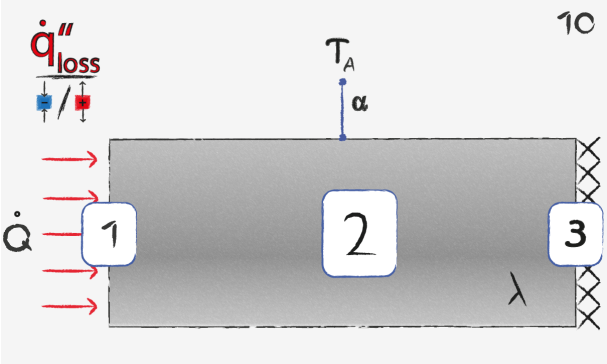
Heat Loss: Task 10



The image describes a rectangular body with an imposed heat flux on the left, an adiabatic wall on the right and heat loss through convection on top and bottom surface.

1 

The imposed heat flux yields a negative temperature gradient, which results in a decreasing convective heat loss.

2 

Convective heat loss is positive, since heat is brought into the system via conduction. Decreasing temperature difference of fin and environment causes a decrease of convective heat loss.

3 

Heat loss is still present at the end of the fin, since the temperature approaches but never equals the ambient temperature. Due to the adiabatic boundary, temperature gradient vanishes at the fin's end.