

## Grade 8 Module 3 End-of-module Rubric

A Progression Toward Mastery					
Assessment Task Item		STEP 1/2 Missing or incorrect answer and little evidence of reasoning or application of mathematics to solve the problem.	STEP 3 Missing or incorrect answer but evidence of some reasoning or application of mathematics to solve the problem.	STEP 4 A correct answer with some evidence of reasoning or application of mathematics to solve the problem, <u>or</u> an incorrect answer with substantial evidence of solid reasoning or application of mathematics to solve the problem.	STEP 5 A correct answer supported by substantial evidence of solid reasoning or application of mathematics to solve the problem.
<b>1</b>	<b>a</b>  <b>8.G.A.4</b>	Student does not mark any points on the drawing.	Student drew an arbitrary triangle that is not a dilation according to the scale factor and is not labeled.	Student drew a triangle $\triangle OQ'P'$ and labeled the points, but it was not a dilation according to the scale factor.	Student drew a triangle $\triangle OQ'P'$ according to the scale factor and labeled the points.
	<b>b</b>  <b>8.G.A.4</b>	Student does not attempt the problem or leaves the problem blank.  Student identifies both of the coordinates of $P'$ or $Q'$ incorrectly	Student may have tried to dilate the figure from the origin instead of the given center.  Errors may vary, but a student shows an understanding of the content, but with significant errors	Student identifies one of the coordinates of $P'$ correctly and the $x$ -coordinate of $Q'$ correctly. A calculation error may have led to an incorrect $y$ -coordinate of $Q'$ .	Student correctly identifies the coordinates of $Q'$ and Student correctly identifies the coordinates of $P'$ , showing all work.

	<p><b>c</b> <b>8.G.A.4</b></p>	<p>Student does not attempt the problem or leaves the problem blank. Student states that <math>\angle OQP \neq \angle OQ'P'</math>.</p>	<p>Student states that <math>\angle OQP = \angle OQ'P'</math>. Student does not attempt any explanation or reasoning. Explanation or reasoning is not mathematically based. For example, student may write: "it looks like they are the same."</p>	<p>Student states that <math>\angle OQP = \angle OQ'P'</math>. Student explanation includes mathematical language. Student explanation may not be complete, e.g., stating dilations are degree persevering without explaining <math>D(\angle OQP) = \angle OQ'P'</math>.</p>	<p>Student states that <math>\angle OQP = \angle OQ'P'</math>. Student explanation includes mathematical language. Reasoning includes that <math>D(\angle OQP) = \angle OQ'P'</math>, and dilations are degree preserving.</p>
	<p><b>d</b> <b>8.G.A.5</b></p>	<p>Student does not attempt the problem or leaves the problem blank. Student may state that <math>PQ \parallel P'Q'</math>. Student does not attempt any explanation or reasoning.</p>	<p>Student may state that <math>PQ \parallel P'Q'</math>. Student may not use mathematical language in explanation or reasoning. For example, student may write: "they look like they won't touch," or "the angles are the same." Reasoning may include some facts. Reasoning may not be complete. There are significant gaps in explanation.</p>	<p>Student states that <math>PQ \parallel P'Q'</math>. Student uses some mathematical language in explanation or reasoning. Reasoning includes some of the following facts: <math>\angle O = \angle O</math>, <math>\angle OQP = \angle OQ'P'</math> and <math>\angle OPQ = \angle OP'Q'</math>, then by AA criterion for similarity, <math>\triangle OPQ \sim \triangle OP'Q'</math>. Then, by FTS <math>PQ \parallel P'Q'</math>. Reasoning may not be complete.</p>	<p>Student states that <math>PQ \parallel P'Q'</math>. Student uses mathematical language in explanation or reasoning. Reasoning includes the following facts: At least two pairs of corresponding angles are equal, e.g., <math>\angle O = \angle O</math> and/or <math>\angle OQP = \angle OQ'P'</math> and/or <math>\angle OPQ = \angle OP'Q'</math>, then by AA criterion for similarity, <math>\triangle OPQ \sim \triangle OP'Q'</math>. Then, by FTS <math>PQ \parallel P'Q'</math>. Reasoning is thorough and complete.</p>
	<p><b>e</b> <b>8.G.A.5</b></p>	<p>Student does not attempt the problem or leaves the problem blank.</p>	<p>Student answers incorrectly. Student may not use mathematical language in explanation or reasoning. Student reasoning does not include a reference to similar triangles. Student reasoning may or may not include that the ratio of lengths are equal to scale factor. There are significant gaps in explanation.</p>	<p>Student correctly calculates the length of <math>OQ'</math> uni. Student uses some mathematical language in explanation or reasoning. Student may or may not have referenced similar triangles in reasoning. Student reasoning includes that the ratio of lengths are equal to scale factor. Explanation or reasoning may not be complete.</p>	<p>Student answers correctly that <math>OQ' \approx 4.4</math> units. Student uses mathematical language in explanation or reasoning. Student referenced similar triangles in reasoning. Student reasoning includes that the ratio of lengths are equal to scale factor. Reasoning is thorough and complete.</p>

