

## Channel export

Find the displacement of an object between the fourth and sixth second from its start, if the velocity of the object at time,  $t$  is

$$v = \frac{t^2 + 1}{(t^3 + 3t)^2}$$

After calculating the displacement, export its value through the channel.

Solution:

We can calculate the displacement if we evaluate

$$v := (t^2 + 1) / (t^3 + 3t)^2$$

$$x := \int_4^6 v \, dt$$

$$x = 0.00296$$

The displacement of the object from time,  $t = 4$  to  $t = 6$  is 0.00296. Now, we will export this value through channel.



Export the Channel object through which we have exported the variable,  $x$

# Channel import

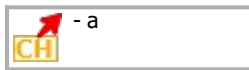
Find the average value of  $y(3y^2-1)^3$  in the interval which's lower boundary is the value that we are going to import from the channel and the upper boundary is 1.2.

Solution:

The average value of a function ,f(x) , in the region [a, b] is given by:

$$\text{Average} = \frac{\int_a^b f(x) dx}{b-a}$$

Let's first import the value from the channel to the lower boundary.



$a := 0$

$a = 0.003$

$b := 1.2$

Import the Channel object from which we have imported the value to variable, a

$$v1 := y(3y^2 - 1)^3$$

$$\text{Average} := \left( \int_a^b v1 dy \right) / (b-a)$$

$$\text{Average} = 4.194$$

So the average value of the function is 4.194.