

# **End-of-Course Practice Item Guide**

## **Virginia Standards of Learning**

### **Geometry**

March, 2012  
Pearson

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## OVERVIEW

Beginning with the 2011-2012 school year, the new *Mathematics* Standards of Learning (SOL) tests will assess the 2009 SOL. The practice items available in the Virginia SOL Geometry practice tool provide examples of the new content and increased rigor represented by the 2009 SOL. Additionally, these items illustrate the new technology-enhanced item (TEI) types. These practice items do not cover all the Geometry SOL and should not be used in place of review of the SOL test content.

These practice items allow students the opportunity to become familiar with the format and functionality of test items, including TEI. Technology-enhanced items allow students to indicate their responses in a format other than multiple-choice. These practice items also allow students the opportunity to practice with the online tools available in TestNav™ 7, the online testing software used in Virginia. While these practice items will not be scored in TestNav, the correct answer for each question is provided as the item is reviewed in the guide, as well as in the Appendix.

This practice item guide may be used by teachers or other adults to guide students through the practice items for Geometry. While using this guide with the practice items is not required, it is strongly encouraged. Prior to guiding students through the practice items, one should become familiar with the guide and items. All directions to be read aloud to the students are in **bold Arial font** so they stand out from the rest of the text. All other text is for your information and should not be read to students.

## **SYSTEM REQUIREMENTS FOR TESTNAV 7**

The minimum hardware requirements for all workstations used to access TestNav are available at <http://www.pearsononlinetesting.com/TestNav/7/index.html>

## **TECHNOLOGY-ENHANCED ITEM TYPES**

The SOL practice items for Geometry will introduce four technology-enhanced item types: drag and drop, hot spot, graphs, and fill-in-the-blank. A brief description of each is provided below.

### **Drag and Drop**

Drag and drop items contain draggers and drop zones.

- Draggers are answer options that are moved to drop zones in response to the question.
- Drop zones are areas of an item where draggers will remain once moved there.

Drag and drop items require a student to respond by moving one or more draggers from one place on the screen into a drop zone(s) elsewhere on the screen.

The student will click on the dragger and keep the button down while moving the dragger to the desired location. Once the button is released, the dragger will be in the new location. Students can still move the dragger once it has been dropped into a drop zone.

### **Hot Spot**

Hot spot items contain hot spot zones which represent student answer options.

- Hot spot zones are answer options which may be objects, graphic elements, locations on a number line or coordinate plane, or text labels which are selected in response to a question.
- Unlike a traditional multiple-choice item where only one answer option is correct, hot spot items may require the student to select one or more hot spot zones (answer options) in order to correctly answer the item.

The student selects a hot spot by clicking on it. On a coordinate plane or number line item, a point will appear when the hot spot is selected. When the student makes a selection in other hot spot items, there will be an indication on the screen confirming the option has been selected. For example, after the student clicks on an option, the hot spot zone selected will be highlighted or outlined in a different color, clearly indicating that answer option has been chosen.

### **Graphs**

Graphing items require students to create or complete some type of graph. The graphs presented will vary by grade or course level and include graphs such as bar graphs, histograms, line graphs, line plots, and picture or pictographs.

### **Fill-in-the-Blank**

Fill-in-the-Blank items contain a text entry field. For this item type, the student responds to a question by typing a response into a blank box provided in the item.

- Some response boxes may limit the characters that can be entered. For instance, if the response is expected to be numeric, the student will not be able to enter letters.
- A response typically is no more than six characters long.
- Students should carefully follow directions on fill-in-the-blank items, such as providing an answer in simplest form, or rounding a number as indicated.

## **OPENING THE VIRGINIA SOL MATHEMATICS PRACTICE ITEMS**

1. Go to the Virginia Department of Education website:  
[http://www.doe.virginia.gov/testing/sol/practice\\_items/index.shtml](http://www.doe.virginia.gov/testing/sol/practice_items/index.shtml)
2. Under the heading “Mathematics Practice Items” click on the Geometry link. Since this is a web based application, the link will take you directly to the Geometry practice items.












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**MATERIALS NEEDED FOR COMPLETING VIRGINIA SOL MATHEMATICS PRACTICE ITEMS**

Scratch paper, pencil, and graphing calculator

**ONLINE TOOLS AVAILABLE ON THE VIRGINIA SOL MATH PRACTICE ITEMS**

The following tools can be accessed by clicking the appropriate icon on the toolbar at the top of the screen. These tools can be used to assist the test taker in finding answers but only the pointer tool may be used to respond to questions.

