



## 2024 OWLympiad Math Competition

### *Rules:*

- This is a team exam.
- There are 70 multiple-choice and 10 open-ended questions.
- Teams will have 75 minutes to complete the exam.
- No calculators may be used.





## *2024 OWLlympiad Team Exam Syllabus*

Teams should be able to use and apply the following mathematical concepts:

### **1. Algebra I & II (40-45%)**

- Simplifying Radicals
- Distance and Slope of a Line
- Graphing on the Coordinate Axes
- Probability, Combinations, and Permutations
- Perpendicular and Parallel Lines
- Factoring and the Quadratic Equation
- Inequalities and Absolute Values
- Matrices
- Inverse and Composite Functions

### **2. Geometry (15-20%)**

- Similarities and Congruencies
- Perimeter, Area, and Volume
- Geometric Theorems and Proofs

### **3. Trigonometry/Pre-calculus (15%-20%)**

- Trigonometric Identities
- Natural Logarithm and Logarithmic Identities

### **4. Calculus (20%-25%)**

- Velocity and Acceleration
- Critical points, Increasing and Decreasing Functions
- Limits, Series, and Sums
- Derivatives
- Anti-derivatives
- Area Under a Curve