

York-Fields Math Circle Calendar for 2019-2020

Room (N525 Ross) unless specified otherwise

Nr	Date	Topic
1	Oct. 19, 2019	2D Geometry I: Properties of Chords-Secants-Tangents in Circles, Conics.
2	Oct. 26, 2019	Sequences and Series I: (Sequences and Series, Linear Recursive Sequences, Patterns, Telescoping Series
3	Nov. 2, 2019	Introduction to Proofs: (Proof by Contradiction, Proof by Induction, Pigeonhole Principle)
4	Nov. 9, 2019	Functions I: Polynomial Functions and Rational Functions.
5	Nov. 16, 2019	Combinatorics & Probability I: Fundamental Principles of Counting, Factorials, Permutations, Combinations.
6	Nov. 23, 2019	Combinatorics & Probability II: Pascal's Triangle, Binomial Coefficients.
7	Nov. 30, 2019	2D Geometry II: Triangles and medians, altitudes, perpendicular bisectors, angle bisectors, euler's line.
8	Dec. 7, 2019	Complex Numbers, De Moivre's Theorem, Plane geometry, Complex Numbers in Geometry.
9	Dec. 14, 2019	Functions II- Trigonometry: Radians, unit circle, trigonometric identities, trigonometric functions and equations, Proofs and Problems.
Winter Break		
10	Jan. 10, 2020	Functions III: Exponential and Logarithmic Functions.
11	Jan. 17, 2020	Graph Theory: Introductions, Definitions, Notations, Trees, Proof and Problems
12	Feb. 1, 2020	Cryptography: Binary numbers, Boolean algebra, Proofs and Problems
13	Feb. 8, 2020	Linear Algebra I: Vectors and their Applications to Problem Solving
	Feb. 17, 2020	FAMILY DAY weekend
14	Feb. 22, 2020	Trigonometric Equations and Inequalities: Revisit Trigonometric Equations, Trigonometric Inequalities
15	Feb. 29,, 2020	Number Theory: Factorization and Divisibility, greatest common divisor, Unique factorization, Proofs and Problems
16	March 21, 2020	Diophantine Equations: Polynomial Diophantine Equations, Proofs and Problems from Fermat 2020 Contest.
17	April 4, 2020	Linear Algebra II: Matrices, Determinants, the Inverse of a Matrix, Systems of Linear Equation
18	April 18, 2020	Inequalities: Arithmetic-mean-Geometric Mean Inequality, Proofs and Problems
19	April 25, 2020	Polynomial Identities, Algebraic Identities, Division Algorithm for Polynomials, Proofs and Problems from competitions
20	May 2, 2020	Real Analysis-Functions II: Limits of Functions, Continuous Functions, Derivatives, The Mean Value Theorem
21	May 9, 2020	Functions III: Multiplicative Functions, Dirichlet Product and Mobius Inversion, Euler Function, Proofs and Problems with Functions, Proofs and Problems from competitions
22	May 23, 2020	ARML Practice-Team-Relay-Individual-Power Relay Combinatorics & Probability: Revisit Probability, Problems from Competitions
23	May 30, 2020	ARML Practice-Team-Relay-Individual-Power Relay Complex Numbers: Revisit Probability, Problems from Competitions

ARML Competition - June 1st & June 2nd, 2020