Complex Analysis I: Problem Set VIII

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Abstract

This work contains the solutions to the problem set VIII of Complex Analysis I 2015 at Courant Institute of Mathematical Sciences.

Question 3.

Solution. As we have $\lambda - z - e^{-\lambda} = 0$, we have

$$|\lambda - z| = e^{-\mathrm{Re}z}.$$

Since $\mathrm{Re}z > 0$, to satisfy the inequality, we must have

$$|\lambda - z| < 1.$$

Question 4.
Solution.

Question 5.
Solution.