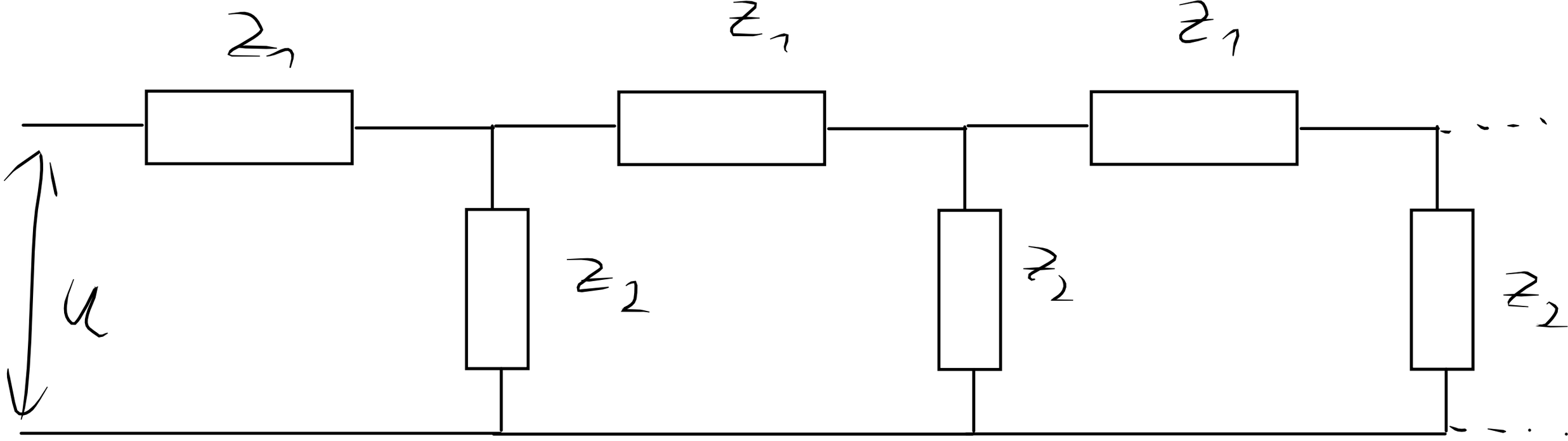


$$z = z_1 + \frac{z\, z_2}{z + z_2}$$

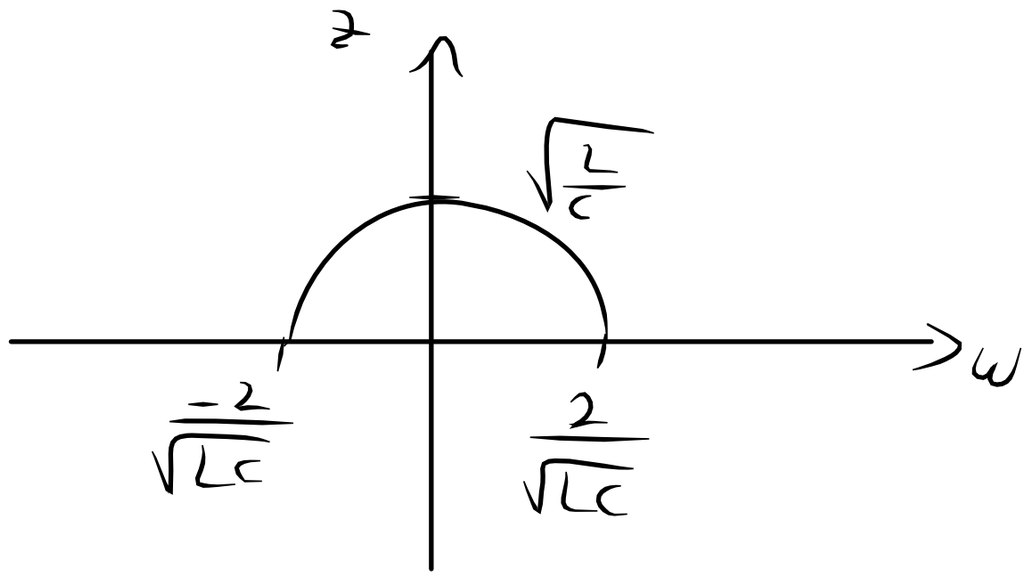
$$z^2 + z z_2 = z_1 z + z_1 z_2 + z z_2$$

$$z^2 - z z_1 - z_1 z_2 = 0$$

$$z = \frac{z_1 \pm \sqrt{z_1^2 + 4 z_1 z_2}}{2}$$

$z_1 = i\omega L$ $\qquad z = \frac{i\omega L \pm \sqrt{4\frac{L}{C} - \omega^2 L^2}}{2}$

$z_2 = \frac{1}{i\omega C}$ $\qquad$ dla $\omega^2 \leq \frac{4}{LC}$: $\mathrm{Re}(z) = \frac{1}{2}\sqrt{\frac{4L}{C} - \omega^2 L^2}$



$$\langle P \rangle = \frac{u^2}{|z|} \cos\varphi = u^2 \sqrt{4\frac{C}{L} - \omega^2 C^2}$$

$|z| = \sqrt{\frac{L}{C}}$ $\qquad \cos\varphi = \frac{\mathrm{Re}(z)}{|z|} = \sqrt{1 - \frac{1}{4}\omega^2 LC}$

To było mniej więcej na ćwiczeniach, nie robiłem reszty