

Math 280: Graph Theory  
Instructor: David Zureick-Brown (“DZB”)  
GODY’s! (Graph Of The Day)

Last updated: November 22, 2024

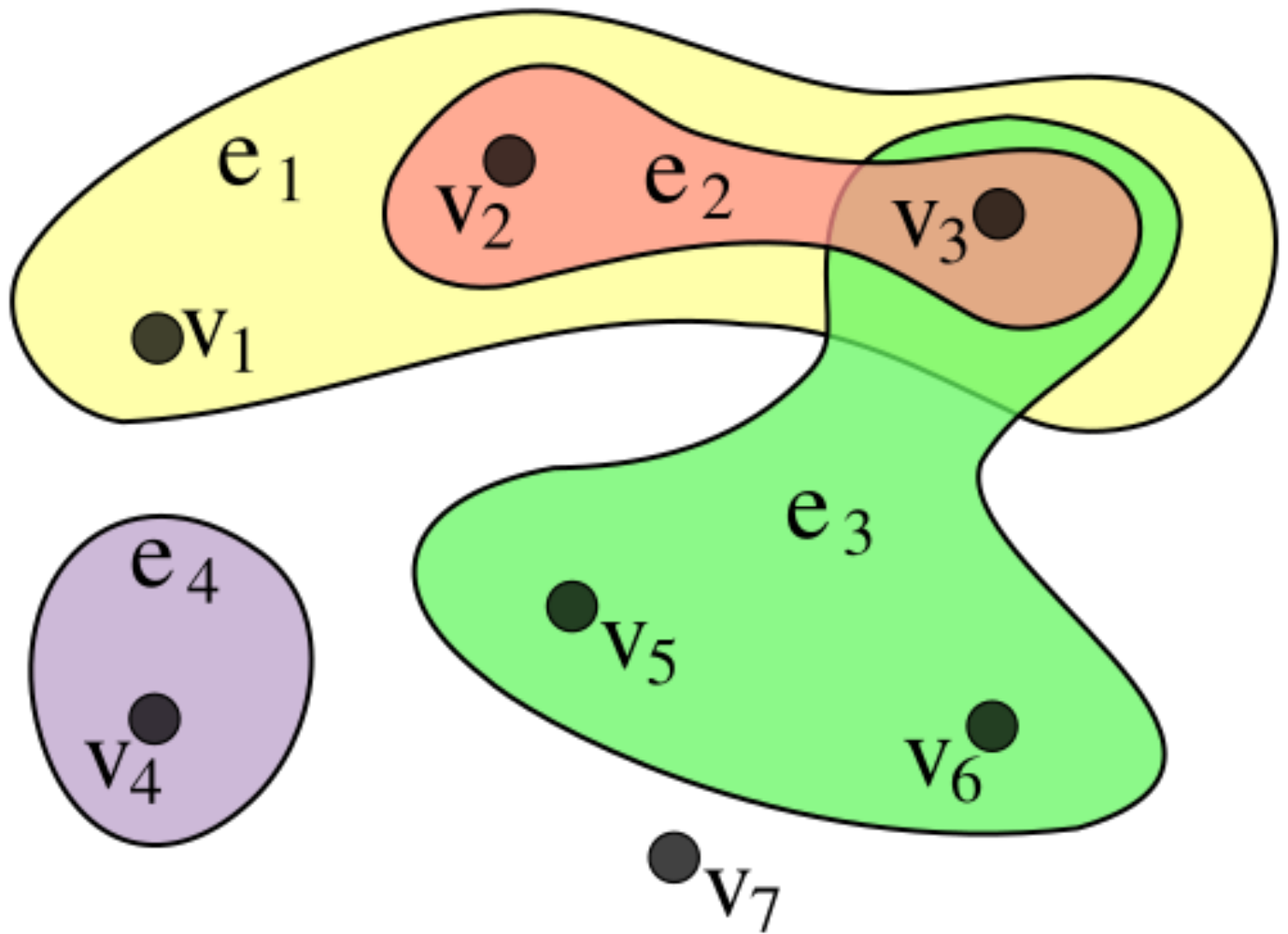
Part 1 of the GODY’s is here: <https://dmzb.github.io/teaching/2024Fall280/gody-F24-280.pdf>  
Part 2 of the GODY’s is here: <https://dmzb.github.io/teaching/2024Fall280/gody-F24-280-1.pdf>  
Part 3 of the GODY’s is here: <https://dmzb.github.io/teaching/2024Fall280/gody-F24-280-2.pdf>

