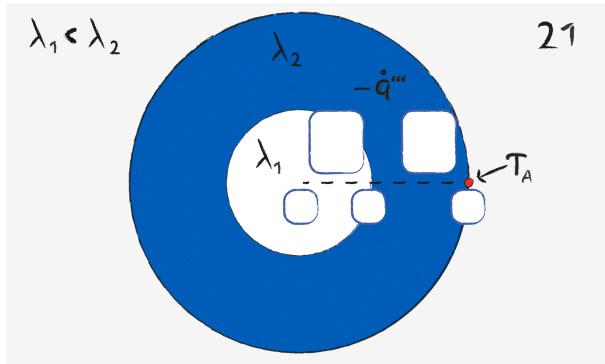




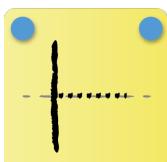
Axial Heat Flux: Task 21



21

The image describes a cylindrical body consisting of two layers of infinite expansion. The outer compartment contains a volumetric heat sink.

1



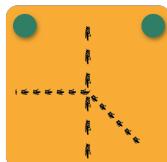
Due to symmetry reasons, the specific heat flux at the center is zero.

2



Since no heat is brought into the system, the specific heat flux remains zero.

3



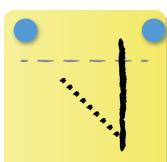
The transition is characterized by a kink in specific heat flux, as it marks the beginning of the volumetric heat sink.

4



The volumetric heat sink causes the specific heat flux to decrease linearly.

5



To fulfill the energy balance in a steady case, the specific heat flux is negative at the boundary, indicating a flux from outside to inside.