Tool Icon	Description
	<b>Pointer</b> – Use the pointer to respond to questions.
	<b>Eraser</b> – Use the eraser to remove lines or highlights.
	<b>Highlighter</b> – Use the highlighter tool to highlight text or graphics.
	<b>Eliminator</b> – Use the eliminator tool on multiple choice questions to mark choices you do not wish to consider.
	<b>Pencil</b> – Use the pencil tool to make marks on the test questions.
	<b>Ruler</b> – Use the ruler tool to measure something on screen.
	<b>Straightedge</b> – Use the straightedge tool to draw straight lines and underline text.
	<b>Dot tool</b> – Use the dot tool to plot dots on the screen.
	<b>Compass</b> – Use the compass to draw circles or arcs on graphics.
	<b>Exhibit</b> – Click the exhibit icon to view the formula sheet.
	<b>Help</b> – Use the help tool to display information about a specific tool on the top toolbar.

## SPECIFIC DIRECTIONS FOR THE SOL GEOMETRY PRACTICE ITEMS

### Introduction

After the practice items are launched, the first sample item will be displayed. Read the following instructions to the students.

**SAY** Today you will be working on some Geometry practice items for the SOL test. There are 11 questions that will show you some of the types of test items that will be administered as part of the new end-of-course Geometry assessment. Some questions are multiple choice and others are technology-enhanced items. Technology-enhanced items require you to show your answer in another way, such as typing the answer in a box, completing a graph, or clicking and dragging the answer to a specific location.


Listen carefully as I read the directions for these practice items. I will guide you through each item one at a time. Please remember that the questions you see are practice questions. They will not be scored, but I will tell you the correct answer for each item.

**Are there any questions before we start?**

Pause to answer questions.

**SAY** *Next* and *Previous* buttons appear at the bottom of the screen for each question. Clicking *Next* takes you to the next question. Clicking *Previous* takes you back to the previous question. Notice that the question numbers are also located at the bottom of the screen. For example, the screen with Sample A reads “Sample.”




**SAY** At any time, you may click on the *Flag for Review* button (  ) located at the bottom left of the screen. This should be used for any question that you want to review at a later time. We will practice using this button when we are working on the practice items.

**Now let's look at the top of your screen.**

Pause. The picture below is the toolbar students will see at the top of the screen.



**SAY** The tools you may use are in the toolbar at the top of the screen. We will practice with some of the tools as we work through the practice questions. If you forget what a tool does, you can click on the Help symbol (  ) to read about the tool.



The Help tool has information about the tools. If you would like your students to explore the Help tool, you can have them do this at the end of the practice items, after they have been exposed to the tools while working these items.

**SAY Remember that the tools at the top of the screen are there to help you solve a problem, but only the pointer tool can be used to mark an answer to a question.**

**Let's look at the first item, Sample A.**

**SAMPLE A**

For what value of  $x$  is  $\triangle ABC \sim \triangle DEF$  ?

Triangle ABC has angles  $72^\circ$  at vertex B, and sides 30 and 36.

Triangle DEF has angles  $72^\circ$  at vertex E, side 15, and side  $x$ .

☐ A 18

☐ B 21

☐ C 25

☐ D 72

Flag for Review   Sample Section 1   Section Review   Previous   Next

**SAY For any of the practice items or items on the actual SOL test, you may use scratch paper and your calculator to solve for the answer. Read the question to yourself and select the correct answer by clicking the circle next to it.**

Pause while students read and answer the question.

**SAY Which answer did you choose?**

Pause for replies.

**SAY You should have selected A, 18.**

**Click *Next* at the bottom of the screen to go to the next sample item.**

Pause while students go to the next sample item.

**SAY** Sample B has a gray directions banner under the toolbar that tells you how to answer the question. When a question has a directions banner, you should always read it before solving the problem. The directions banner says, “Type your answer in the box.”


Make sure students see the directions box at the top of the screen.

