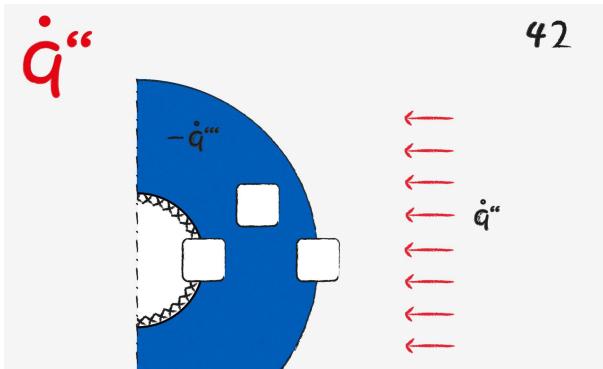


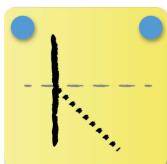
# Axial Heat Flux: Task 42



42

The image describes a hollow cylinder consisting of a volumetric heat sink.

1



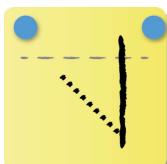
Due to the adiabatic boundary, specific heat flux vanishes.

2



Effects of volumetric heat source and changing cross section area add up to a profile proportional to  $r - \frac{r_i^2}{r}$ , where  $r_i$  describes the radius at the inner boundary.

3



Since heat is dissipated in the body, the specific heat flux at the outer boundary is negative. The slope is caused by the behavior mentioned above.