



# Released Items

# End-of-Course Geometry

## AzMERIT

Updated January, 2019

*Prepared by the Arizona Department of Education and the American Institutes for Research®*



## About the Released Items

The *AzMERIT Released Items* provides details about the items, student response types, correct responses, and related scoring considerations for released AzMERIT test items.

Within this guide, each item is presented with the following information:

- Cluster
- Content Standard
- Depth of Knowledge (DOK)
- Static presentation of the item
- Static presentation of student response field (when appropriate)
- Answer key, rubric or exemplar
- Applicable score point(s) for each item
- Option rationales (when applicable)

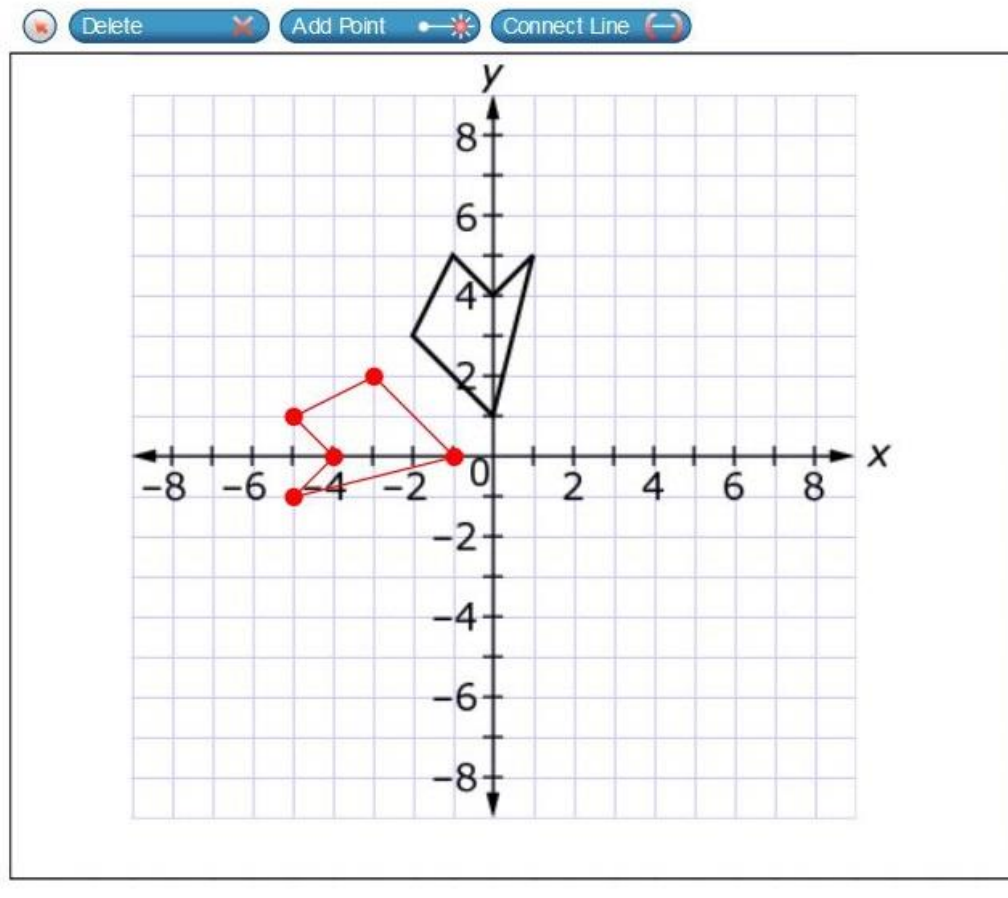
The items included in this guide are representative of the kinds of items that students can expect to experience when taking the computer-based test for AzMERIT End-of-Course (EOC) Geometry.

## EOC Geometry Released Items

Cluster	Content Standard	DOK
G.G-CO.A	G.G-CO.A.5	2

A figure is shown.

Use the Connect Line tool to show the reflection of the figure over the line  $y = -x$ .



**(1 Point)** Student plotted a correct reflection with the following assumptions:

- Points plotted within the graph are ignored.
- Lines representing the line of reflection are allowed.
- Segments representing the sides of the original shape are allowed.

Cluster	Content Standard	DOK
G.G-MG.A	G.G-MG.A.3	2

An architect is designing a building topped with a hemispherical dome. She creates a scale model of the building using a scale of 0.25 inch : 1 foot. In the scale model, the diameter of the dome is 23.75 inches.

What will be the circumference, in feet, of the actual dome?