The screenshot shows a software interface for geometry practice. At the top is a toolbar with various icons: a pointer, eraser, highlighter, selection tools, and a help icon. To the right of the toolbar, the user's name 'john h doe' and the document title 'Geometry Practice Items (2009 Math ...)' are displayed, along with an 'X Exit' button. Below the toolbar is a gray banner with the text 'Directions: Type your answer in the box.' The main area of the screen displays 'SAMPLE B' and the question 'What is the total number of lines of symmetry for this figure?'. Below the question is a large blue outline of the letter 'H'. To the right of the 'H' is a small, empty rectangular input box. At the bottom of the screen is a navigation bar containing a 'Flag for Review' button, the text 'Sample Section 1', a 'Section Review' button, and 'Previous' and 'Next' navigation buttons.

**SAY** This sample question is an example of a fill-in-the-blank technology-enhanced item. For a fill-in-the-blank item, you will type your answer in the empty box on the screen using the keyboard.

Now read the question to yourself.

Pause.

**SAY** Before you answer this question, let's practice using the straightedge tool. You can use the straightedge tool on the toolbar to make a straight line or to underline text. Look for the straightedge tool icon (  ) at the top of the screen. The icon is a line with points on either end. When you click on the straightedge tool, you will see a drop down box. Select Tool 2. Your pointer will now have an arrow with a slanted line next to it.

Practice using the straightedge by underlining “total number of lines of symmetry” in the question. Next, use the straightedge to draw the lines of symmetry for this figure. Click again on the straightedge tool on the toolbar to put the tool away, and then type the answer to the question in the empty box.

Pause while students use the tool and answer the question. Assist students as necessary.

**SAY** What answer did you type in the box?

Pause for replies.

**SAY** The correct answer is 2. Notice the correct answer does not need to be the same length as the box. Do you have any questions about how to enter your answer?

Answer all questions.

**SAY** Click *Next* at the bottom of the screen to go to the first practice item.

Pause while students go to the first practice item.

**SAY** Notice the bottom of your screen now says “Question 1 of 11.” Read the question to yourself.

Pause while students read the first question.

The screenshot shows a digital geometry practice interface. At the top, there is a toolbar with various geometric tools: a selection tool, eraser, pencil, highlighter, straightedge, protractor, compass, and a help icon. The user's name 'John h doe' and the document title 'Geometry Practice Items (2009 Math ...)' are visible in the top right corner. The main area contains a word problem: 'A company makes two similar cylindrical containers. The total surface area of the smaller container is 0.81 times that of the larger container. The height of the larger container is 60 centimeters. What is the height of the smaller container?'. Below the question are four multiple-choice options: A 54 cm, B 48.6 cm, C 24.3 cm, and D 21 cm. At the bottom, there is a navigation bar with a 'Flag for Review' button, the text 'Question 1 of 11' and 'Section 1', a 'Section Review' button, and 'Previous' and 'Next' buttons.

A company makes two similar cylindrical containers. The total surface area of the smaller container is 0.81 times that of the larger container. The height of the larger container is 60 centimeters. What is the height of the smaller container?

☐ A 54 cm


☐ B 48.6 cm

☐ C 24.3 cm

☐ D 21 cm

Flag for Review      Question 1 of 11  
Section 1      Section Review      Previous      Next

**SAY** This item requires you to find the height of a cylindrical container. For items where you may need a formula to solve the problem, you should refer to the exhibit tool located in the toolbar to find the formula sheet.

Let's take a moment to locate the formula sheet. Click on the exhibit tool () and the formula sheet will appear inside a window. You can resize the window by dragging the right corner of the window. You can use the scroll bar on the right side of the formula sheet window to view all of the formulas. After you write the formula you need on your scratch paper, click on the exhibit tool to put the formula sheet away.

Now, determine the answer and make your selection.

**SAY** Which answer did you choose?

Pause for replies.

**SAY** The correct answer is option A, 54 cm. Do you have any questions about the answer or about using the formula sheet?

Answer all questions.

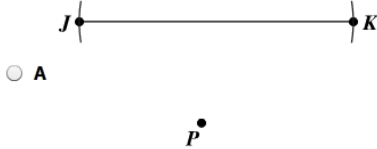
**SAY** Click *Next* at the bottom of the screen to go to question 2.

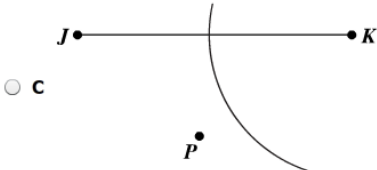
Pause.

