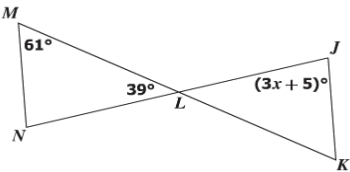
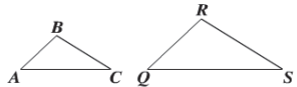
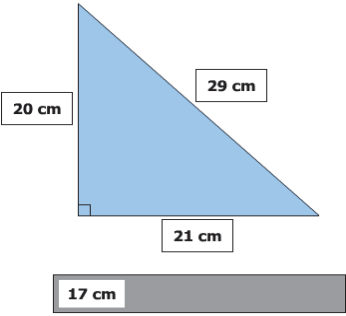


**Geometry**  
**Released Test Item Set Spring 2015**  
**Answer Key**

Sequence Number	Item Type: Multiple Choice (MC) or Technology-Enhanced Item (TEI)	Correct Answer	Reporting Category	Reporting Category Description												
1	MC	B	001	Reasoning, Lines, and Transformations												
2	MC	A	001	Reasoning, Lines, and Transformations												
3	TEI	<p>Answers must be placed in this order from top to bottom:</p> $p \rightarrow \sim q$ $q$ $\therefore \sim p$ <div style="border: 1px solid gray; padding: 10px; margin-top: 10px;"> <p style="text-align: center; background-color: #e0e0e0;">Directions: Click and drag the answers to the correct boxes.</p> <p>Let <math>p</math> represent <i>Brent works this summer.</i></p> <p>Let <math>q</math> represent <i>Brent takes a vacation.</i></p> <p>Symbolically represent the following argument.</p> <p><i>If Brent works this summer, then he will not take a vacation.</i></p> <p><i>Brent takes a vacation.</i></p> <p><i>Therefore, Brent does not work this summer.</i></p> <div style="display: flex; justify-content: center; align-items: center; margin: 10px 0;"> <div style="border: 1px solid gray; padding: 2px 5px; margin-right: 5px;"><math>p \rightarrow \sim q</math></div> <div style="border: 1px solid gray; padding: 2px 5px; margin-right: 5px;"><math>q</math></div> <div style="border: 1px solid gray; padding: 2px 5px; margin-right: 5px;"><math>\therefore \sim p</math></div> </div> <table border="1" style="margin-left: auto; margin-right: auto; text-align: center;"> <tr> <td style="padding: 2px 5px;"><math>p \rightarrow q</math></td> <td style="padding: 2px 5px;"><math>\sim p \rightarrow q</math></td> <td style="padding: 2px 5px;"><math>p</math></td> <td style="padding: 2px 5px;"><math>\sim p</math></td> <td style="padding: 2px 5px;"><math>\therefore p</math></td> <td style="padding: 2px 5px;"></td> </tr> <tr> <td style="padding: 2px 5px;"><math>\sim p \rightarrow \sim q</math></td> <td style="padding: 2px 5px;"></td> <td style="padding: 2px 5px;"></td> <td style="padding: 2px 5px;"><math>\sim q</math></td> <td style="padding: 2px 5px;"><math>\therefore q</math></td> <td style="padding: 2px 5px;"><math>\therefore \sim q</math></td> </tr> </table> </div>	$p \rightarrow q$	$\sim p \rightarrow q$	$p$	$\sim p$	$\therefore p$		$\sim p \rightarrow \sim q$			$\sim q$	$\therefore q$	$\therefore \sim q$	001	Reasoning, Lines, and Transformations
$p \rightarrow q$	$\sim p \rightarrow q$	$p$	$\sim p$	$\therefore p$												
$\sim p \rightarrow \sim q$			$\sim q$	$\therefore q$	$\therefore \sim q$											
4	MC	B	001	Reasoning, Lines, and Transformations												
5	MC	B	001	Reasoning, Lines, and Transformations												

