

MAT 91112 Opgave E 299

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Vi skal løse ligningen

$$\frac{1}{z} + \frac{1}{2+3i} = \frac{1}{1+i}.$$

Vi finder

$$\begin{aligned} \frac{1}{z} + \frac{1}{2+3i} &= \frac{1}{1+i} \Leftrightarrow \frac{1}{z} = \frac{1}{1+i} - \frac{1}{2+3i} \\ \Leftrightarrow \frac{1}{z} &= \frac{1+2i}{-1+5i} \Leftrightarrow z = \frac{-1+5i}{1+2i} \\ \Leftrightarrow z &= \frac{9}{5} + \frac{7}{5}i. \end{aligned}$$