SELECTED SOLUTIONS AND COMMENTS FOR TASKS
Grade 8 – Geometry

Tasks are intended to serve different purposes. When appropriate, students are encouraged to make choices, think strategically, and explain their reasoning. This document contains answers to selected problems. When answers vary, we try to offer an example when possible. When not possible, we describe what a student response could look like. The solutions in this document are not meant to represent an exhaustive list of suitable answers.

A Rectangle Paradox (geometry – area)	
	Solution strategies: When reassembled the diagonal is not really a straight line. One way to show this is by putting the diagram on a coordinate grid. Find the slope of the diagonal in pieces and notice that the pieces do not have the same slope. Another way is to use area formulas and the Pythagorean theorem. The area of the large triangle (with a height of 8 and a base of 13) does not equal the area of the trapezoid and the area of the small triangle.

Tessellation Design Project (geometry - tessallations)	
	Answers will vary. (And hopefully show creativity!) Be sure students explain their process using mathematically precise language.

Rotation Design Project (geometry - rotation)	
	Answers may vary (and perhaps decorate the room). Be sure students explain their process using mathematically precise language.

Swimming at the River (geometry - transformations)	
	Solution strategy: reflect point A across the river and draw a straight line between A and B. The line will cross the river and that point represents the shortest walking distance.

Finding the Center of a Rotation (geometry - rotations)	
2	Yes. They intersect at the center point of the rotation. If students do this on the page, point *C* is in the white space between problems 2 and 3.
3	All angles measure 60º. This is the angle of rotation.
4	$|CR| = |CR'| = 8$ cm, $|CA| = |CA'| = 6.5$ cm, $|CT| = |CT'| = 4.8$ cm In a rotation, distance from center point to a point on original figure is the same as distance from center point to corresponding point on the image.

Scale Models (geometry – scale)	
	Answers will vary. Be sure students explain their process using mathematically precise language.

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Packing Problems (geometry - volume)	
	Answers may vary. Some information to solve problems can be found in SP15.
	To further develop Mathematical Practice 5, find additional problems like these by searching the internet for "Fermi Questions."