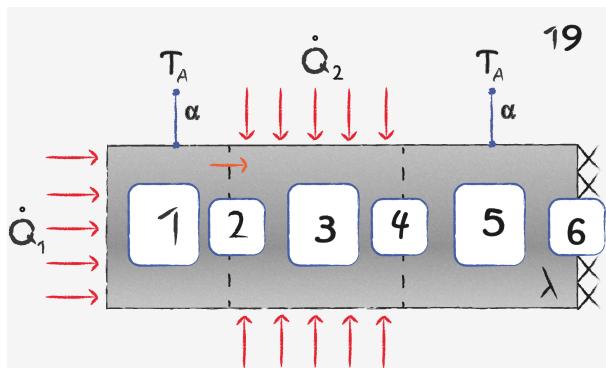


Heat Conduction: Task 19



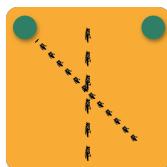
The image describes a rectangular body with a heat flux from left to right, a heat flux in the middle flowing from left to right. The wall on the right side is adiabatic and there is a heat loss through convection in the right and left part.

1



Due to the heat loss through convection , the temperature gradient decreases from left to right.

2



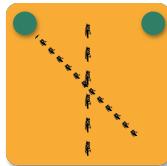
The heat conductivity and area don't change at the interface so the temperature gradient remains the same.

3



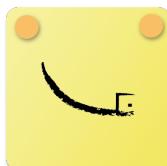
Due to the heat supply, the temperature gradient increases from left to right.

4



The heat conductivity and area don't change at the interface so the temperature gradient remains the same.

5



Due to the heat loss through convection , the temperature gradient decreases from left to right and to meet the condition on the adiabatic wall (no heat transport), the temperature gradient must be zero there.

6



On an adiabatic wall there is no heat transport so the temperature gradient is zero.