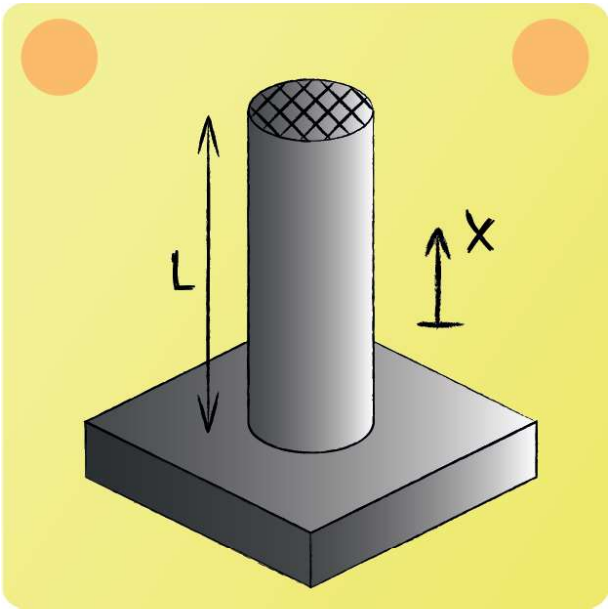
Conduction Fins 01



Choose the right boundary conditions for a fin with an adiabatic fin head!

Temperature difference:

$$\theta(x) = T(x) - T_\mathrm{A}$$

Boundary conditions:

$$T(x = 0) = T_\mathrm{B}$$

$$-\lambda \cdot A \cdot \left.\frac{dT}{dx}\right|_{x=L} = 0$$

Combining the temperature difference and the boundary conditions results in:

$$\theta(x = 0) = T_\mathrm{B} - T_\mathrm{A} = \theta_\mathrm{B}$$

$$\lambda \cdot \left.\frac{d\theta}{dx}\right|_{x=L} = 0$$