Week 1

A short summary about the conductive heat transfer and solving the same exercise with L= 0.4 m, A= 20 m2, ΔT= 25, and k=0.78 W/m K using both simple method and using the resistance concept.

Conductive heat transfer is the process by which heat is transferred through solids.

Simple Method	**Resistance Concept**

Simple Method

$$\dot{Q} = kA\frac{\Delta T}{L}$$

$$\dot{Q} = (0.78)(20)\left(\frac{25}{0.4}\right)$$

$$\dot{Q} = 975W$$

Resistance Concept

$$Rwall = \frac{L}{kA} = \frac{0.4}{(0.78)(20)} = 0.0256 \, K/W$$

$$\dot{Q} = \frac{\Delta T}{Rwall} = \frac{25}{0.0256} = 976W$$