Geometry Unit 4: Right Triangle Trigonometry
Lessons 1–5: Angles and Steepness

Explore, Play, and Discuss

- I can explain why knowing one acute angle in a right triangle determines the ratio of the side lengths.

Activity Suggestions: Students respond to questions in an online or paper journal, or talk them over with someone at home.

- ➢ Lesson 1: Consider recording a launch to 1.3 and also making the Americans with Disabilities Act (ADA) guidelines accessible.

Assessment Suggestions:

- ➢ Check Your Readiness assessment: Administer all 6 items within the first day or two of this section. Use the guidance provided with each problem to adjust instruction so that students can access the math in the unit.
- ➢ Lesson 1 cool-down

Deep Dive

- I can build a table of ratios of side lengths of right triangles.

Activity Suggestions:

- ➢ Lesson 4: Sync discussion. Make sure to include building a "class table" and have students complete their own table. Students will need their completed right triangle table for the next several lessons. Suggest students tape it into their workbook, staple it to their reference chart, or save it in an easily accessible document.

Assessment Suggestions:

- ➢ Lesson 4 cool-down

<table>
<tr><td rowspan="2">Synthesize and Apply</td><td colspan="2">

- I can use a table of ratios of side lengths of right triangles to estimate unknown angle measures.
- I can use a table of ratios of side lengths of right triangles to estimate unknown side lengths.

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Activity Suggestions: Students respond to questions in an online or paper journal, use a tool that allows for asynchronous discussion if possible, or talk them over with someone at home.

➢ Lesson 5

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Assessment Suggestions:

➢ Lesson 5 cool-down

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Ongoing Practice	• Assign one or more of the distributed practice problem sets from Lessons 1–5 to be completed over the time period that the section is being worked on. • These could also be lagging, so that students are working on practice problems from the previous section or unit during this section or unit. • Specify which problems students should submit, or let them choose based on reflecting on learning targets.

Anytime Resources	• Delve into one of the culminating lessons from Unit 3. • Optional Lessons 2 and 3 about special right triangles • Delve into any of the Modeling Prompts 1–6. • Teach and encourage students to study the lesson summaries (at the end of every lesson) and refer back to them. • Emphasize the Are You Ready for More opportunities to students who want to explore the topics in more depth.

Lessons 6–11: Defining Trigonometric Ratios

Explore, Play, and Discuss		
	• I can use cosine, sine, and tangent to find side lengths of right triangles.	
	Activity Suggestions: Students respond to questions in an online or paper journal, use a tool that allows for asynchronous discussion if possible, or talk them over with someone at home. ➢ Lesson 6 ➢ Activity 7.1	**Assessment Suggestions:** ➢ Lesson 6 cool-down

Dive Deep		
	• I can use cosine, sine, and tangent to find the height of an object. • I can explain why sin(x) = cos(90 – x).	
	Activity Suggestions: ➢ Activities 7.3 and 7.4: Sync discussion ➢ Activities 8.2 and 8.3: Sync discussion	**Assessment Suggestions:** ➢ Lesson 7 cool-down

Synthesize and Apply		
	• I can explain why sin(x) = cos(90 - x). • I can use arccosine, arcsine, and arctangent to find angle measures in right triangles. • I can use trigonometry to solve problems.	
	Activity Suggestions: Students respond to questions in an online or paper journal, use a tool that allows for asynchronous discussion if possible, or talk them over with someone at home. ➢ Activity 8 cool-down ➢ Activities 9.1–9.3 ➢ Activity 10.3	**Assessment Suggestions:** ➢ Activity 8 cool-down ➢ Activity 10.3

Ongoing Practice	
	• Assign one or more of the distributed practice problem sets from Lessons 6–11 to be completed over the time period that the section is being worked on. • These could also be lagging, so that students are working on practice problems from the previous section or unit during this section or unit. • Specify which problems students should submit, or let them choose based on reflecting on learning targets.

Anytime Resources	
	• Delve into one of the culminating lessons from Unit 2 or 3 • Delve into any of the Modeling Prompts 1–7 • Teach and encourage students to study the lesson summaries (at the end of every lesson) and refer back to them. • Emphasize the Are You Ready for More opportunities to students who want to explore the topics in more depth.