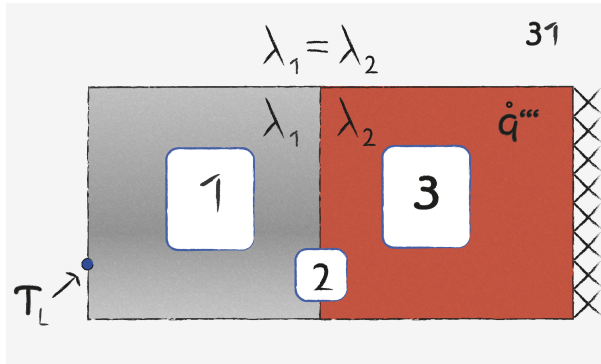


Heat Conduction: Task 31



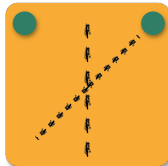
The image describes a rectangular body with homogeneous heat production in area 2 and adiabatic wall on the right side.

1



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

2



λ_1 equals λ_2 so the temperature gradient doesn't change at the interface.

3



To meet the condition on the right side, the temperature gradient is zero. Due to the constantly increasing heat-flux (heat source), the temperature gradient increases constantly from right to left.