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HOMEWORK1
**QUESTION 1:**

A short summary about the conductive heat transfer and L= 0.4 m, A= 20 m2, DeltaT= 25, and k=0.78 W/m K

**SUMMARY:**

**Heat** is the energy transfer caused by the temperature difference between the two systems. And we can say that heat is a kind of energy.

**Heat transfer** is the energy transfer resulting from the temperature difference.In case of any temperature difference, heat transfer always takes place. If there is a temperature difference between the two environments, the heat is transferred from the high temperature environment to the low temperature environment. The heat transfer depends on the difference in ambient temperatures as well as on the properties of the environment and its surfaces.

Heat transfer, can be classified into 3 categories;
**1-** Conduction
**2-** Convection
**3-** Radiation (radiation)

**SOLUTION :** *L= 0.4 m, A= 20 m2, DeltaT= 25, and k=0.78 W/m K*

*Simple method:*

- Q = kA ($\Delta T$/L) = 0.78 *20* (25/0.4) =975 W

Using the resistence concept:

- $R_{wall}$ =L /kA = 0.4 / (0.78*20 ) = 0.0256 °C/W

  Q = $\Delta T/R_{wall}$ =25 / 0.0256 = 976.56 W