

## SOL Alignment and Levels of Cognitive Demand Geometry

### STANDARD G.8

The student will solve real-world problems involving right triangles by using the Pythagorean Theorem and its converse, properties of special right triangles, and right triangle trigonometry.

- Determine whether a triangle formed with three given lengths is a right triangle.
- Solve for missing lengths in geometric figures, using properties of 45°-45°-90° triangles.
- Solve for missing lengths in geometric figures, using properties of 30°-60°-90° triangles.
- Solve problems involving right triangles, using sine, cosine, and tangent ratios.
- Solve real-world problems, using right triangle trigonometry and properties of right triangles.
- Explain and use the relationship between the sine and cosine of complementary angles.<sup>†</sup>

Problem:	Alignment to standard: Yes/no	Level of cognitive demand: Low/medium/not aligned	Answer and EKS Correlation:
1	Yes	Medium	$2\sqrt{7}$ and 10; bullet 1
2	Yes	Low	b; bullet 2
3	Yes	Low	b; bullet 3
4	No		Meets SOL 8.10
5	Yes	Low	d; bullet 4
6	Yes	Low	b; bullet 5
7	Yes	Medium	cos (F), sin (D), cos (C) ; bullet 6
8	No		Inequality of Pythagorean Thm