

MATH 338 – Complex Analysis I

QUIZ 4

05.06.2021

1. Evaluate the integral below:

$$\int_0^{\infty} \frac{dx}{1+x^4}$$

2. Let $f(z) = z^9 + z^5 - 8z^3 + 2z + 1$. How many zeros does f have in the annulus $\{z : 1 \leq |z| \leq 2\}$? (Hint: How do $f(z)$, z^9 and $-8z^3$ compare?)