Integration with the TI-89

To find the value of $\int_a^b f(x)\,dx$ using the TI-89, first go to **F3: Calc** and select **2: ∫(integrate** Complete the command line in the following form:

∫(f(x), x, a, b)

The value will be found exactly, if possible; otherwise, an approximation method will be used. If the limits a and b are left out of the command, the TI-89 will find the expression for the anti-derivative of f, if possible.

Example: To find the area under one arch of the curve $y = \sin(x^2)$ enter

∫(sin(x^2), x, 0, π^(1/2))

The result is .894831.

Exercise: Find the volume generated if the region indicated in the example is revolved about:
a. the x-axis
b: the y-axis

[**Answers:** a. $.669875\pi$ by the disk method
b. 2π by the shell method]