

$$\underline{B_1}, \quad N=6 \quad (K=10 \text{ közömmel } bőv!) \quad \bar{p} = \frac{1}{N} \sum_{i=1}^N p_i = 253 \text{ av } s = \sqrt{\frac{1}{N-1} \sum_{i=1}^N (p_i - \bar{p})^2} = 31,57 \text{ W} \quad (1)$$

$$\Delta P = \frac{f}{\tau N} \cdot t_{N-1, \frac{b}{2}} = 43,32 \text{ W}$$

$$P(p^* - \Delta p < p < p^* + \Delta p) = 1 - b$$

$$P[215.7 \leq P \leq 302.3] = 98\%$$

(2)

$$\boxed{J' = S'} \quad J' = \frac{J}{\sqrt{N}} \quad \text{Cschätz-grenzfertig: } p\left[|P - P'| \leq k \cdot J'\right] \geq 1 - \frac{1}{k^2} = 0,98 \Rightarrow k = \sqrt{50}$$

$$\Delta \rho_2 = \frac{f}{\sqrt{N}} \cdot k = g_{1,\ell} W$$

$$P[p^t - \delta p_2 < P < p^t + \delta p_2] = 1 - b$$

$$P[167,9 \leq P \leq 350,1] = 98\%$$

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B II. ,

The diagram shows a bridge circuit. The top horizontal branch contains a resistor labeled  $R_s$ . The left vertical branch contains a capacitor labeled  $C$ . The right vertical branch contains a resistor labeled  $R_p$ . The bottom horizontal branch is open. The circuit has two input terminals on the left and one output terminal on the right.

$$y = \frac{j\omega C \cdot \frac{1}{R_s}}{j\omega C + \frac{1}{R_s}} + \frac{1}{R_p} \Rightarrow (y_1 = 218,6 \text{ mS}) \\ (\varphi = 1,4613 = 83)$$

$$|Y_1| = 218,6 \text{ ms} \quad \textcircled{1}$$

$$\varphi = 1,4613 = 83,72^\circ \quad (1)$$

$$\omega = 2\pi f \quad Y = |Y| e^{j\varphi} = |Y| [\cos \varphi + j \sin \varphi] = |Y| \cos \varphi + \frac{1}{R_M} \Rightarrow$$

$$R_n = \frac{1}{(Y) \cos \varphi} = 488,4 \Omega \quad (1)$$

$$C_n = \frac{(Y_1 \sin \varphi)}{\omega} = 217,4 \text{ nF} \quad (1)$$

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