WEEK ONE- ASSIGNMENT

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 phenomenon of conduction is heat transfer that happens between solids.

Answer:

Method 1:

$\dot{Q} = kA\frac{\Delta T}{L}$= 0.78W/mK x $20m^2$ $\frac{25K}{0.4m}$= 975W

Method 2:

$R_{wall} = \frac{L}{kA}$ = $\frac{0.4m}{\frac{0.78W}{mK} x\ 20m^2}$ = 0.02564 K/W

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