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## 22 Hypergraphs

<https://en.wikipedia.org/wiki/Hypergraph>





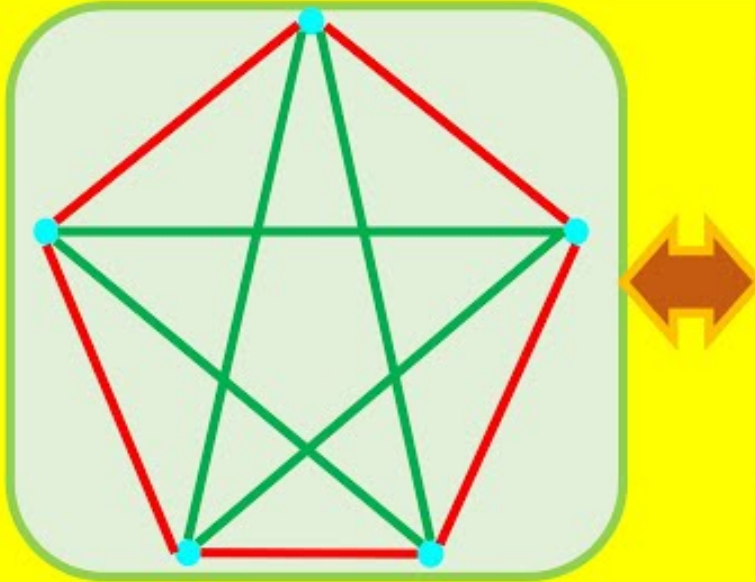


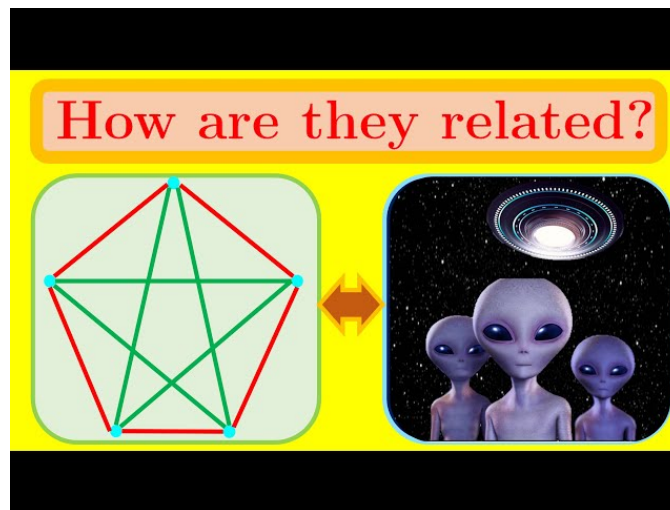




### 23 Interesting graphs from Ramsey Theory

How are they related?





