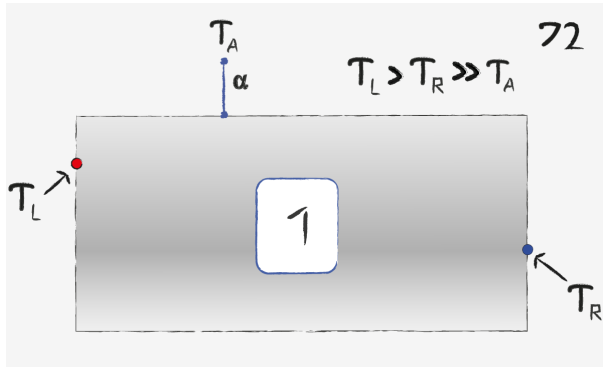


Heat Conduction: Task 72



The image describes a rectangular body with temperatures T_L and T_R given at the left and right boundary. Remaining surfaces are specified as convective boundaries with given temperature T_A .

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Since temperatures at the left and right are higher than the ambient temperature, heat is conducted towards the body's center from both sides. Convective heat loss indicates a decreasing heat flux within the body, yielding a decreased slope of the temperature profile till it reaches its minimum. Due to a higher temperature at the left, a higher heat flux and thus a steeper temperature profile is observed compared to the right boundary. The minimum temperature occurs to the right of the center.