

BILL, RECORD LECTURE!!!!

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“Applications” or Ramsey Theory

Exposition by William Gasarch-U of MD

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Applications Outside of Combinatorics

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This is **not** one of those times.

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CAVEAT Sora is not impressed.

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CON They only care about it as an example of thm that requires a certain proof strengths to prove.

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CAVEAT The p is enormous as a function of n . I suspect there is a harder NT proof that gives a much better bound.

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PRO There is a k -people version that also has matching Ramsey-type bounds.

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Most of the seven then go on to make other points.

Applications To Combinatorics But Outside of Ramsey Theory

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BIG PRO It brought Esther Klein and George Szekeres together!

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Question Are you down with that? (We need a rap song about wqo.)

Applications To Ramsey Theory

Recall: Hungarian Math Comp Problem

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There are 1950 cans of paint. Find an x such that (1) there are either x cans of paint all the same color, or x cans of paint that are all different colors and (2) it is possible to have neither $x + 1$ cans that are all the same nor $x + 1$ cans that are all different.

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I used this to motivate the Can Ramsey Theorem.

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Orban, the president of Hungary, has demanded the math community there stop using the term **rainbow** since it is associated with Gay Rights.

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CAVEAT I prefer the name **Can Ramsey Thm.**

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PRO Nice application of **discrete** Ramsey to **continuous** Ramsey.