MAT 514 - Summer II 2020
July 16, 2020

Quiz 3

Problem 1 Consider the function $f : \{z = x + iy \in \mathbb{C} | x, y \in \mathbb{R}, y \neq 0\} \longrightarrow \mathbb{C}$, defined by

$$f(x + iy) = \frac{ix + 1}{y}.$$

Determine if this function has a limit at 0.

Problem 2 Determine all poles (infinite discontinuities) of the function

$$f(z) = \frac{z^2 + z - 2}{2z^2 + z - 3}.$$