$95\pi$

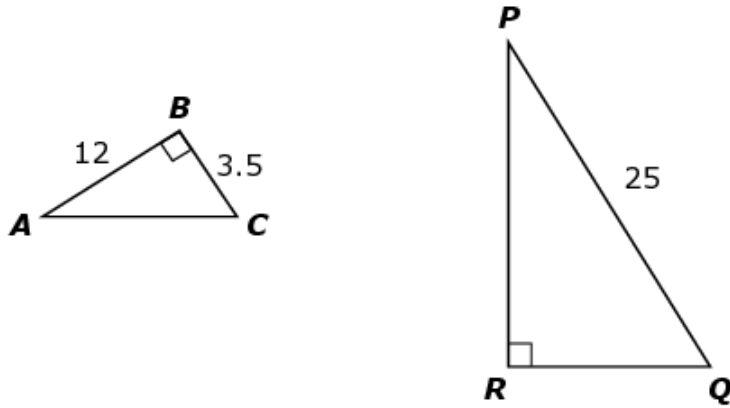
← → ↶ ↷ ✕

1	2	3	+	-	•	÷			
4	5	6	<	≤	=	≥	>		
7	8	9	$\square^\square$	$\square_\square$	( )		$\sqrt{\square}$	$\sqrt[\square]{\square}$	$\pi$
	0		sin	cos	tan	arcsin	arccos	arctan	
.	-	$\frac{\square}{\square}$							

**(1 Point)** Student entered  $95\pi$ , 298.45, or any approximate value between 298 and 300, inclusive.

Cluster	Content Standard	DOK
G.G-SRT.B	G.G-SRT.B.5	2

Two triangles are shown, where  $\angle A \cong \angle P$ .



What is the area, in square units, of triangle  $PQR$ ?

*square units*

←	→	↶	↷	✖
1	2	3		
4	5	6		
7	8	9		
	0			
.	-	$\frac{\square}{\square}$		

**(1 Point)** Student entered **84** or any equivalent value.

Cluster	Content Standard	DOK
G.G-GPE.B	G.G-GPE.B.4	2

A triangle has vertices at  $R(2, 1)$ ,  $S(-1, 5)$ , and  $T(3, 8)$ .

Drag a statement to each empty box to complete the proof that  $\triangle RST$  is a right triangle.

Statements	Reasons
1.	1. Definition of slope
2.	2. Definition of slope
3.	3. Perpendicular lines have negative reciprocal slopes.
4.	4. Perpendicular lines form right angles.
5. $\triangle RST$ is a right triangle.	5. Definition of a right triangle

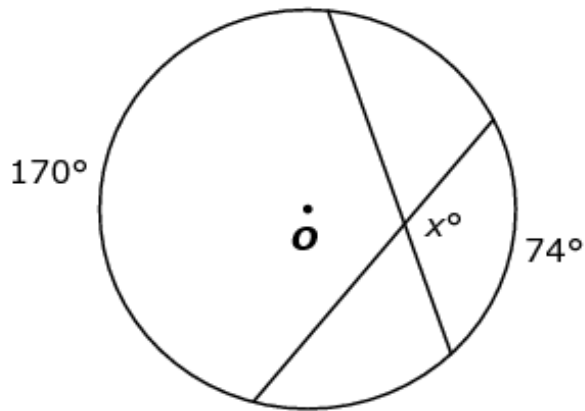
slope $\overline{RS} = \frac{5+1}{-1+2} = 6$	slope $\overline{RT} = \frac{8-1}{3-2} = 7$	slope $\overline{ST} = \frac{8-5}{3+1} = \frac{3}{4}$	$\overline{RS} \perp \overline{ST}$
slope $\overline{RS} = \frac{-1+2}{5+1} = \frac{1}{6}$	slope $\overline{RT} = \frac{3-2}{8-1} = \frac{1}{7}$	slope $\overline{ST} = \frac{3+1}{8-5} = \frac{4}{3}$	$\overline{RS} \perp \overline{RT}$
slope $\overline{RS} = \frac{-1-2}{5-1} = -\frac{3}{4}$	slope $\overline{RT} = \frac{3+2}{8+1} = \frac{5}{9}$	slope $\overline{ST} = \frac{8+5}{3-1} = \frac{13}{2}$	$\overline{RT} \perp \overline{ST}$
slope $\overline{RS} = \frac{5-1}{-1-2} = -\frac{4}{3}$	slope $\overline{RT} = \frac{8+1}{3+2} = \frac{9}{5}$	slope $\overline{ST} = \frac{3-1}{8+5} = \frac{2}{13}$	$\angle R$ is a right angle. $\angle S$ is a right angle. $\angle T$ is a right angle.

**(1 Point)** Student created the correct proof. In the exemplar below, statements 1 and 2 can be reversed and be considered correct.

Statements	Reasons
1. slope $\overline{RS} = \frac{5-1}{-1-2} = -\frac{4}{3}$	1. Definition of slope
2. slope $\overline{ST} = \frac{8-5}{3+1} = \frac{3}{4}$	2. Definition of slope
3. $\overline{RS} \perp \overline{ST}$	3. Perpendicular lines have negative reciprocal slopes.
4. $\angle S$ is a right angle.	4. Perpendicular lines form right angles.
5. $\triangle RST$ is a right triangle.	5. Definition of a right triangle

Cluster	Content Standard	DOK
G.G-C.A	G.G-C.A.2	1

Two chords intersect in circle  $O$ , as shown.



What is the value of  $x$ , in degrees?

122

← → ↶ ↷ ✕

1	2	3
4	5	6
7	8	9
	0	
.	-	$\frac{\square}{\square}$

**(1 Point)** Student entered 122 or any equivalent value.