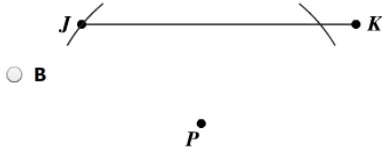
**SAY** Read the question to yourself and select the correct answer.

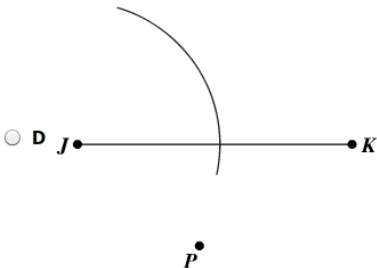
Pause while students solve the problem and select an answer.

Which construction represents a correct first step in constructing a line segment perpendicular to  $\overline{JK}$  through point  $P$ ?

☐ A 

☐ C 

☐ B 

☐ D 

Flag for Review Question 2 of 11 Section 1 Section Review Previous Next

**SAY** Which answer did you choose?

Pause for replies.

**SAY** You should have chosen B. Are there any questions?

Answer all questions.

**SAY** Before we go to the next question, let's take a moment to practice using the highlighter tool. You can use the highlighter tool on the toolbar to highlight words. To use this tool, click the icon that looks like a picture of a yellow highlighter



( ). Clicking the highlighter tool will change your pointer tool to an arrow with a highlighter next to it.

Practice using the highlighter by highlighting the question, "Which construction represents a correct first step in constructing a line segment perpendicular to line segment  $JK$  through point  $P$ ?" Then click again on the highlighter tool on the toolbar to put the tool away.

Pause while students highlight the text and put the tool away. Assist students as necessary.

**SAY** Do you have any questions about how to highlight text?


Answer all questions.

**SAY** Click *Next* at the bottom of the screen to go to question 3.

Pause. Check to see that students are on the correct question.

**SAY** Read question 3 to yourself.

Pause.

**SAY** Before you answer this question, let's practice using the compass tool. Click on the compass icon () in the toolbar at the top of your screen, and a compass will appear.


To move the compass without drawing, click and drag the circle with the red crosshair.

To resize and rotate the compass without drawing, click and drag the head of the pencil, which is in the shape of a hexagon.

To lock the compass, click on the padlock icon in the center of the compass arm. Clicking the padlock again will unlock it, allowing you to change the drawing radius.

To draw a circle or an arc, click and drag the tip of the pencil. A pencil icon will appear when you roll your mouse over this control.

Now, take a minute and use your compass to draw a circle, and then change the drawing radius and draw an arc. You may put the compass away when you have finished by clicking on the compass icon in the toolbar.

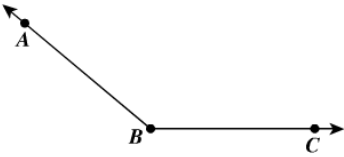
Also practice using the eraser tool () on the toolbar. The eraser tool icon looks like a pink eraser. When you click on this icon your pointer will have a pink eraser next to it. Click on a marking you just made with the compass to erase it. When you are done with the eraser tool, click on the icon again to put it away.

Pause while students practice with the compass and eraser tool.

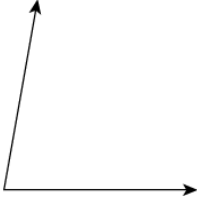
**SAY** Now answer question 3. You may use the compass and eraser tools as you are answering this question.

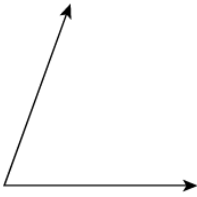
Pause while students find the answer.

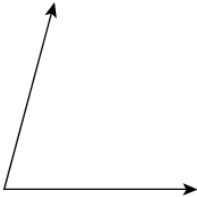
Ben plans to bisect  $\angle ABC$  to create the congruent angles  $ABD$  and  $CBD$ .

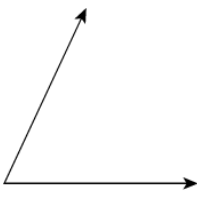


Which angle is congruent to  $\angle ABD$  and  $\angle CBD$ ?

☐ A 

☐ C 

☐ B 

☐ D 

Flag for Review Question 3 of 11 Section 1 Section Review Previous Next

**SAY** Which answer did you choose?

Pause for replies.


**SAY** The correct answer is C.

Are there any questions?

Answer all questions.

**SAY** Click **Next** at the bottom of the screen to go to question 4.

Pause.

