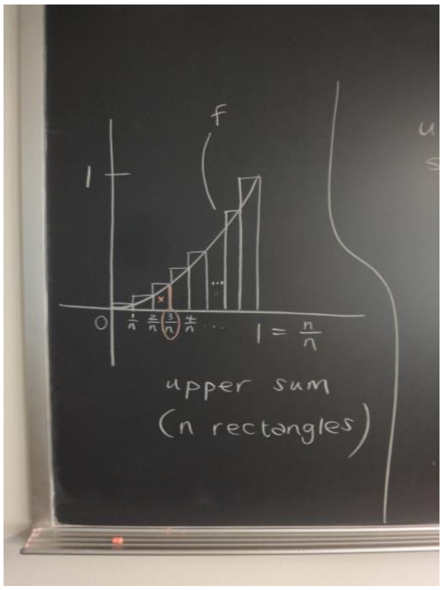
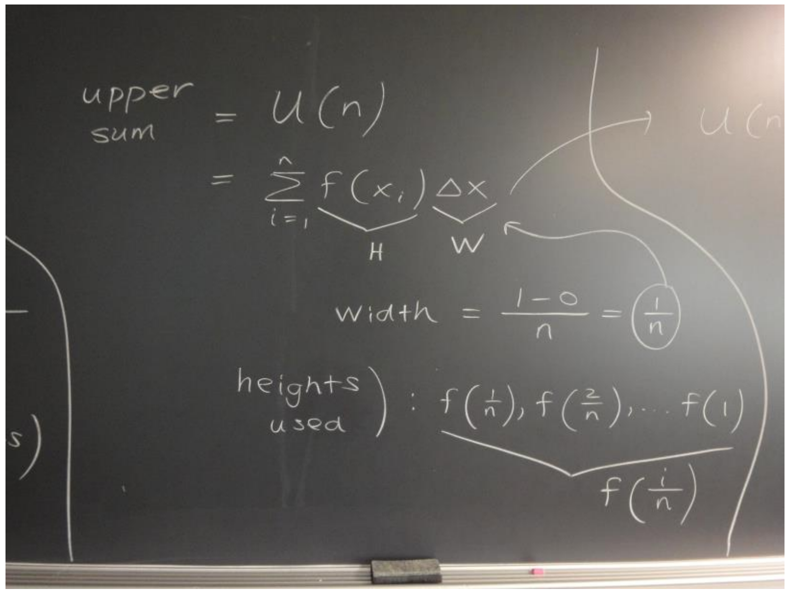
The Definite Integral

We played a little bit with the summation formulas & then did one BIG problem. Find the area under the curve $f(x) = x^2$ and above the *x*-axis from $x = 0$ to $x = 1$. See the four pictures below.

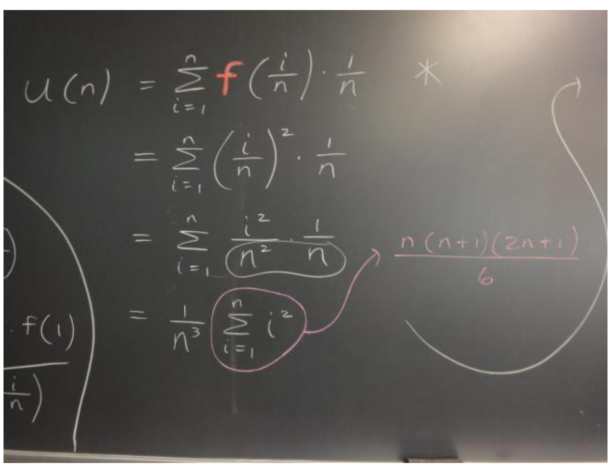
Picture 1:



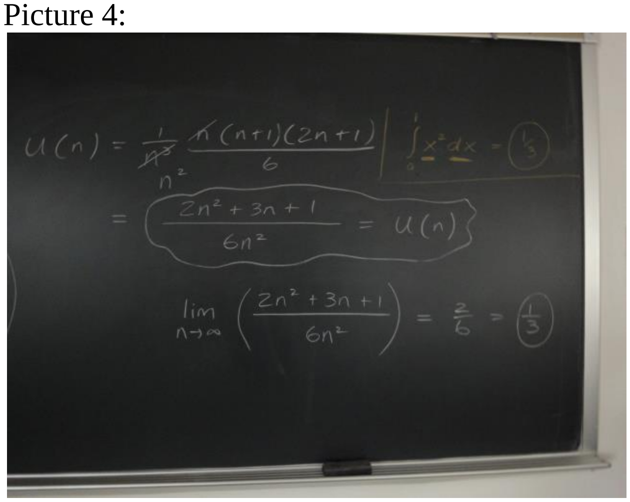
Picture 2:



Picture 3:



Picture 4:



Notice we can write $\int_0^1 x^2 dx = \frac{1}{3}$ units^2.