This book contains 106 geometry problems used in the AwesomeMath Summer Program to train and test top middle and high-school students from the U.S. and around the world. Just like the camp offers both introductory and advanced courses, this book also builds up the material gradually. We begin with a theoretical chapter where we familiarize the reader with basic facts and problem-solving techniques. Then we proceed to the main part of the work, the problem sections.

The problems are a carefully selected and balanced mix which offers a vast variety of flavors and difficulties, ranging from AMC and AIME levels to high-end IMO problems. Out of thousands of Olympiad problems from around the globe we chose those which best illustrate the featured techniques and their applications. The problems meet our demanding taste and fully exhibit the enchanting beauty of classical geometry. For every problem we provide a detailed solution and strive to pass on the intuition and motivation lying behind. Many problems have multiple solutions.

Directly experiencing Olympiad geometry both as contestants and instructors, we are convinced that a neat diagram is essential to efficiently solving a geometry problem. Our diagrams do not contain anything superfluous, yet emphasize the key elements and benefit from a good choice of orientation. Many of the proofs should be legible only from looking at the diagrams.

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