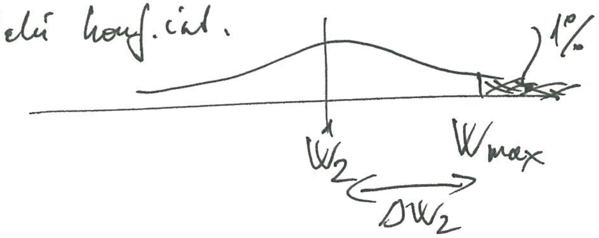
A I.) $\hat{W} = \frac{1}{N_1}\sum_{i=1}^{N_1} W_i = 123{,}96\ \text{kWh}$ $(N_1=5)$ $\qquad s = \sqrt{\frac{1}{N_1-1}\sum_{i=1}^{N_1}(W_i-\hat{W})^2} = 8{,}3512\ \text{kWh}$ 1

$\Delta W = \frac{s}{\sqrt{N_1}}\cdot \underbrace{t_{4;0{,}005}}_{4{,}595} = 17{,}161\ \text{kWh}$ $\qquad p\left[\hat{W}-\Delta W < W < \hat{W}+\Delta W\right] = 1-b \qquad b = 0{,}01$

$\boxed{5}$

$p\left[106{,}8\ \text{kWh} < W < 141{,}1\ \text{kWh}\right] = 99\%$ 2

Maximális fogyasztó: egyoldalú konf. int.



$\hat{W}_2 = N_2\cdot W_1 = 31{,}2\ \text{MWh}$ $\qquad (N_2 = 5\cdot 52 = 260)$

$\Delta W_2 = \sqrt{N_2}\cdot \sigma_1 \cdot \underbrace{z_{0{,}01}}_{2{,}24} = 144{,}5\ \text{kWh}$ 2

student $\rightarrow$ norm.
(C.H.T.)

$W_{max} = \hat{W}_2 + \Delta W_2 = 31{,}346\ \text{MWh}$

A II.) $\frac{R_x + j\omega L_x}{R_3} = R_2 Y_4 = R_2(G_4 + j\omega C_4)$

$\left.\begin{aligned} R_x &= \frac{R_2R_3}{R_4} = 7{,}8125\ \Omega \\ L_x &= R_2R_3C_4 = 375\ \text{mH} \end{aligned}\right\}$ 2

$\frac{1}{R_p} + \frac{1}{j\omega L_p} = \frac{1}{R_x + j\omega L_x} \Rightarrow$ $\quad R_p = \frac{R_x^2+\omega^2L_x^2}{R_x} = 2569\ \Omega$ 2

$L_p = \frac{R_x^2+\omega^2L_x^2}{\omega^2 L_x} = 376{,}7\ \text{mH}$

$\frac{\Delta R_x}{R_x} = 3\cdot 0{,}1\% = 0{,}3\%$

$\frac{\Delta L_x}{L_x} = 2\cdot 0{,}1\% + 0{,}3\% = 0{,}5\%$ 1

$\boxed{5}$