

Math Quest: From Core Concepts to Advanced Adventures

Level V

Oct 31, 2023 Version

PacFordia Education

Note: the syllabus may be subject to change depending on the background and the needs of the students.

1 Weekly Schedules

Week 0 - Week 5

Week 0: Pre-Class Survey + Exploring the Beauty of Mathematics: A Level V Overview

Week 1: Geometry: Triangles Related Topics

Week 2: Geometry: Circles Related Topics

Week 3: Geometry: Proof Strategies

Week 4: Geometry: Area Methods

Week 5: Homework Solutions (for Week 1, Week 2, Week 3, Week 4)

Week 6 - Week 11

Week 6: Quiz 1 + Menelaus Theorems

Week 7: Menelaus Theorems and More

Week 8: Use Converse Statement to Prove Geometry Problems

Week 9: Geometry Transformations

Week 10: Algebraic Methods in Geometry

Week 11: Homework Solutions (for Week 7, Week 8, Week 9, Week 10)

Week 12 - Week 15

Week 12: Quiz 2 + Vector Fundamentals

Week 13: Vector Methods

Week 14: Using Vector Method to Solve Geometry Problems

Week 15: Homework Solutions (for Week 12, Week 13, Week 14)

Week 16 - Week 19

Week 16: Quiz 3 + Solid Geometry Fundamentals

Week 17: Solid Geometry Fundamentals

Week 18: Advanced Problems in Solid Geometry

Week 19: Homework Solutions (for Week 16, Week 17, Week 18)

Week 20 - Week 24

Week 20: Quiz 4 + Combinatorial Identities

Week 21: Combinatorial Identities (Continued)

Week 22: Generating Functions

Week 23: Combinatorial Geometry

Week 24: Homework Solutions (for Week 21, Week 22, Week 23)

Week 25 - Week 30

Week 25: Quiz 5 + Graph Theory Review

Week 26: Topics in Graph Theory

Week 27: Pigeonhole Principle

Week 28: Fubini Principle

Week 29: Homework Solutions (for Week 25, Week 26, Week 27)

Week 30: Quiz 6