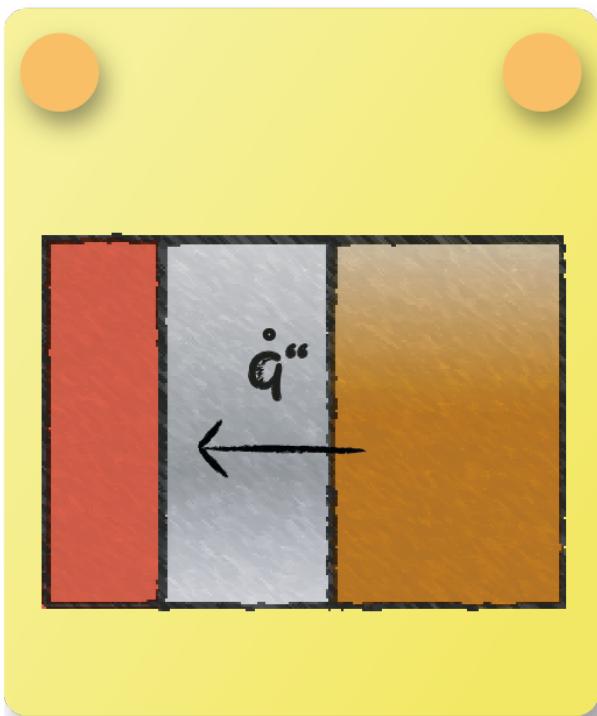


Lecture 4 - Question 5



What quantities within a multi layered wall remain constant in radial direction when no heat sources are present?



In a steady state the heat flux is constant due to energy conservation. Thermal conductivities can vary as they are properties of the corresponding materials. A heat flux goes along with a non zero temperature gradient, therefore temperature cannot be constant in this case. Gradients might change depending on thermal conductivities and cross section areas and therefore cannot be treated as constants in general.