

Spring 2021, Math 522: Preliminary Problem Set 9
Due: Thursday, March 25th, 2021
Locating Large Primes

Preliminary problems. These should be submitted to Gradescope before Thursday discussion.

(P1) Given $n \geq 2$, find the density of the set

$$A = \{a \geq 1 : \gcd(a, n) = 1\}.$$

Your answer should depend on n .

(P2) Write the formal statement of the Prime Number theorem, along with an “intuitive interpretation” of it.

(P3) Write the formal statement of Dirichlet’s theorem (the strong version), along with an “intuitive interpretation” of it.