Assignment 1

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Conduction heat transfer is the transfer of heat by means of molecular excitement within a material without bulk motion of the matter. Conduction heat transfer in gases and liquids is due to the collisions and diffusion of the molecules during their random motion. On the other hand, heat transfer in solids is due to the combination of lattice vibrations of the molecules and the energy transport by free electrons.

On the other hand, the rate of heat conduction through a plane wall: is proportional to the average thermal conductivity, the wall area, and the temperature difference but is inversely proportional to the wall thickness.

***1ST Way:***

Q = = 0.78 x 20 x = 975

***2nd Way:***

*R*wall = = = 0.02564

Q= = = 975