

Mathematics 3770H – Complex Analysis

TRENT UNIVERSITY, Winter 2022

Assignment #9

Due on Friday, 25 March.

(May be submitted on paper or via Blackboard.*)

As with all the assignments in this course, unless stated otherwise on the assignment, you are permitted to work together and look things up, so long as you acknowledge the sources you used and the people you worked with.

1. Without applying Taylor's formula, find a power series centred at 0 which, when it converges, is equal to the function $f(z) = \frac{z^2}{(9+z)^2}$. [6]
2. Determine the radius of convergence of the power series you obtained in answering question 1. How is this radius related to the points where $f(z)$ is undefined? [4]



(This comic appeared on 2022-03-13.)

* All else failing, please email your solutions to the instructor at: sbilaniuk@trentu.ca