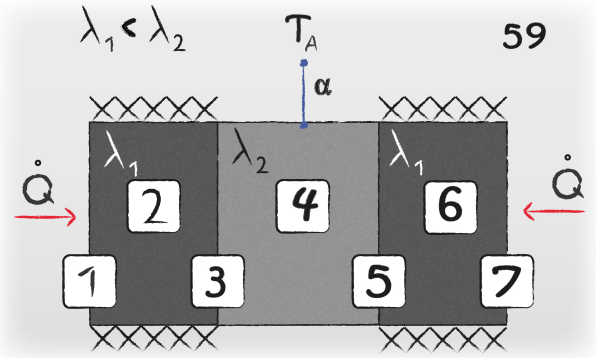
Heat Conduction: Task 59



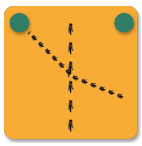
The image describes that there are three rectangular walls. First and third walls are adiabatic and the same conductivity. Heat fluxes are coming from left and right sides. Consider λ and convection in the middle.

1 

The temperature gradient on the left side is decreasing from left to right.

2 

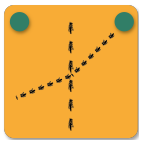
According to Fourier's law. At constant area and heat conductivity the temperature gradient decreases linearly from left to right.

3 

λ_1 is smaller than λ_2 which means the temperature gradient in 1 is steeper than in 2.

4 

The heat flows from both left and right side so there must be a temperature minimum in area 2 and due to heat loss through convection, the temperature gradient decreases.

5 

λ_1 is smaller than λ_2 which means the Temperature gradient in 1 is steeper than in 2.

6 

According to Fourier's law. At constant area and heat conductivity the temperature gradient decreases linearly from right to left.

7 

The temperature gradient on the right side is decreasing from right to left.