

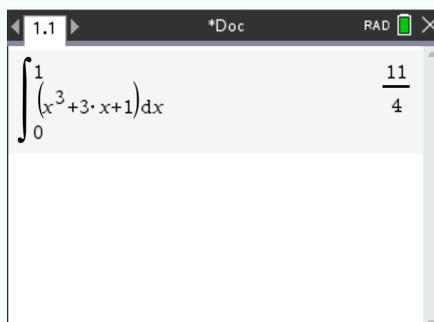
5.5 Definite integrals

5.5.1 Compute the definite integral of a function

Suppose you want to compute the following definite integral:

$$\int_0^1 (x^3 + 3x + 1)dx$$

In the main screen, press  and select . Fill the parameters as follows:



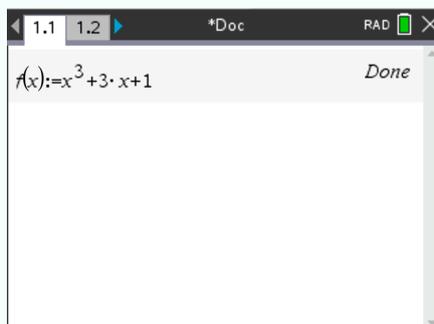
The result should be $\frac{11}{4}$.

5.5.2 Draw the area under a curve

Suppose you want to draw the area between 0 and 1 of the following function:

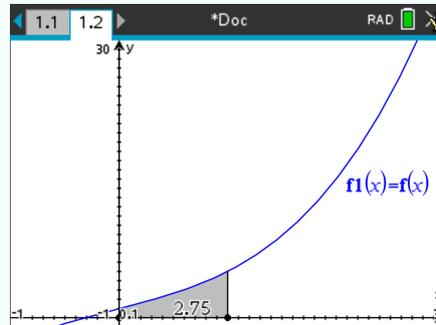
$$f(x) = x^3 + 3x + 1$$

- ① Enter the function by entering 'f(x)'. Then press  and . Finally write the expression of the function.



- ② Open a new page ( & ) and select Add Graphs. Enter 'f1(x)=f(x)', press .
- ③ Choose an appropriate window. Here we chose Xmin=-1, Xmax=3, Ymin=-1 and Ymax=30.

- ④ Press  and select Analyze Graph > Integral. You are asked to type the lower bound, type 0 and press . Same for upper bound which is 1. The following should be displayed:



2.75 is the area of the grey region