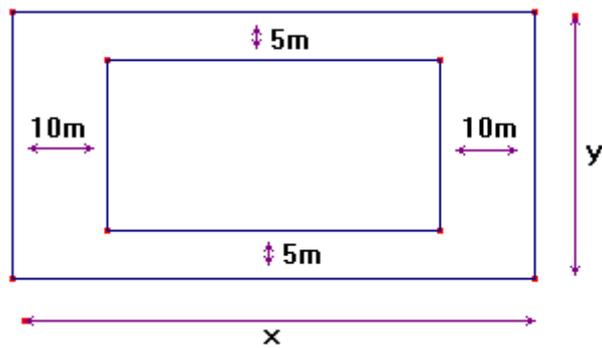


**Subject n°8**

**FUNCTIONS**

*Please do not write on the exam paper, and do not forget to give back the examination paper at the end of the test.*

A fish-farmer wants to use  $1,800 \text{ m}^2$  of field to dig a new rectangular tank surrounded by a terrace, as shown below :



1. Express  $y$  in terms of  $x$ .
2. What are the values taken by  $x$  ?
3. Express the area of the tank  $A(x)$  in terms of  $x$ .
4. The farmer wants to breed as many fish as possible : find the value of  $x$  that makes the area of the tank maximum and give the dimensions of the tank.