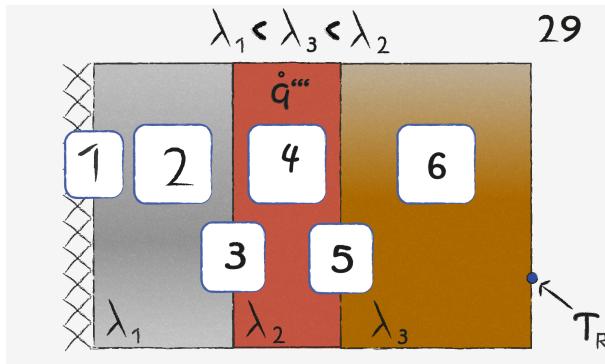
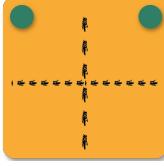
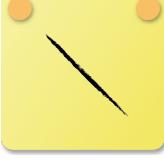


# Heat Conduction: Task 29



The image describes a rectangular body with three different heat conductivities and homogeneous heat production in the middle part. The wall on the left side is adiabatic.

- 1  On an adiabatic wall there is no heat transport so the temperature gradient is zero.
- 2  There is no heat transport through this area so the temperature gradient is zero.
- 3  There is no heat transport through the interface so the temperature gradient is zero.
- 4  To meet the condition on the left side, the temperature gradient is zero. Due to the constantly increasing heat-flux (heat source), the temperature gradient increases constantly from left to right.
- 5   $\lambda_3$  is smaller than  $\lambda_2$  which means the Temperature gradient in 3 is steeper than in 2.
- 6  According to Fourier's law. At constant area and heat conductivity the temperature gradient decreases linearly from left to right.