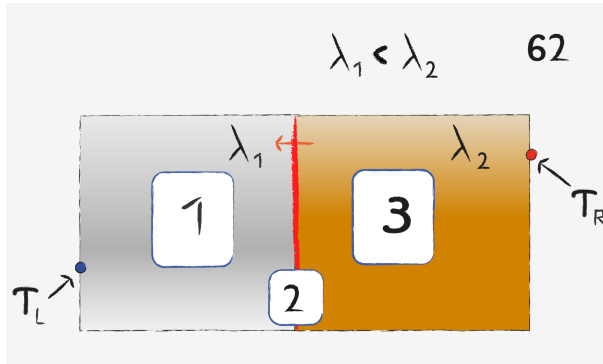


Heat Conduction: Task 62



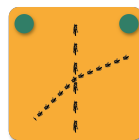
The image illustrates a body with two different thermal conductivities. The left and the right temperature are given. At the interface between the two materials, a line heat source exist.

1



The temperature gradient is linear. Due to the heat flux from left to right, the slope positive.

2



The kink at the interface is caused by two separate effects. First, the change in thermal conductivity, second the change in heat flux due to the additional line heat source. Both effects are in the same direction, causing a higher temperature gradient on the left side than on the right side.

3



The temperature gradient is linear. Due to the heat flux from left to right, the slope is positive.