

Quiz 1

Student ID Number:

Name _____

Math 180B

Please justify all your answers

April 9, 2020

Please also write your full name on the back

1. If r is a primitive root of the odd prime p , show that

$$\text{ind}_r (-1) = \frac{1}{2}(p-1).$$

2. For any integer n let $\sigma(n)$ be the sum of its divisors. Show that for any positive integer n ,

$$\sum_{d|n} \frac{1}{d} = \frac{\sigma(n)}{n}.$$