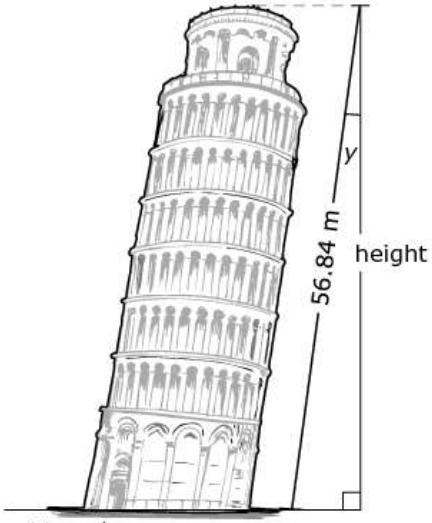
MAFS.912.G-SRT.3.8 Also assesses MAFS.912.G-SRT.3.6 Also assesses MAFS.912.G-SRT.3.7	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles. Explain and use the relationship between the sine and cosine of complementary angles.
Item Types	Editing Task Choice – May require completing an explanation of a definition or a relationship of trigonometric ratios. Equation Editor – May require expressing a value or an expression. Hot Text – May require dragging and dropping steps to explain the definition of trigonometric ratios. Matching Item – May require matching expressions to the appropriate trigonometric ratio. Multiple Choice – May require selecting from choices. Open Response – May require writing an informal argument or explanation.
Clarifications	Students will use trigonometric ratios and the Pythagorean theorem to solve right triangles in applied problems. Students will use similarity to explain the definition of trigonometric ratios for acute angles. Students will explain the relationship between sine and cosine of complementary angles. Students will use the relationship between sine and cosine of complementary angles.
Assessment Limit	Items will assess only sine, cosine, and tangent to determine the length of a side or an angle measure.
Stimulus Attributes	For G-SRT.3.8, items must be set in a real-world context. For G-SRT.3.6 and G-SRT.3.7, items must be set in a mathematical context. For G-SRT.3.8, items may require the student to apply the basic modeling cycle.
Response Attributes	Items may require the student to find equivalent ratios. Items may require the student to use or choose the correct unit of measure. Multiple-choice options may be written as a trigonometric equation.

	Equation Editor items may require the student to use the inverse trigonometric function to write an expression.
Calculator	Neutral

Sample Item	Item Type
	Equation Editor

The Leaning Tower of Pisa is 56.84 meters (m) long.



not to scale

In the 1990s, engineers restored the building so that angle *y* changed from 5.5° to 3.99°.

To the nearest hundredth of a meter, how much did the restoration change the height of the Leaning Tower of Pisa?