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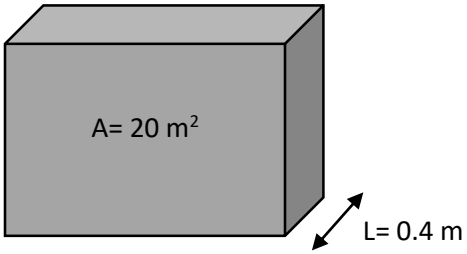
Weekly Homework 1

1. Short summary about the **conductive heat transfer**:

It is the transfer of heat by means of molecular excitement within a material without bulk motion of the matter

2.



Where, $\triangle$T= 2, L= 0.4 m, k= 0.78W/mK

Using method 1: $\dot{Q} = kA\frac{\Delta T}{L} = 0.78 * 20 * \frac{25}{0.4} = 975W$

Using method 2: $R(wall) = \frac{L}{kA} = \frac{0.4}{0.78*20} = 0.0256\frac{K}{W}$

$$\dot{Q} = \frac{\Delta T}{R(wall)} = \frac{25}{0.0256} = 976.6W$$