B I.) $N=6$ ($K=50$ közömbös!) $\hat{P}=\frac{1}{N}\sum_{i=1}^{N}P_i=259\ W$ $s=\sqrt{\frac{1}{N-1}\sum_{i=1}^{N}(P_i-\hat{P})^2}=31,57\ W$ (1)

$\Delta P=\frac{s}{\sqrt{N}}\cdot \underbrace{t_{N-1,\frac{b}{2}}}=43,32\ W$ $P[\hat{P}-\Delta P<P<\hat{P}+\Delta P]=1-b$

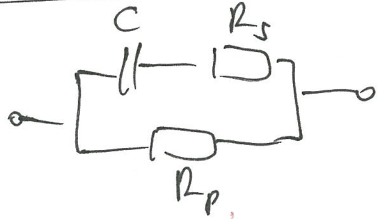
Student-elo! $t_{5;\,0,01}=3,362$ $P[215,7\ W<P<302,3\ W]=98\%$ (2)

$\boxed{\sigma'=s'}$ $s'=\frac{s}{\sqrt{N}}$ Csebisev-egyenlőtlenség: $P\left[|P-\hat{P}|\leq k\cdot s'\right]\geq 1-\frac{1}{k^2}=0,98\implies k=\sqrt{50}$

$\Delta P_2=\frac{s}{\sqrt{N}}\cdot k=91,1\ W$ $P[\hat{P}-\Delta P_2<P<\hat{P}+\Delta P_2]=1-b$

$P[167,9\ W<P<350,1\ W]=98\%$ (2) **5**

B II.)



$\implies$ (1) $Y=\frac{j\omega C\cdot\frac{1}{R_s}}{j\omega C+\frac{1}{R_s}}+\frac{1}{R_p}\implies$ $|Y|=218,6\ mS$ (1)

$\varphi=1,4613=83,72°$ (1)

$\omega=2\pi f$ $Y=|Y|e^{j\varphi}=|Y|[\cos\varphi+j\sin\varphi]=j\omega C_x+\frac{1}{R_x}\implies$ $R_x=\frac{1}{|Y|\cos\varphi}=418,4\ \Omega$ (1)

$C_x=\frac{|Y|\sin\varphi}{\omega}=217,4\ nF$ (1)

5