Sequence Number	Item Type: Multiple Choice (MC) or Technology-Enhanced Item (TEI)	Correct Answer	Reporting Category	Reporting Category Description
6	MC	A	001	Reasoning, Lines, and Transformations
7	MC	B	001	Reasoning, Lines, and Transformations
8	MC	B	001	Reasoning, Lines, and Transformations
9	MC	D	001	Reasoning, Lines, and Transformations
10	MC	D	001	Reasoning, Lines, and Transformations
11	MC	A	001	Reasoning, Lines, and Transformations
12	TEI	Typed response: 25 (and all equivalent answers)	001	Reasoning, Lines, and Transformations
<div style="border: 1px solid black; padding: 10px;"> <p>Directions: Type your answer in the box.</p> <p>The figure shows <math>\overline{JN}</math> and <math>\overline{KM}</math> intersecting at point <math>L</math>.</p>  <p>What value of <math>x</math> proves <math>\overline{JK} \parallel \overline{MN}</math> ?</p> <p style="text-align: center;"><math>x = </math> <input style="width: 50px; border: 1px solid black;" type="text" value="25"/></p> </div>				
13	MC	D	001	Reasoning, Lines, and Transformations
14	MC	C	001	Reasoning, Lines, and Transformations
15	MC	A	001	Reasoning, Lines, and Transformations
16	MC	C	002	Triangles

Sequence Number	Item Type: Multiple Choice (MC) or Technology-Enhanced Item (TEI)	Correct Answer	Reporting Category	Reporting Category Description
17	TEI	<p><math>\angle A \cong \angle Q</math> (the first box from the left) and <math>\frac{AB}{QR} = \frac{AC}{QS}</math> (the fifth box from the left)</p> <p>Both of these answers, and only these answers, must be selected.</p> <p>Directions: Click on the correct answers.</p> <p>Given: <math>\triangle ABC</math> and <math>\triangle QRS</math></p>  <p>Select two relationships that would prove <math>\triangle ABC \sim \triangle QRS</math> by the Side-Angle-Side (SAS) Similarity Theorem.</p> <p> <input checked="" type="checkbox"/> <math>\angle A \cong \angle Q</math> <input type="checkbox"/> <math>\angle C \cong \angle S</math> <input type="checkbox"/> <math>\angle B \cong \angle Q</math> <input type="checkbox"/> <math>\frac{AB}{QR} = \frac{BC}{RS}</math> <input checked="" type="checkbox"/> <math>\frac{AB}{QR} = \frac{AC}{QS}</math> <input type="checkbox"/> <math>\frac{AC}{QS} = \frac{BC}{QR}</math> </p>	002	Triangles
18	MC	A	002	Triangles
19	MC	B	002	Triangles
20	MC	A	002	Triangles
21	MC	C	002	Triangles
22	MC	C	002	Triangles
23	MC	C	002	Triangles

Sequence Number	Item Type: Multiple Choice (MC) or Technology-Enhanced Item (TEI)	Correct Answer	Reporting Category	Reporting Category Description
24	TEI	<p>Measures must be placed in the correct order from left to right, top to bottom:  20 cm; 29 cm; 21 cm OR 21 cm; 29 cm; 20 cm  One of these answers is shown below.</p> <p>Directions: Click and drag the answers to the correct boxes.</p> <p>Select the measures that could be the three side lengths of a right triangle.</p> 	002	Triangles
25	MC	C	002	Triangles

Sequence Number	Item Type: Multiple Choice (MC) or Technology-Enhanced Item (TEI)	Correct Answer	Reporting Category	Reporting Category Description
26	TEI	<p>Answers must be placed in the correct order from left to right:  <math>&lt; R; &lt; T; &lt; S</math></p> <p>Directions: Click and drag the answers to the correct boxes.</p> <p>Given: <math>\triangle RST</math>  <math>RS = 14</math> in.  <math>ST = 10</math> in.  <math>TR = 16</math> in.</p> <p>List the interior angles of <math>\triangle RST</math> in order from smallest to largest.</p> <p> <input type="text" value="∠R"/> <input type="text" value="∠T"/> <input type="text" value="∠S"/> </p> <p>Smallest <math>\longrightarrow</math> Largest</p>	002	Triangles
27	MC	D	002	Triangles
28	MC	D	002	Triangles
29	MC	B	003	Polygons, Circles, and Three-Dimensional Figures
30	MC	A	003	Polygons, Circles, and Three-Dimensional Figures
31	MC	D	003	Polygons, Circles, and Three-Dimensional Figures

