

MeTEOR Performance Task

Geometry

Mathematics
Angle Measure

Complete Performance Task Scoring Rubric *Angle Measures*

21-23 Proficient 18-20 Good 16-17 Satisfactory 14-15 Poor 0-13 Unsatisfactory

	Depth of Knowledge Level	Points	Total Possible Points for Task	Total Points Earned by Student
<p>Task 1:</p> <p>A. The sum of the measures of the angles of a triangle is 180°</p> <p>B. $X = 50^\circ$ $Y = 130^\circ$</p> <p>C. Remote</p>	1	1 1 1	3	
<p>Task 2:</p> <p>A. The measures of angles 1, 3, 6, 8, 9, 11 and 14 each equal 121°.</p> <p style="padding-left: 20px;">The measures of angles 2, 4, 5, 7, 10, 12, 13 and 15 each equal 59°.</p> <p>B. Answers will vary. However, the student should include some of the following to show an understanding of angle relationships using terminology such as vertical angles, linear pairs, and supplementary, corresponding and alternate interior angles.</p> <p style="padding-left: 20px;">“Angle 16 and 15 make a linear pair adding to the sum of 180°. When I subtracted 121° from 180° I got 59°; Since angle 11 is vertical to angle 16 and all corresponding angles related to angle 16 are equal, I knew these angles had a measure of 121°. Likewise, since angle 12 is vertical to angle 15, it had the same measure as</p>	2	1 1 2	4	

<p>corresponding angles are congruent.”</p>				
<p>Task 4:</p> <p>A. angle 6b = 26° angle 7a = 17° angle 7b = 42° angle 10a = 42° angle 11a = 26° angle 11b = 95° angle X = 43° angle Y = 137°</p> <p>B. Answers will vary. However, the student should include some of the following to show an understanding of angle relationships using terminology such as vertical angles, linear pairs, and supplementary, corresponding and alternate interior angles. In addition, students should mention using the Triangle Angle-Sum Theorem.</p> <p>“When a transversal intersects two parallel lines the following are true: alternate interior angles are congruent, alternate exterior angles are congruent, same-side interior angles are supplementary, and corresponding angles are congruent, and the Triangle Angle-Sum Theorem can be used.</p> <p>Vertical angles are congruent making the total angle of 11a and 11b congruent to angle 16; Angle 11b is 95° due to alternate interior angles having the same measure. Since angle 16 is vertical to angle 11, they are congruent. This makes the total angle 121°. Subtract to get 26° for 11a; You then have two out of the three angles for a triangle. Follow the</p>	<p>3</p>	<p>1 1 1 1 1 1 1 1 2</p>	<p>10</p>	

<p>Triangle Angle-Sum Theorem for angle Y to equal 137°; Since angle X and Y make a linear pair, you can subtract to get the measure angle of X equal to 43°; Then, follow the Triangle Angle-Sum Theorem to get $7b$ equal to 42°. Alternate interior angles make angle 10a equal to 42°. Alternate interior angles make angle 6b equal to 26°.”</p>				
<p>Task 5: This is a 30-60-90 degree triangle.</p> <p>Answers will vary. However, in the history class students study lots of architecture from periods of time. The angle measures would be used in many forms of construction as long as the side lengths were also in a ratio of $x: x\sqrt{3}: 2x$.</p> <p>The equilateral triangle becomes a 30-60-90 triangle if an altitude is dropped from the top angle to the base.</p>	<p>4</p>	<p>3</p>	<p>3</p>	
<p>TOTAL POINTS:</p>				



meteoreducation.com . 800.699.7516

MeTEOR CONNECT, MeTEOR Education and MeTEOR Design are trademarks or registered trademarks of MeTEOR Education, LLC © 2019.

All rights reserved. PTMATHGEO.1