2	a 8.G.A.5	<p>Student does not attempt the problem or leaves the problem blank.</p> <p>Student answers yes or no only.</p> <p>Student does not attempt to explain reasoning.</p>	<p>Student may or may not answer correctly.</p> <p>Student may use some mathematical language in explanation or reasoning.</p> <p>Explanation or reasoning is not mathematically based, e.g., “they look like they are.”</p> <p>There are significant gaps in explanation.</p>	<p>Student answers yes correctly.</p> <p>Student uses some mathematical language in explanation or reasoning.</p> <p>Explanation includes some of the following facts: Since <math>XY \parallel X'Y'</math>, then corresponding angles of parallel lines are congruent by AA criterion for similar triangles; therefore, <math>\triangle OXY \sim \triangle OX'Y'</math>.</p> <p>Reasoning may not be complete.</p>	<p>Student answers yes correctly.</p> <p>Student uses mathematical language in explanation or reasoning.</p> <p>Explanation includes the following facts: Since <math>XY \parallel X'Y'</math>, then corresponding angles of parallel lines are congruent by AA criterion for similar triangles; therefore, <math>\triangle OXY \sim \triangle OX'Y'</math>.</p> <p>Reasoning is thorough and complete.</p>
	b 8.G.A.5	<p>Student does not attempt the problem or leaves the problem blank.</p> <p>Student may or may not have answered correctly.</p> <p>Student uses some method other than proportion to solve problems, e.g., guessing.</p> <p>Student may have made calculation errors.</p>	<p>Student set up the problem in a way that is reasonable and shows understanding of what they are doing.</p> <p>Student may have made calculation errors.</p> <p>Student has a correct answer with no work shown.</p>	N/A	<p>Student correctly calculates the length of <math>OX'</math> or <math>OY'</math> and shows all work.</p>
3	8.G.A.5	<p>Student does not attempt the problem or leaves the problem blank.</p> <p>Student does not attempt any explanation or reasoning.</p> <p>Explanation or reasoning is not mathematically based, e.g., “one looks about three times bigger than the other.”</p>	<p>Student may or may not have stated dilation and does not give any center or scale factor.</p> <p>Student may or may not have stated the congruence.</p> <p>Student may have stated the incorrect congruence.</p>	<p>Student states dilation.</p> <p>Student states dilation is centered at origin, but does not give scale factor, <math>r &gt; 1</math>, or states scale factor of <math>r &gt; 1</math>, but does not give center.</p> <p>Student uses some mathematical language in explanation or reasoning.</p>	<p>Student states correctly there is a dilation with center at the origin and has a scale factor, <math>r</math>.</p> <p>Student states correctly there is a congruence and identifies what the congruence is.</p> <p>Student uses mathematical language in explanation or reasoning.</p> <p>Reasoning is thorough and complete.</p>

