



Riemann Sums – the notation

You need to recognize the notation that we will use with integrals:

The integral of f from a to b :

Upper limit of integration

Integral sign

Lower limit of integration

integrand

Variable of integration

$$\int_a^b f(x) dx$$

The diagram shows the integral notation $\int_a^b f(x) dx$ with arrows pointing to its components: 'Upper limit of integration' points to b , 'Integral sign' points to \int , 'Lower limit of integration' points to a , 'integrand' points to $f(x)$, and 'Variable of integration' points to dx .

The integral of f from a to b will also give us the **area under the curve (between the x-axis and the curve) when $f(x)$ is non-negative.** $A = \int_a^b f(x) dx$

When f is negative, the value of the integral will be negative.