

NAME & SURNAME:

The function of complex variable $\cos z$ is defined as follows:

$$\cos z = \frac{e^{jz} + e^{-jz}}{2}.$$

Questions:

1. What can we feed as input into $\cos z$? (What is the domain?)
2. What can be at the output of $\cos z$? (What is the range?)
3. Does the function $\cos z$ have any zeroes (points, where $\cos z = 0$)? If so, where are they located?
4. Does the function $\cos z$ have a derivative? If so, where (on which subset of the domain)?
5. Is the function $\cos z$ somehow "related" to the real function $\cos x$?
6. How can we imagine/visualize the function $\cos z$?
7. My own question (to the topic):

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