

# Courses

Guided problem solving to improve [critical thinking and problem solving skills](#).

## Math

► Foundational

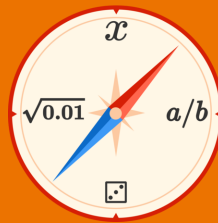
Advanced

Science

Computer Science

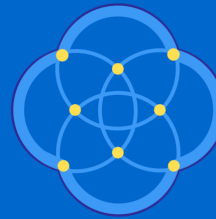
## Math – Foundational

### Mathematical Fundamentals



The essential tools for mastering algebra, probability, and logic!

### Geometry Fundamentals



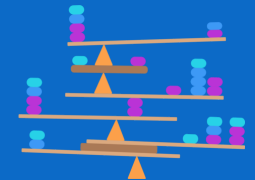
An intuitive introduction to the essentials of geometry.

### Logic



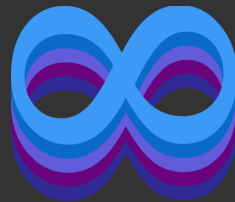
Stretch your analytic muscles with knights, knaves, logic gates, and more!

### Algebra Through Puzzles



Supercharge your algebraic intuition and problem solving skills!

### Number Theory



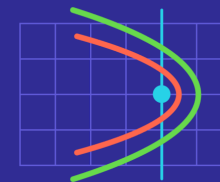
The study of how math is structured, applied to primes, logic, and more!

### Math Competition Fundamentals



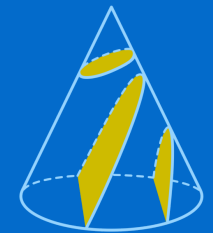
Want to perfect your MATHCOUNTS and AMC8 competition skills? Start your training here.

### Graphing and Modeling




Use the power of play and experimentation to learn how mathematical graphs work!

### Conics and Trigonometry




Master trigonometry through interactive graphs and mesmerizing visualizations.

### Chance



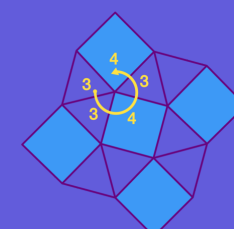
Win more often by using some math to improve your strategy.

### Geometry

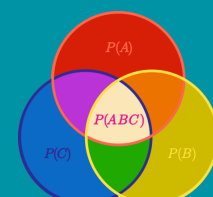


Fun, challenging geometry puzzles that will shake up how you think!

### Solving

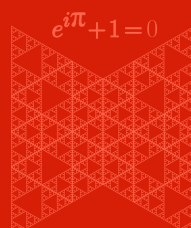


A guided tour through our most beautiful and delightful puzzles.




The framework for understanding the world around us, from sports to science.

### Complex Algebra




The beauty of Algebra through complex numbers, fractals, and Euler's formula.

### Ace the AMC



Guided training for the strategies needed to excel in AMC 10 and 12.

### Statistics




**Coming soon!**


Data can be deceiving - use math to discern truth from fiction.

## Math – Advanced

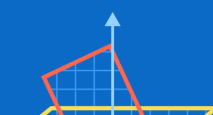
### Calculus Done Right




### Differential Equations



### Linear Algebra



### Group Theory



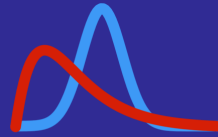
Understand the mathematics of the continuous, using intuition.

The math of change, from economics to physics.

Matrices, vector spaces, and more - from theory to real-world applications!

Explore groups through symmetries, applications, and problems.

## Math for Quantitative Finance

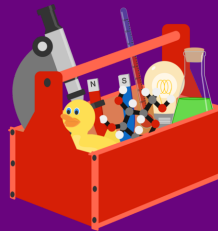


$$P(A | B) = \frac{P(B | A)P(A)}{P(B)}$$

Tour the mathematics used to model the chaos of the financial markets.

## Science – Foundational

### Science Essentials



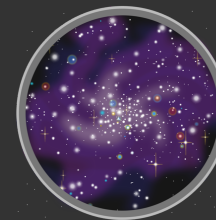
A curated toolkit for learning the most essential science concepts.

### Physics of the Everyday



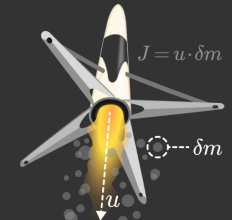
Investigate everyday physics, from household objects to weather patterns.

### Astronomy



Unlock cosmic wonders, from star life cycles to the fate of the universe.

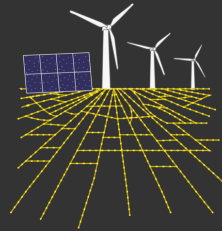
### Classical Mechanics



Hardcore training for the aspiring physicist.

## Science – Advanced

## Solar Energy



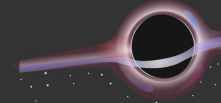
Capture the physics of energy harvest from our most powerful source, the Sun.

## Quantum Objects



When things get small, things get weird.

## Gravitational Physics



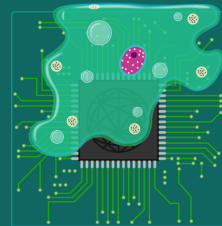
Explore Newton's law of gravity and crack open its universe of consequences.

## Special Relativity



Get up to (light) speed on Einstein's theory of relativity.

## Computational Biology



A back of the envelope approach to problems from RNA folding to the unfurling of Darwin's evolutionary tree.

## Automotive Engineering

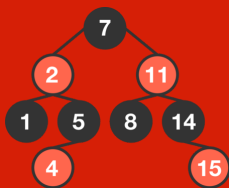


Coming soon!

Principles that govern automotive engineering and the control systems that let you focus on the road.

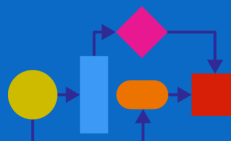
## Computer Science – Foundational

### Science Fundamentals



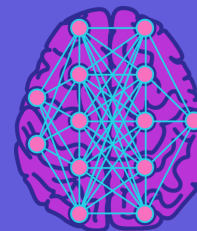
The fundamental toolkit for the aspiring computer scientist or programmer.

### Science Algorithms



How to make a computer do what you want, elegantly and efficiently.

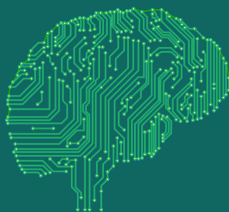
### Networks



A quick dive into a cutting-edge computational method for learning.

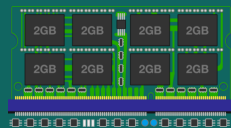
### Computer Science – Advanced

#### Machine Learning



Advanced quantitative techniques to analyze data where humans fall short.

#### Computer Memory



How memory actually works, layer by layer.

#### Advanced Algorithms

Coming soon!



Complexity theory, randomized algorithms, graphs, and more.