
Math Mammoth Geometry 1

Contents

Introduction	4
Review: Area of Rectangles	8
Review: Area and Perimeter	13
Lines, Rays, and Angles	17
Measuring Angles	22
Drawing Angles	27
Angle Problems	29
Estimating Angles	34
Review: Angles	39
Parallel and Perpendicular Lines	41
Parallelograms	46
Triangles	49
Line Symmetry	53
Review: Drawing Polygons	56
Circles	60
Quadrilaterals	63
Equilateral, Isosceles, and Scalene Triangles	67
Area and Perimeter Problems	72
Volume	75
Volume of Rectangular Prisms (Cuboids)	80
A Little Bit of Problem Solving	84
Review 1	86
Review 2	90
Answers	93
More from Math Mammoth	113

Introduction

Math Mammoth Geometry 1 covers all the typical geometry topics for grades 4-5: angles, triangles, quadrilaterals, other polygons, area, perimeter and volume.

The problems in this book involve lots of drawing. Geometry is a hands-on subject, and many children like that. Moreover, drawing is an excellent means of achieving the conceptual understanding that

geometry requires. Exercises marked with the symbol “” are meant to be done in the student’s notebook or on blank paper.

The study of geometry is also full of new vocabulary. I encourage the usage of a *geometry notebook*, where students will write every new concept or term, and draw a picture or pictures and text to explain the term. That will help them to remember the terms better, and most children will like creating a book of their own. The students can also do the drawing exercises in this book.

The lessons in the book

First we review the area and perimeter of rectangles (as taught in third grade). Then the students are introduced to **angles**, and learn about acute, right, obtuse, and straight angles. Students learn how to measure angles with a protractor, draw angles, and estimate some common angles.

After angles, we study **parallelograms** and different **kinds of triangles** (acute, obtuse, right). We also review polygons and then go on to a lesson about **circles**. Students learn the terms circle, radius, and diameter, and learn to draw circles and circle designs using a compass.

Then we go on to **classify quadrilaterals and triangles**. There are seven types of quadrilaterals to learn about, and now students classify triangles both by sides and by angles.

The last section of the book deals with area and perimeter of rectangular shapes, and **volume** of rectangular prisms. I have also included a lesson for problem solving, and two review lessons.

I wish you success in teaching math!
Maria Miller, the author