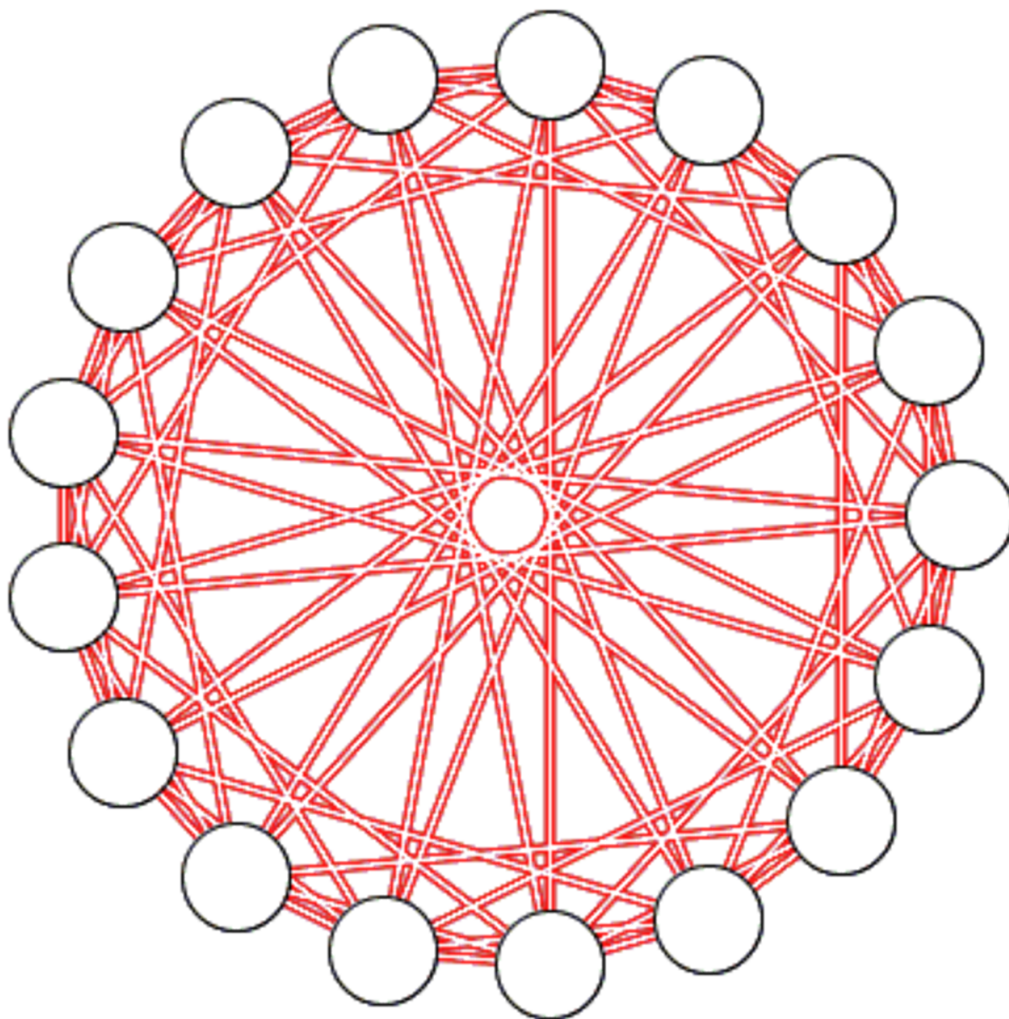
**SUPPOSE ALIENS INVADE THE EARTH AND THREATEN TO OBLITERATE IT IN A YEAR'S TIME UNLESS HUMAN BEINGS CAN FIND THE RAMSEY NUMBER FOR RED FIVE AND BLUE FIVE. WE COULD MARSHAL THE WORLD'S BEST MINDS AND FASTEST COMPUTERS, AND WITHIN A YEAR WE COULD PROBABLY CALCULATE THE VALUE. IF THE ALIENS DEMANDED THE RAMSEY NUMBER FOR RED SIX AND BLUE SIX, HOWEVER, WE WOULD HAVE NO CHOICE BUT TO LAUNCH A PREEMPTIVE ATTACK.**

