

Problem Set #9

Assigned: November 15

Due: November 25

Part I: Watch the “Apéry’s Constant” video from Numberphile at the link provided and then answer the following questions.

<https://www.youtube.com/watch?v=ur-iLy4z3QE>

1. What did you find to be the most interesting aspect of this discussion?
2. How do prime numbers occupy a special place in the definition of $\zeta(s)$?
3. Why was a random polling for sets of three random numbers nearly equal to Apéry’s constant?

Part II: Complete the following problems in *Classical Mechanics by Fowles & Cassiday*:
10.11, 10.14 (introductory problems)
10.18, 10.19, 10.23, 10.29 (challenge problems)