**SAY** Before you read the question, let's practice using the eliminator tool. On a multiple-choice question, the eliminator tool will help you mark choices that you do not wish to consider. At the top of the toolbar, click on the button with the red . Selecting this tool will change your pointer to an arrow with a red X next to it. You can use this tool to eliminate as many choices as you want. To eliminate an answer, you would click the choices you believe are not correct. Practice putting a red X over choices A and B. Then click on the eliminator tool again to put the tool away.

Wait for students to eliminate choices and put the tool away. The eliminator tool can only be used on multiple-choice questions and not on technology-enhanced items.

**SAY** If you eliminate a choice and then change your mind, use the eraser tool on the toolbar to erase a red X. Click on the eraser tool and practice using it to remove the red X on answer choices A and B.

Pause while students practice using this tool.

Given: Three concentric circles with the center  $O$

$\overline{KL} \cong \overline{LN} \cong \overline{NO}$   
 $KP = 42$  inches

Which is closest to the area of the shaded region?

☐ A 231 sq in.  
☐ B 308 sq in.  
☐ C 539 sq in.  
☐ D 616 sq in.

Question 4 of 11  
 Section 1

Flag for Review Section Review Previous Next

**SAY** Click on the eraser tool icon to put it away. Now read the first question, use the eliminator to eliminate choices you do not wish to consider, and then click on your answer.

Pause while students work to eliminate choices and determine the answer to the question.

**SAY** Which answer did you choose?

Pause for replies.

**SAY** You should have selected D, 616 square inches.

Do you have any questions?

Answer all questions.

**SAY** Click *Next* at the bottom of the screen to continue to the next question.



Pause.

John h doe  
Geometry Practice Items (2009 Math ...)

A cylinder has a volume of  $300\pi$  cubic centimeters and a base with a circumference of  $10\pi$  centimeters. What is the height of the cylinder?

☐ A 30 cm

☐ B 15 cm

☐ C 12 cm

☐ D 3 cm

Flag for Review      Question 5 of 11      Section Review      Previous      Next

**SAY** Read question 5 to yourself. Then take a moment to answer the question. You may use any of the tools we have practiced as you work to find the answer.

Pause while students answer the question.

**SAY** Which answer did you choose?

Pause for replies.

**SAY** You should have selected C, 12 cm.

Do you have any questions about the answer?

Answer all questions.

**SAY** Click *Next* at the bottom of the screen to continue to the next question.

Pause.

**SAY** Question 6 is an example of a technology-enhanced graphing item. The directions banner says, “Click on the grid to plot the point you want to select. You must select a point other than point *P*.”

**SAY** To answer this question, you will place your pointer tool on the grid and click the location of the point you want to select. A red point will appear on the grid to mark your selection. If you change your mind about the location of the point, you may click on the point again with your pointer and the point will disappear, or you may use the eraser tool to remove it.

Now, read question 6 to yourself and answer the question.

Pause while students read and answer the question.

john h doe  
Geometry Practice Items (2009 Math ...)

Directions: Click on the grid to plot the point you want to select. You must select a point other than point  $P$ .

Line  $l$  contains the points  $(-4, 7)$  and  $(5, -8)$ .


Plot a point other than point  $P$  with integral coordinates that lies on a line that is parallel to  $l$  and passes through point  $P$ .

Flag for Review      Question 6 of 11      Section 1      Section Review      Previous      Next

**SAY** What are the coordinates for the point you plotted on the grid?

Pause for replies.

**SAY** There is more than one correct solution for this question. Any one of the following points is a correct response:  $(6, -1)$ ,  $(9, -6)$ , or  $(0, 9)$ .

Now look at the toolbar at the top of the screen. Locate the dot tool (  ) that is directly to the left of the exhibit window. You can use this tool to place dots on the screen if using this tool would help you work through a problem. However, it is very important to note that you cannot use the dot tool to indicate an answer to any item.

**Only the pointer tool can be used to plot points. On the SOL test, points plotted with the dot tool will not be scored.**

**Take a moment to practice using this tool. Click on the dot tool in the toolbar. Now, use the dot tool to place several dots on the grid. (Pause.) Notice that these dots are large blue and are different than the dots used to indicate your answer. These large blue dots should never be used to indicate an answer. Now click on the dot tool again to put the tool away. (Pause.)**

**You must be very careful on the SOL test not to use the dot tool to answer a question. You must only use the pointer tool to answer the item.**

**Do you have any questions about the difference between correctly plotting your answer using the pointer tool and using the dot tool?**

Answer all questions. Make sure that students understand that the dot tool cannot be used to answer a question. An item will show as unanswered on the Section Review screen if the student used the dot tool, rather than the pointer tool, to answer the question.

