

# HONORS TOPICS

Here are the topics for the special challenge lessons included in the student text. You will find one honors page after the last systematic review page for each regular lesson. Instructions for the honors pages are included in the student text.

## LESSON TOPIC

- 01 Solving logic problems using charts
- 02 Union and intersection with Venn diagrams; Mobius strip
- 03 Using three-part Venn diagrams to solve word problems
- 04 Using a compass rose; word problems requiring equations
- 05 Forming patterns by bisecting lines and angles
- 06 More patterns formed by bisection; word problems
- 07 Using known information to find out about other lines and angles
- 08 Using known information to find out sizes of angles in a geometric drawing
- 09 Challenge area problems; doubling and squaring dimensions
- 10 Golden rectangle
- 11 More logic problems
- 12 Advanced construction—equilateral triangle, regular octagon, regular hexagon in a circle
- 13 Finding the area of irregular polygons on a grid of dots
- 14 Finding the area of any triangle when three sides are known; Relationships between dimensions and volume
- 15 Word problems involving volume
- 16 Visualization of the formula for the area of a circle; Finding different volumes with the same surface area
- 17 Archimedes and the relationship between surface area and volume of spheres and cylinders
- 18 Using Pythagorean theorem to find sight distance from a height
- 19 Volume and surface area of oblique prism; word problems
- 20 Simple vectors using a protractor to measure angles
- 21 Finding the area of a ring by measuring the chord of the circle
- 22 Introduction to the language of formal logic
- 23 The converse in formal logic
- 24 Using remote interior angles and other information to find angle measures
- 25 Geometric proofs
- 26 More geometric proofs
- 27 Proofs involving circles, tangents, and chords
- 28 Proofs with circles and inscribed angles
- 29 Applications using tangent function
- 30 Applications using sine and cosine functions