

Nicholas Hagedorn

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ACTIVITIES

Knot Theory Research

2022 - Present

Sole Author. "Strict Inequalities for the n -crossing Number."

- Found and proved the 5th of the five known strict inequalities between knot n -crossing numbers. Research advised by Prof. Colin Adams of Williams College.
- One of a dozen high school students accepted to give a contributed talk at the Joint Mathematics Meetings (Boston, Jan. 2023), the largest mathematics conference in the world.
- The only high school student in New Jersey accepted to give a talk at the Mathematical Association of America's New Jersey section meeting (Cape May, NJ, Oct. 2022).

Absolute Value

2021 - Present

Vice President. Absolute Value is a national 501(c)(3) non-profit dedicated to engaging middle schoolers in math through hosting friendly math competitions with chapters across 12 US states.

- Increased the number of chapters sixfold.
- Organization is recognized by the Art of Problem Solving as one of the 25 biggest American middle school math competitions.

Princeton Speech & Debate

2020 - Present

Officer. Competed on the national circuit of Princeton High School's Varsity Public Forum debate team.

- 3rd place at New Jersey's 2022 State Championships.
- Gold Bid to the Tournament of Champions.
- Trained 20+ novices and junior varsity members.

Princeton Competitive Programming Team

2022 - Present

Co-founder. Grew club to 30+ regular members in four months.

- Most gender diverse Computer Science club at Princeton High School.
- #2 team in New Jersey at Lockheed Martin's 2022 Code Quest.

π & AI

2021 - Present

Co-founder. Ran math and programming circles at local middle school and library.

- Earned \$600 funding from America's Promise Alliance.

Ideas Center

2021 - Present

Leader on the Ideas Center Board and volunteer tutor at Princeton High School tutoring center.

- March 2022 "Tutor of the Month."

EDUCATION

Princeton High School

2020 - Present

4.0 Unweighted GPA; 4.38 Weighted GPA. 1580 SAT. 9 AP classes. Scored a 5 on all AP tests taken.

New Jersey Governor's STEM Scholars Program

2022 - Present

Selected as one of the top 100 STEM students in NJ. Currently completing a year-long research project.

Ross Mathematics Program

Summer 2021 & 2022

Junior Counselor (Only 5/100 accepted back as a junior counselor).

- Self-explored number theory, Ergodic Ramsey theory, & set theory.
- Graded participant sets, lead problem review sessions, & lectured to 30+ students.