**SAY Click *Next* at the bottom of the screen to go to question 7.**

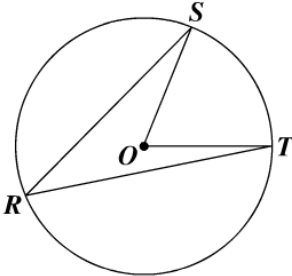
Pause.

**SAY Question 7 is another fill-in-the-blank item. Read the question to yourself and find the solution.**

Pause while students read and solve the problem.

Directions: Type your answer in the box.

In circle  $O$ ,  $m\angle SOT = 68^\circ$ .



What is  $m\angle SRT$  ?

$m\angle SRT =$    $^\circ$

Flag for Review      Question 7 of 11      Section 1      Section Review      Previous      Next

**SAY** How did you answer the question?

Pause for replies.

**SAY** The measure of angle  $SRT$  is  $34^\circ$ .

**Do you have any questions?**

Answer all questions. Please note 34.0 would also be acceptable since the decimal is an allowable character.

**SAY** Notice the correct answer does not need to be the same length as the box. Try entering other characters into the box, such as letters, spaces, or other symbols.

Pause while students try to enter other characters. In this item, they will not be able to enter any characters other than numbers (0-9) and a decimal (period).

**SAY** This box will only accept numbers and a decimal. If a letter, number, or symbol does not appear in the answer box after you've tried it, then you cannot use that symbol in your answer.

You can use the backspace key on the keyboard to clear your answer or the delete key. To use the delete key, click in front of the numbers you want to clear; press

**“delete” to remove each number one at a time. Try clearing your answer and retyping it in the box.**

Pause while students practice clearing and retyping their answer.

**SAY Before we go on to the next question, click on the *Flag for Review* button on the bottom left of the screen. If this were an actual SOL test, you would click this button if you wanted to come back and review the question again.**

Pause while students click on this icon.

**SAY When we reach the end of the practice questions, I will show you how the questions you flag for review will look on the Section Review screen. The Section Review screen shows which questions you have answered and which questions you have not answered, as well as those you have flagged for review. The questions you *Flag for Review* will have a picture of a flag next to them.**

Pause.

**SAY Click *Next* at the bottom of the screen to go to question 8.**

Pause.

**SAY Question 8 is another graphing technology-enhanced item where two points are required to completely answer the item. Read the directions and the item to yourself and then plot the two points.**

Pause while students read and answer the item.

john h doe  
Geometry Practice Items (2009 Math ... [X Exit](#)

**Directions:** Click on the grid to plot the points you want to select.

Circle  $O$  is defined by the equation  $x^2 + (y - 2)^2 = 25$ . Plot the center of Circle  $O$  and the coordinates of one point with integral values that lies on Circle  $O$ .

Question 8 of 11  
Section 1

[Flag for Review](#) [Section Review](#) [Previous](#) [Next](#)

**SAY** This item has two parts. The first part required that you plot the center of Circle  $O$ . What is the location of the center of Circle  $O$ ?

Pause for replies.

**SAY** The center of Circle  $O$  is located at  $(0, 2)$ . The second part requires you to plot a point that lies on Circle  $O$ . What are the coordinates for the point you plotted?

Pause for replies.

**SAY** Four points with integral coordinates lie on Circle  $O$ , so any of these ordered pairs would be correct:  $(0, -3)$ ,  $(0, 7)$ ,  $(5, 2)$ , or  $(-5, 2)$ .

It is important to note that two points are required to completely answer this item. If you only plotted one point, the question will show as answered on the Section Review screen, even though you did not completely answer it.

An item with any answer (even an incomplete one) will appear as “answered” on the item review screen within TestNav.

**SAY** Do you have any questions?

Answer all questions.


**SAY** Click *Next* at the bottom of the screen to go to question 9.

Pause.

**SAY** Question 9 is an example of a hot spot technology-enhanced item. The gray directions banner at the top of the screen says, “Click on the two objects you want to select.”

To answer the item correctly, you will use your pointer tool to select two objects that answer the question.

