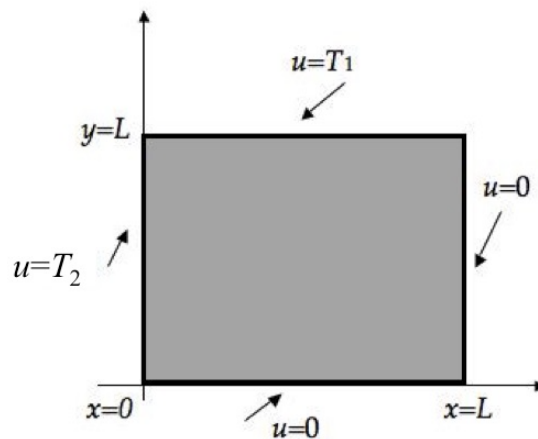


**PHYSICS 501**  
**5<sup>th</sup> HOMEWORK**  
**Dr. V. Lempesis**

1. In the case shown in the figure two sides are kept at constants temperatures  $T_1$ , and  $T_2$  respectively. Find the temperature of the plate at the steady state? (Hint: The linearity of the differential equation describing our problem allows you to consider the solution of the problem as the linear combination of the solutions two different problems. One in which only the one side ( $y=L$ ) is at  $T_1$  and the other with only the side ( $x=0$ ) is at temperature  $T_2$ .)



**For the girls:** Please send your answers in pdf form (typed or in clearly handwritten form) in my email address ([vlmpesis@ksu.edu.sa](mailto:vlmpesis@ksu.edu.sa)). Please use ONE file for your entire homework NOT one file per page. Please do not forget to put your name and your ID number on it AND on your file name.

**Your deadline is on Sunday 2<sup>nd</sup> of November 2018 at 23:59.**

**For the boys:** You will hand in your homework in hard copy in class on Monday 3<sup>rd</sup> December.