

# Sprawozdanie 1

Jan Bronicki 249011  
Marcin Gruchała 248982

$$\begin{cases} 0 = Q_g - K_{cw}(T_{wew} - T_{zew}) - K_{cwp}(T_{wew} - T_p) \\ 0 = K_{cwp}(T_{wew} - T_p) - K_{cp}(T_p - T_{zew}) \end{cases}$$
$$\begin{cases} T_{wew} = \frac{Q_g + K_{cw}T_{zew} + T_p 0,25K_{cw}}{1,25K_{cw}} \\ T_p = \frac{0,25Q_g + 0,25T_{zew}K_{cw} + 1,25T_{zew}K_{cw}}{1,25 - 0,0625K_{cw} + 1,25K_{cp}} \end{cases}$$
$$\begin{cases} T_{wew} = \frac{Q_g + K_{cw}T_{zew} + 0,25T_pK_{cw}}{1,25K_{cw}} \\ T_p = \frac{0,25Q_g + 1,50T_{zew}K_{cw}}{1,25 - 0,0625K_{cw} + 1,25K_{cp}} \end{cases}$$
$$\begin{cases} T_{wew} = \frac{Q_g + K_{cw}T_{zew} + \frac{0,25Q_g + 1,50T_{zew}K_{cw}}{1,25 - 0,0625K_{cw} + 1,25K_{cp}} 0,25K_{cw}}{1,25K_{cw}} \\ T_p = \frac{0,25Q_g + 1,50T_{zew}K_{cw}}{1,25 - 0,0625K_{cw} + 1,25K_{cp}} \end{cases}$$
$$\begin{cases} T_{wew} = \frac{1000 + 23,53 \cdot (-20) + \left[ \frac{0,25 \cdot 1000 + 1,50 \cdot (-20) \cdot 23,53}{1,25 - 0,0625 \cdot 23,53 + 1,25 \cdot 1,96} \right] \cdot (0,25 \cdot 23,53)}{1,25 \cdot 23,53} \approx \\ T_p = \frac{0,25 \cdot 1000 + 1,50 \cdot (-20) \cdot 23,53}{1,25 - 0,0625 \cdot 23,53 + 1,25 \cdot 1,96} \approx \end{cases}$$