Before you answer this question, let’s practice using the pencil tool to eliminate the answer choices you do not wish to consider. Click the icon on the toolbar that

looks like a green pencil (). Draw an “x” over one of the cylinders. Then put the pencil tool away by clicking on the icon again. Since this is a technology-enhanced item, you cannot use the eliminator tool to eliminate your answer choices. (Pause.)

If you change your mind after eliminating an answer with the pencil tool, you can use the eraser tool to remove the “x”. Practice removing the x you have drawn. (Pause.)

When you are done with the eraser tool, click on the eraser icon again to put the tool away. (Pause.)

Now read the question and determine the correct answer or answers. You may use the pencil tool to eliminate answer choices, if that will help you answer the item.

Pause while students answer the question.

**SAY** Which two objects did you select?

Pause for replies.

**SAY** You should have selected the cone and the sphere. Do you have any questions about the answer or about using the pencil tool?

Answer all questions.

**SAY** On the actual SOL test, you may see questions that require you to pick one or more answers. Some questions, like this one, will tell you the number of correct answers to select. Other questions will NOT give you the number of answers to select. You will have to decide how many correct answers there are.

Please make sure students understand this concept, as a traditional multiple-choice question only requires one answer.

**SAY** Click *Next* at the bottom of the screen to continue to the next question.

Pause.

**SAY** The gray directions banner at the top of the screen says, “Click and drag each selected number to the correct box.” The item says, “The ratio of the volume of

two spheres is 8:27. What is the ratio of the lengths of the radii of these two spheres?”

To answer the item, you need to click and drag numbers from the dark gray box to the empty boxes on the screen to form the ratio. If you change your mind about a number you have selected, you can click and drag that number back to the dark gray box. (Pause.)

Now, find a solution and answer the question.

Pause while students solve and answer the problem.

Directions: Click and drag each selected number to the correct box.

The ratio of the volume of two spheres is 8:27. What is the ratio of the lengths of the radii of these two spheres?

:

1 2 3 4 6 8 9 13 19 27

Flag for Review Question 10 of 11 Section 1 Section Review Previous Next

**SAY** How did you answer the question?

Pause for replies.

**SAY** The ratio is 2:3 or 3:2. Remember, for this item to be completely answered, you must have numbers in both boxes. If you only placed one number in the ratio, this question would show as answered on the Section Review screen, even if you did not completely answer the question.

Do you have any questions?



Answer all questions. An item with any answer (even an incomplete one) will appear as “answered” on the item review screen within TestNav.

**SAY Click Next at the bottom of the screen to go to the next question.**

Pause.

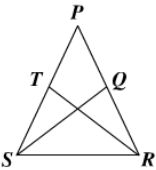
**SAY Read the directions banner and question 11 to yourself, then complete the proof.**

Pause while students read and answer the question.

Directions: Click and drag each selected reason to the correct box.

Select the reasons for the last three statements of this proof.

Given:  $\angle QSR \cong \angle TRS$ ;  $\overline{PR} \cong \overline{PS}$



Prove:  $\triangle QSR \cong \triangle TRS$

Statements	Reasons
1. $\overline{PR} \cong \overline{PS}$ $\angle QSR \cong \angle TRS$	1. Given
2. $\angle TSR \cong \angle QRS$	2. <input type="text"/>
3. $\overline{SR} \cong \overline{RS}$	3. <input type="text"/>
4. $\triangle QSR \cong \triangle TRS$	4. <input type="text"/>

**Options**

- Base angles of an isosceles triangle are congruent
- Corresponding parts of congruent triangles are congruent
- Reflexive property
- Angle-Side-Angle (ASA) Postulate
- Side-Angle-Side (SAS) Postulate

Question 11 of 11  
Section 1

Flag for Review Section Review Previous Next

**SAY Which property did you choose for each statement given?**

Pause for replies.

**SAY For statement 2, the correct reason is: Base angles of an isosceles triangle are congruent; For statement 3, the correct reason is: Reflexive property; For statement 4, the correct reason is: Angle-Side-Angle (ASA) Postulate.**

You must have selected and placed each of these three properties in the correct location for your answer to be correct.

**Do you have any questions?**


Answer all questions.

**SAY** Click *Next* at the bottom of the screen to go to the Section Review screen.

The Section Review screen shows which questions have been answered, which questions have not been answered and which questions you have flagged for review. To return to a question, click on the question number.

