Adding cold water after 1min
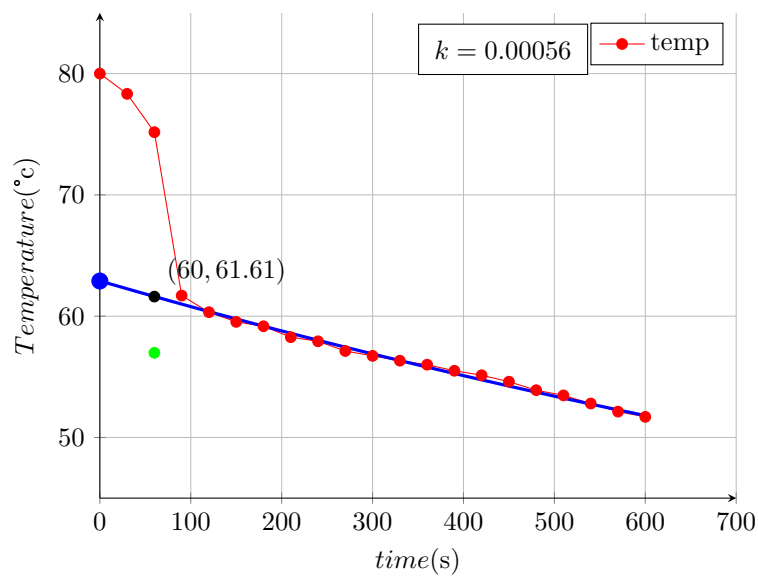
$$T(t) = S + (T_0 - S)\,\mathrm{e}^{-kt}$$

- Theoretical temperature $T_0 = 62.90$

$$T(t) = 24 + [Z - 24]\,\mathrm{e}^{-0.00056t}, \quad R^2 = 0.992$$