Sequence Number	Item Type: Multiple Choice (MC) or Technology-Enhanced Item (TEI)	Correct Answer	Reporting Category	Reporting Category Description
32	TEI	<p>Typed response: 27 (and all equivalent answers)</p> <div style="border: 1px solid black; padding: 10px;"> <p><b>Directions: Type your answer in the box.</b></p> <p>The height and radius of a cone are each multiplied by 3. What effect does this have on the volume of the cone?</p> <p>The volume of the cone is multiplied by —</p> <div style="text-align: center; margin-top: 10px;"> <input style="width: 40px; height: 20px; border: 1px solid gray;" type="text" value="27"/> </div> </div>	003	Polygons, Circles, and Three-Dimensional Figures
33	MC	B	003	Polygons, Circles, and Three-Dimensional Figures
34	MC	A	003	Polygons, Circles, and Three-Dimensional Figures
35	MC	B	003	Polygons, Circles, and Three-Dimensional Figures
36	MC	C	003	Polygons, Circles, and Three-Dimensional Figures

Sequence Number	Item Type: Multiple Choice (MC) or Technology-Enhanced Item (TEI)	Correct Answer	Reporting Category	Reporting Category Description
37	TEI	$(x - 4)^2 + (y + 7)^2 = 4^2$ OR $(y + 7)^2 + (x - 4)^2 = 4^2$ One of these answers is shown below. <div style="border: 1px solid gray; padding: 10px; margin: 10px 0;"> <p style="text-align: center; background-color: #e0e0e0; margin: 0;">Directions: Click and drag the answers to the correct boxes.</p> <p style="text-align: center; margin: 10px 0;">A circle has a center at <math>(4, -7)</math> and a radius of 4 units. Create the equation of this circle.</p> <p style="text-align: center; margin: 0;">The Equation of the Circle</p> <div style="display: flex; justify-content: center; align-items: center; gap: 10px; margin: 10px 0;"> <div style="border: 1px solid gray; padding: 2px 10px;"><math>(x - 4)^2</math></div> <div style="font-size: 24px;">+</div> <div style="border: 1px solid gray; padding: 2px 10px;"><math>(y + 7)^2</math></div> <div style="font-size: 24px;">=</div> <div style="border: 1px solid gray; padding: 2px 10px;"><math>4^2</math></div> </div> <div style="display: flex; justify-content: center; align-items: center; gap: 10px; margin: 10px 0;"> <div style="border: 1px solid gray; padding: 2px 10px;"><math>(x - 4)</math></div> <div style="border: 1px solid gray; padding: 2px 10px;"><math>(x + 4)</math></div> <div style="border: 1px solid gray; padding: 2px 10px;"><math>(x + 4)^2</math></div> <div style="border: 1px solid gray; padding: 2px 10px;"><math>(y - 7)</math></div> <div style="border: 1px solid gray; padding: 2px 10px;"><math>(y + 7)</math></div> <div style="border: 1px solid gray; padding: 2px 10px;"><math>(y - 7)^2</math></div> <div style="border: 1px solid gray; padding: 2px 10px;">-</div> <div style="border: 1px solid gray; padding: 2px 10px;"><math>2^2</math></div> </div> </div>	003	Polygons, Circles, and Three-Dimensional Figures
38	MC	B	003	Polygons, Circles, and Three-Dimensional Figures
39	MC	C	003	Polygons, Circles, and Three-Dimensional Figures
40	MC	D	003	Polygons, Circles, and Three-Dimensional Figures
41	MC	D	003	Polygons, Circles, and Three-Dimensional Figures
42	MC	D	003	Polygons, Circles, and Three-Dimensional Figures

Sequence Number	Item Type: Multiple Choice (MC) or Technology-Enhanced Item (TEI)	Correct Answer	Reporting Category	Reporting Category Description						
43	TEI	<p>are perpendicular (first row, first column); bisect each other (first row, second column); are congruent (first row, third column)  All of these answers, and only these answers, must be selected.</p> <div style="border: 1px solid gray; padding: 5px;"> <p><b>Directions: Click on all the correct answers.</b></p> <p>Select each property that is valid about the diagonals of a square.</p> <p>The diagonals of a square —</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="border: 2px solid orange;">are perpendicular</td> <td style="border: 2px solid orange;">bisect each other</td> <td style="border: 2px solid orange;">are congruent</td> </tr> <tr> <td>are not perpendicular</td> <td>do not bisect each other</td> <td>are not congruent</td> </tr> </table> </div>	are perpendicular	bisect each other	are congruent	are not perpendicular	do not bisect each other	are not congruent	003	Polygons, Circles, and Three-Dimensional Figures
are perpendicular	bisect each other	are congruent								
are not perpendicular	do not bisect each other	are not congruent								
44	MC	C	003	Polygons, Circles, and Three-Dimensional Figures						
45	MC	B	003	Polygons, Circles, and Three-Dimensional Figures						



