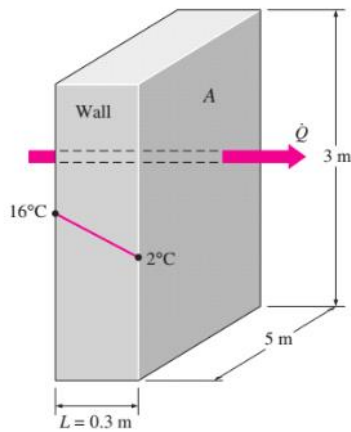


Example 0

Find the rate of heat transfer through the wall if $k=0.9 \text{ W/m}^\circ\text{C}$



$$\dot{Q} = kA \frac{\Delta T}{L} = 0.9 * 15 * \frac{16 - 2}{0.3} = 630 \text{ W}$$

Let's solve it the harder way !!!

$$R_{\text{wall}} = \frac{L}{kA} = \frac{0.3}{0.9 * 15} = 0.0222 \text{ }^\circ\text{C/W}$$

$$\dot{Q} = \frac{\Delta T}{R_{\text{wall}}} = \frac{14}{0.0222} = 630.6 \text{ W}$$

The difference is only because of rounding