$$\frac{K_1T_1l_2 + K_2T_2l_1}{l_2l_1} = \frac{(K_1l_2 + K_2l_1)T}{l_1l_2}$$

$$\boxed{T = \frac{K_1T_1l_2 + K_2T_2l_1}{K_1l_2 + K_2l_1}} \quad -(8)$$

(11) Equivalent Thermal Resistance and Equivalent Thermal Conductivity

by eq (6) $\quad T_1 - T = \left(\frac{\Delta Q}{\Delta t}\right)\cdot\frac{l_1}{K_1A} \quad -(9) \Rightarrow T_1 - T = \frac{\Delta Q}{\Delta t}\cdot R_1$

by eq (7) $\quad T - T_2 = \frac{\Delta Q}{\Delta t}\cdot\frac{l_2}{K_2A} \quad -(10) \Rightarrow T - T_2 = \frac{\Delta Q}{\Delta t}\cdot R_2$

Adding $\quad T_1 - T_2 = \frac{\Delta Q}{\Delta t}\cdot(R_1 + R_2) \quad -(11)$

For the combined rod

$$\frac{\Delta Q}{\Delta t} = K_{eq}\frac{A(T_1 - T_2)}{(l_1 + l_2)} \quad -(12) \Rightarrow T_1 - T_2 = \frac{\Delta Q}{\Delta t}\underbrace{\left\{\frac{l_1 + l_2}{K_{eq}A}\right\}}_{R_{eq}} \quad -(13)$$