Winter 2024

Math 106 — Algebraic Geometry

Instructor: Sunny (Shishir Agrawal)

Common Ground

Turn to someone sitting near you who ideally you don't already know. Take about 5 minutes to find at least *two* things that you have in common with your partner.

(Try to go beyond "We're both taking Math 106 this quarter," but it doesn't have to anything deeply personal.)

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About Me

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Course Information

Everything is on the website:

https://sagrawalx.github.io/teaching/wi24_math106

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There's a link on Canvas.

Pedagogy Data



Hake, doi:10.1119/1.18809

Algebraic Geometry

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Quadratic Formula

$$r = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

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Quadratic Formula

$$r = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Cubic Formula

$$r = \frac{-1}{3a} \left(b + C + \frac{\Delta_0}{C} \right) \text{ where } \begin{cases} C &= \sqrt[3]{\frac{\Delta_1 \pm \sqrt{\Delta_1^2 - 4\Delta_0^3}}{2}} \\ \Delta_0 &= b^2 - 3ac \\ \Delta_1 &= 2b^3 - 9abc + 27a^2d \end{cases}$$

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Quartic Formula



Quintic Formula Provably does not exist!

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Niels Abel



1802-1829

David Hilbert



1862-1943

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Emmy Noether



1882-1935

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Alexander Grothendieck



1928-2014

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Bruno Buchberger



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