Week 1

Wednesday, October 14, 2020 8:51 PM

- Imagine you're giving a lecture about a 4th year topic to a fourth year student.
- 30-50 pgs with title pages @ 12 LaTeX font.
- At least 5 sources, 10 average
- Sec. 6.1, Thm. (5)(a) can be strengthened to $0 \leq P_{ij} \leq 1$.

Week 2

Wednesday, October 14, 2020 7:58 PM

Questions:

- Discuss title for dissertation – get something in mind, can be changed
- Searching sources – Don't have to prove possession of sources.
- How important are examples? – Don't copy others'. Important for complicated or abstract topics.
- Pg. 215, about the sentence right above Thm. 7, does this fact not follow from the def. of a Markov Chain, also? – No.
- Can we not strengthen cor (4)(a and b) Pg. 221 to an iff?
- Am I too meticulous? – Yes!
- Pg. 222 above def. 7: why do we define $\mathbb{E}(T_i \mid X_0 = i) = \infty$?
- // Last sentence of def. 7: How could that be?

← $x \cdot \infty = \infty \ \forall x$, so possibility of going to inf $\Rightarrow \mathbb{E} = \infty$.

– Sources mostly books, not papers.

Week 3

Thursday, October 22, 2020 2:16 PM

Page from hungary transient if summation diverges

Observation:

- Origin Necessarily persistent in 1 and 2 dimensions.
  Not in 3 or more!
  Related to Harmonic series.
  Polya's
- 'Almost surely' wikipedia page
  - Lebesgue measure
- Two independent random walks intersecting analogous to one random walk crossing a specific point?
- Weird thing (from Stirzaker book) being contradictory to intuition.

Week 4

Thursday, October 29, 2020 1:55 AM

Questions:

Proof of 13.2.1 "f_i"s should be "f_j"s, typo?

Notes:

Get started on writing out the proof and see what's needed as build up.