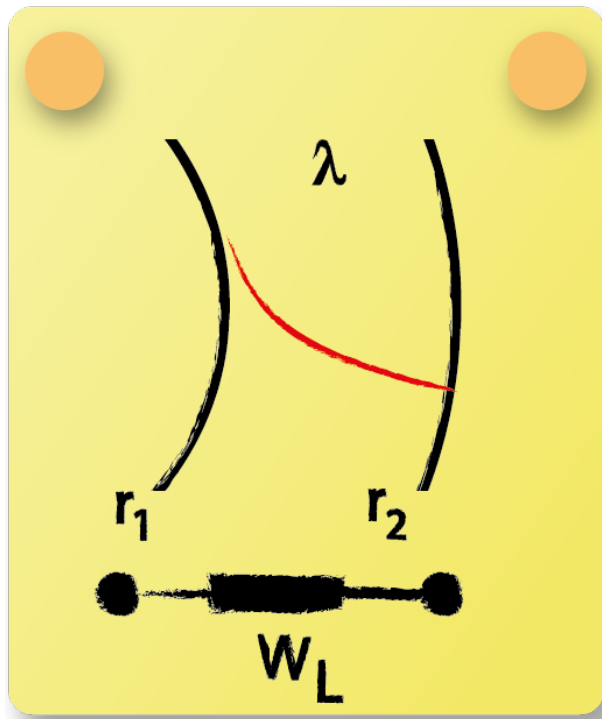# Heat Transfer Resistance: Task 2

A Pipe is given with inner and outer radius r_1 and r_2, length L and thermal conductivity λ.

Heat transfer resistance is defined as:

$$W = \frac{\Delta T}{\dot{Q}}$$

For a pipe the radial heat flux is:

$$\dot{Q} = 2\pi\lambda L \frac{\Delta T}{\ln\frac{r_2}{r_2}}$$

Combined one obtains:

$$W = \frac{1}{2\pi\lambda L}\ln\frac{r_2}{r_1}$$