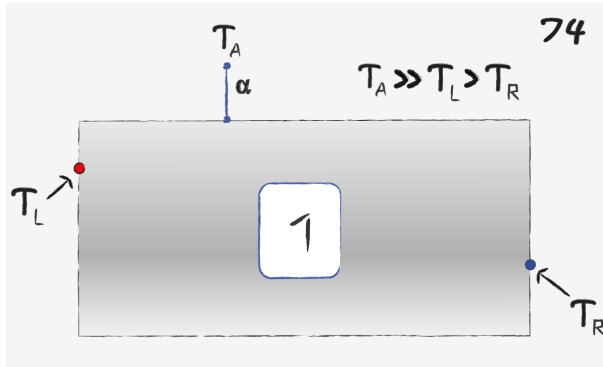


Heat Conduction: Task 74



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 lower than the ambient temperature, heat is conducted to the body's edges. Convective heating indicates an increasing heat flux towards the boundaries, yielding an increased slope of the temperature profile till it reaches its maximum. Due to a lower temperature at the right, a higher heat flux and thus a steeper temperature profile is observed compared to the left boundary. The maximum temperature occurs to the left of the center.