

Textbook: Yunus A. Çengel

Chapter: 5.

Examples: 1, 3, 6(a).

Problems: 8, 16, 27, 28, 35, 49, 52, 72, 82.

Special Remarks:

- Answer for P.35: (c) $\dot{Q} = 0.564 \text{ W}$; (d) $\dot{Q} = 17.8 \text{ kW}$;
- In the solution for P.49, watch out for 2 typos: In the equation for Node 1 (interior), the coefficient of T_2 must be 1. Also, for Node 4, the coefficient of T_2 must be 2 and not 4.
- Answer for P.52: (a) $T_1 = 175^\circ\text{C}$; $T_2 = T_3 = T_5 = 200^\circ\text{C}$; $T_4 = T_6 = 225^\circ\text{C}$; In the solution for Node 4, the coefficient of T_2 must be 2. There is no T_5 .
- Answer for P.82: (a) after $t = 5 \text{ min}$, $T_0 = 228.9^\circ\text{C}$; $T_1 = 228.4^\circ\text{C}$; $T_2 = 226.8^\circ\text{C}$; $T_3 = 224.0^\circ\text{C}$; $T_4 = 219.9^\circ\text{C}$; (b) at steady state, $T_0 = 2420^\circ\text{C}$; $T_1 = 2413^\circ\text{C}$; $T_2 = 2391^\circ\text{C}$; $T_3 = 2356^\circ\text{C}$; $T_4 = 2306^\circ\text{C}$.