

## **IPoly Math Entrance Exam Content (Grades 10-12)**

In order to prepare for the math portion of IPoly's entrance exam, it is suggested that students practice specific formulas listed in the outline below. The 25-question test will take place at IPoly; students will have approximately 90 minutes to complete the exam. Students must show their work on a scratch paper; calculators will not be allowed.

### **6th Math Topics / Skills**

- Multiply numbers
- Multi step word problems
- Multiply two fractions word problems
- Area of rectangles with fractions
- Graph points on a coordinate

### **7th Math Topics / Skills**

- Equivalent ratios
- Compare and order rational numbers
- Percent of numbers
- Write expression using exponents
- Evaluate numerical expression w/ fractions

### **8th Math Topics / Skills**

- Convert decimals and fractions or mixed numbers
- Multiply using the distributive property
- Add & subtract positive and negative fractions
- Circles via word problems
- Solve two step equations
- Evaluate numerical expressions
- Factors of linear expressions
- Find measures of complimentary, supplementary and vertical angles Identify equivalent linear expressions
- Solve two step inequalities
- Solve equations
- Graph a line with slope intercept form and standard form
- Solve equations using square roots
- Write a linear equation from slope and a point
- Pythagorean theorem
- Solve for variables in missing angles and sides of triangles
- Write a linear equation from slope and a point in slope-intercept, standard, and point-slope form
- Factor expressions

### **9th Grade Content**

- Simplify square root expressions
- Simplify and factor quadratic expressions
- Solve quadratic equations
- Parts of a circle (arc) sector in radians and degrees

**Resources:** It is suggested that students practice specific formulas listed in the outline above by pulling up online examples or getting assistance from a tutor or teacher. Other suggestions include using free resources such as <https://www.khanacademy.org> and [www.youtube.com](http://www.youtube.com). An optional fee-based site to look into is [www.ixl.com](http://www.ixl.com).