# WEEK ASSIGNMENT 1

**Question:**

A short summary about the conductive heat transfer and solving the same exercise with: L=0.4m; A=20m$^2$; $\Delta T$=25 and k=0.78W/mK using both simple method and using the resistance concept.

**Summary:**

The rate at which energy is conducted as heat between two bodies is a function of the temperature difference temperature gradient between the two bodies and the properties of the conductive interface through which the heat is transferred. Conduction heat transfer represents temperature changes due to molecular motion in solids. The transfer of heat always goes in the same direction, from high to low temperature, with tending to balance each others.

## Solution:

**Simple method:**

L=0.4

A=20 M$^2$

Delta T=25

K=0.78 w/m

$$\dot{Q} = KA\frac{\Delta T}{L} = 0.78\frac{w}{mk} * 20 * \frac{25k}{0.4m} = 975W$$

**Using the resistance concept:**

$$R_{WALL} = \frac{L}{KA} = \frac{0.4m}{0.78 * 20} = 0.02564\frac{k}{w}$$

$$\dot{Q} = \frac{\Delta T}{R_{WALL}} = \frac{25}{0.02564} = 975.03W$$

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