The Common Denominator

A family math newsletter

Geometry Unit 9: Right Triangles and Trigonometry

Unit at a Glance

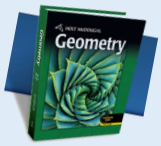
Students' experience with two-dimensional and three-dimensional objects is extended to include informal explanations of circumference, area and volume formulas. Additionally, students apply their knowledge of two-dimensional shapes to consider the shapes of cross-sections. The following topics will be studied:

Topic	Length	Geometry Textbook Section(s)
Topic A: Similarity in Right Triangles	Academic: 1 (90-minute) lesson Honors: 1 (90-minute) lessons	8.1
Topic B: Trigonometric Ratios	Academic: 1 (90-minute) lessons Honors: 1 (90-minute) lessons	8.2
Topic C: Solving Right Triangles	Academic: 1 (90-minute) lessons Honors: 1 (90-minute) lessons	8.3
Topic D: Angles of Elevation and Depression	Academic: 1.5 (90-minute) lessons Honors: 1.5 (90-minute) lessons	8.4

Resource Toolkit

Homework Help

Digital resources exist in the HMH online textbook that can support student learning outside of the classroom. To access these resources, students can log into HMH through BCPSone Digital Content, then select "Student Resources". The "Homework Helper" resource has a mini-lesson, then guided practice problems for students to complete that can help reinforce concepts that were learned in class. Also, check the "Videos & Activities" section where other beneficial resources can be found.



Khan Academy Videos

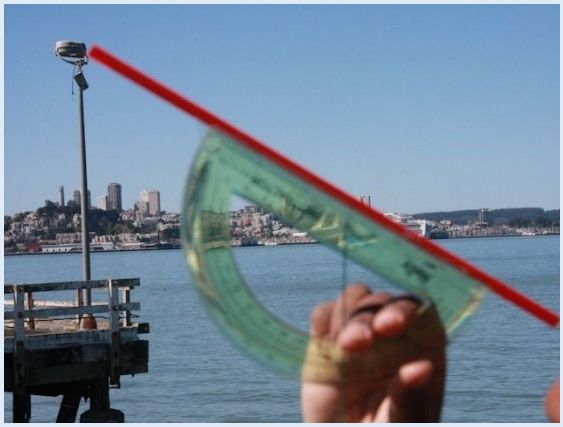
Topic B: Trigonometric Ratios
Topic C: Solving for a Side in a Right Triangle; Solving for an Angle in a Right Triangle
Topic D: Angles of Elevation and Depression

Exploring Mathematics

Real World Applications

Have a conversation with your student about how to find the height of a tall object, such as a mature tree or a building. What strategies would you use? What unit of measure would be most appropriate? What would you do if you were limited with resources? Mathematicians use right triangle trigonometry to find the heights of tall objects. Watch this video to see an explanation of how to find the height of a tree without actually measuring its height.

Try this at home! Create a clinometer and measure the height of a tree or building. After you find a height, discuss if your answer makes sense and summarize the process with your student.



"The laws of nature are written in the language of mathematics…the symbols are triangles, circles and other geometric figures, without whose help it is impossible to comprehend."

– Galileo Galilei