PHY 310 - Mathematical Methods for Physicists I

Odd Term 2019, IISER Mohali

Instructor: Dr. Anosh Joseph

Quiz 2

In class - Tuesday, 24th September, 2019

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1. [**10 Marks**] We have the Taylor series expansion of the function $f(z) = (1 - z)^{-1}$ about the origin

$$f(z) = \frac{1}{1 - z} = 1 + z + z^2 + \cdots . \tag{1}$$

   Obtain the Taylor series expansion of the same function about the point $z = -2$.

2. [**15 Marks**] Consider the function

$$f(z) = e^{1/z}. \tag{2}$$

   Does this function have a singularity? Give a brief explanation on how you arrived at your answer.