must fit within the interview time limits. GHP cannot guarantee that internet access (e.g., Wi- Fi) will be available at the interview site.

- Semifinalists should anticipate being on-site for at least 60 - 90 minutes.

MATHEMATICS

Instructional Description

The GHP Mathematics department broadens students' exposure to various branches of mathematics. Courses are tailored to reflect the diversity of both students and mathematics and offer challenges to students within their knowledge base. Topics range from computer programming to proof-oriented courses to application-oriented courses but are all concentrated on techniques of problem solving.

Coursework involves small group work, large group work, cooperative projects, and individual effort. Students solve problems in cooperative, collaborative efforts, explain solutions to one another, present their research, and formulate new problems. Students also can develop a research project addressing a mathematics question of their own choosing.

By the end of the program, students will have an increased understanding of the breadth of mathematics, awareness of the place of mathematics in their world, and the ability and confidence to attempt previously unknown or difficult problems.

Topics of study have included:
- Programming
- Polynomials
- Complex number
- Computer science nuggets
- Number theory, graph theory, set theory
- Sequences and series
- Mathematical challenges
- Weird math
- Problem-solving
- Cryptology
- Counting is Fun (arrangements and permutations)
- Proof techniques
- Algebra matrix analysis

Selection Criteria

Mathematics nominees should have an intense interest in mathematics, be highly inquisitive, and enjoy learning new mathematical concepts and applications. Students are also expected to, at all times, demonstrate integrity and respect for others during their participation in the program. This includes full participation in all aspects of the program and adherence to all rules, regulations, and expectations as set forth and interpreted by GHP.