# Exercise 1

10:34 PM Monday, October 7, 2019

When two substances are in direct contact with each other, the heat will be transferred between them which is called Conductive Heat Transfer. Different materials have various levels of conduction and the speed of heat transfer is directly related to conductor material.

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

$$R_{wall} = \frac{L}{kA} = \frac{0.4}{0.78 * 20}$$
$$= 0.0256\ °C/W$$

$$\dot{Q} = \frac{\Delta T}{R_{Wall}} = \frac{25}{0.0256} = 976.5\ W$$