

Chapter 7 / **Example 6****Evaluating definite integrals**

Evaluate the definite integrals.

**a**  $\int_0^1 (3x^2 - 4x + 7) dx$      **b**  $\int_0^\pi \cos \frac{x}{3} dx$      **c**  $\int_{-1}^0 5(1-2x)^3 du$

Open a new document and add a Calculator page.


Press the template key  .

You will see a list of templates. The integral template is highlighted as shown.

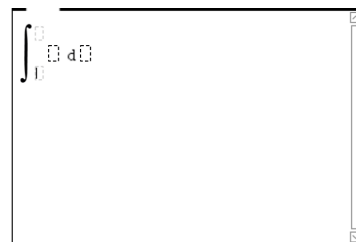


There are four fields to complete in the template: one for each of the limits, the function you are integrating and the variable you are integrating with respect to.

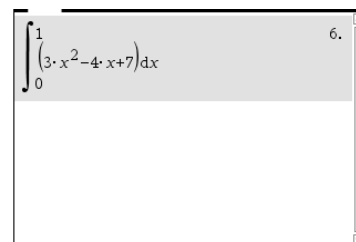
Enter  $3x^2 - 4x + 7$  (there is no need to enter the parentheses), the limits 0 and 1 and the variable  $x$ .


Use the  $\blacktriangleright \blacktriangleright \blacktriangle \blacktriangledown$  keys or the  key to navigate the template.




Press .



$\int_0^1 (3x^2 - 4x + 7) dx = 6.$

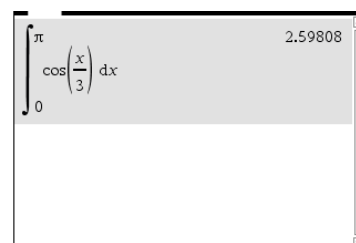


Press the template key  again and choose the integral template.

Enter  $\cos\left(\frac{x}{3}\right)$  using the fraction template   () , the limits 0 and  $\pi$  and the variable  $x$ .

Press .

$\int_0^\pi \cos \frac{x}{3} dx \approx 2.60.$



Chapter 7 / **Example 6**

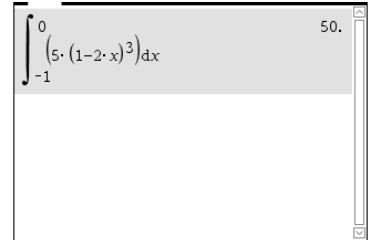
# Evaluating definite integrals

Press the template key  $\int$  again and choose the integral template.

Enter  $5(1 - 2x)^3$ , the limits  $-1$  and  $0$  and the variable  $x$ .

Press  $\boxed{\text{enter}}$

$$\int_{-1}^0 5(1 - 2x)^3 dx = 50.$$



The image shows a TI-Nspire CX calculator screen. The integral template is displayed, showing the function  $5(1-2x)^3$  and the limits  $-1$  and  $0$ . The variable  $x$  is entered. The result  $50.$  is shown in the top right corner of the template.