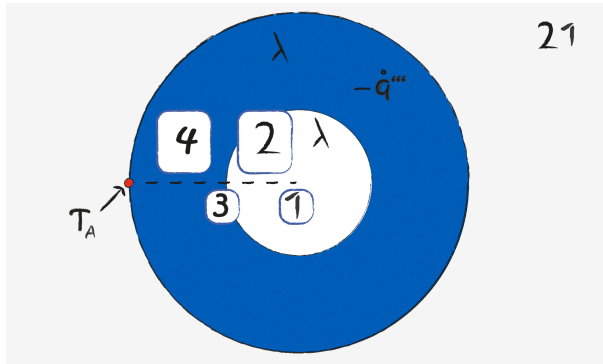


Heat Conduction: Task 21



21

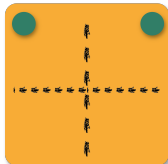
The image describes a cylindrical body of infinite expansion with homogenous heat loss in the outer part. The inner compartment doesn't conduct heat.

1



Due to symmetry reasons, the temperature gradient in the center is zero.

2



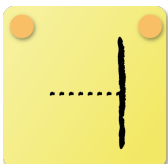
There is no heat transport through the white area so the temperature gradient remain zero.

3



To meet the condition on the right side, the temperature gradient is zero at the interface.

4



To meet the condition on the right side, the temperature gradient is zero. Due to the constantly decreasing heatflux, the temperature gradient decreases constantly from left to right.