Remind students that they clicked the Flag for Review button on question #7. Point out to students that question #7 has a picture (icon) of a flag in the Flagged for Review column on the Section Review screen. Have students click on the flagged item so that they can practice how to return to an item. Tell them to go back to the Section Review screen by clicking on the Section Review button at the bottom of the screen.


The ruler tool was not used as students worked through the practice items. If you would like students to practice with the ruler, have them return to question 11 and measure the height of the dark gray box using either the inches or centimeters ruler. The box has a height of 10.7 cm, or  $4\frac{7}{8}$  inches.

Return to Test 

### Section 1 Review

Choose an item below or click *CONTINUE* to go to the Test Overview.

All Items	1 Flagged for Review	13 Answered	0 Unanswered
Sample		✓ Answered	
Sample		✓ Answered	
Question 1		✓ Answered	
Question 2		✓ Answered	
Question 3		✓ Answered	
Question 4		✓ Answered	
Question 5		✓ Answered	
Question 6		✓ Answered	
Question 7	🚩 Flagged for Review	✓ Answered	
Question 8		✓ Answered	
Question 9		✓ Answered	



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**SAY** Now return to question 7, which is a fill-in-the-blank item. (Pause.)

Delete your answer. (Pause.) Now click on the Section Review button to go back to the Section Review screen. Notice that the item still shows as answered. Once you enter an answer for a fill-in-the-blank item, it will show as answered on the Section Review screen, even if you delete your answer.

**Are there any questions?**

Answer all questions.

**SAY** You can also use the Section Review screen to sort the questions. The top row of the Section Review screen tells you how many questions you have flagged for review, answered, or left unanswered. If you want to view only the questions you Flagged for Review, simply click on the column header that says “Flagged for Review”. If you want to view only questions you have answered, click the “Answered” header. If you want to view only questions you left unanswered, click on the light blue box header that says “Unanswered,” and questions you have left unanswered will appear.

To get back to the Section Review screen that lists all questions, click the top left-hand column header titled “\_ of 13 Total Items”.

Please note the number of total items above (13) includes the two sample questions at the beginning of this practice set. The blank number will vary, depending on the last column the student has filtered on.

**SAY** We are going to review one more set of screens. Click on the “Continue to Test Overview” button on the lower left corner of the screen. (Pause.)

Now click on the “Submit and Exit Test” button. You will see a stop sign with three choices. It is important to review these three choices. (Pause.)

**SAY** The first choice, “*I want to return to the test,*” allows you to go back to the practice questions. You would click this option if you wanted to return to any of the questions.

The second choice states, “*I want to exit this test and finish later.*” This option should NOT be chosen. This option may be used during actual SOL testing, but should NOT be used for this practice tool. If you click on this option, you will lose all of your work. It will not be saved.

Pause and make sure students understand not to choose option 2.

**SAY** The third choice, “*I am finished with this test and I want to submit my final answers,*” allows you to submit your answers.

Once you have finished using these practice items, proceed with exiting the application.

**SAY** Since we have finished with the practice items, please click on the third option, “*I am finished with this test and I want to submit my final answers.*” This completes our review of the end-of-course Geometry SOL Practice Items.

Thank you for reviewing the Geometry Practice Items with your students.
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## **APPENDIX**

### **Answers to Geometry Practice Items**

#### **Sample A**

The correct answer is A, 18.

#### **Sample B**

The correct answer is 2.

#### **Question 1**

The correct answer is A, 54 cm.

#### **Question 2**

The correct answer is B.

#### **Question 3**

The correct answer is C.

#### **Question 4**

The correct answer is D, 616 square inches.

#### **Question 5**

The correct answer is C, 12 cm.

#### **Question 6**

The correct answer is any one of the following points: (6, -1), (9, -6), or (0, 9).

#### **Question 7**

The correct answer is  $34^\circ$ .

#### **Question 8**

Must plot the center of Circle  $O$  at (0, 2) and one of these points that lie on the circle: (0, -3), (0, 7), (5, 2), or (-5, 2).

#### **Question 9**

The correct answer is cone and sphere.

#### **Question 10**

The correct answer is 2:3 or 3:2.

#### **Question 11**

For statement 2, the correct reason is: Base angles of an isosceles triangle are congruent; For statement 3, the correct reason is: Reflexive property; For statement 4, the correct reason is: Angle-Side-Angle (ASA) Postulate.