**- PAUL ERDŐS -**

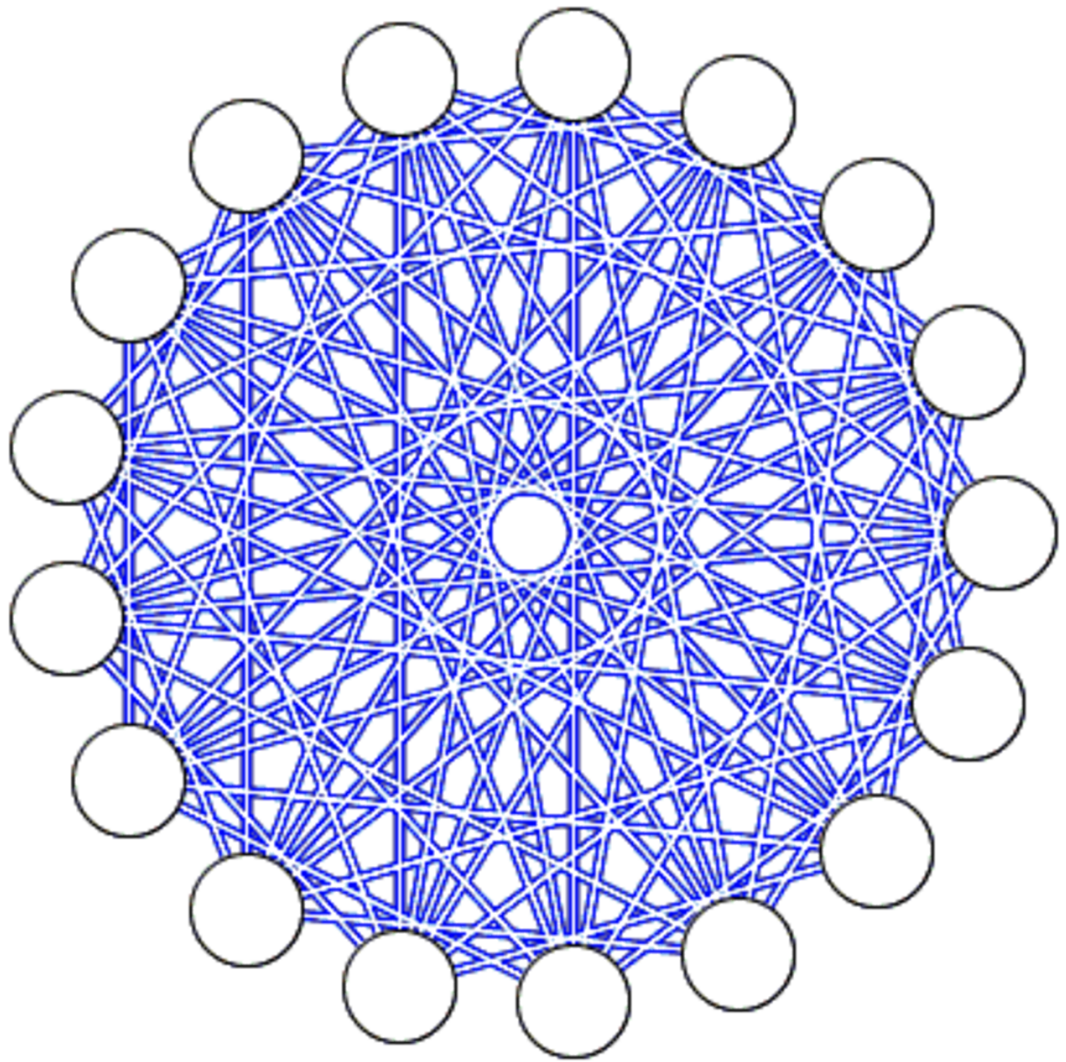
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<https://www.cut-the-knot.org/arithmetic/combinatorics/Ramsey44.shtml>



Place 17 nodes on a circle and join all the chords of lengths 1, 2, 4, and 8.



The complementary graph consists of chords of lengths 3, 5, 7, and 11.

[https://en.wikipedia.org/wiki/Clebsch\\_graph](https://en.wikipedia.org/wiki/Clebsch_graph)

