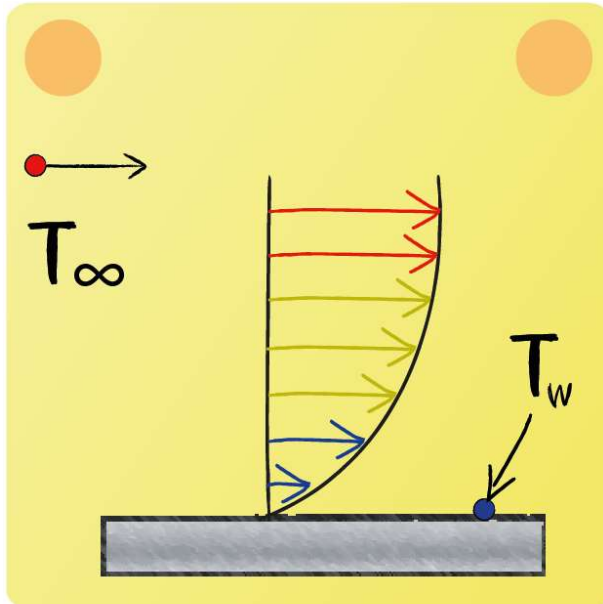# Lecture 1 - Question 5

Which statement describes the Nusselt number the best?

It represents the enhancement of heat transfer through a fluid layer as a result of convection relative to conduction across the same fluid layer.

$$Nu = \frac{\alpha L}{\lambda} = L \frac{-\left(\frac{\partial T}{\partial y}\right)_{y=0,f}}{(T_W - T_\infty)}$$

The Nusselt number is defined as the ratio of convection heat transfer to fluid conduction heat transfer under the same conditions.