

Practice Item Guide

Virginia Standards of Learning

Grade 6 Mathematics

March, 2015
Pearson

These practice items are meant to provide students practice with the content and types of questions that can appear on the Grade 6 Mathematics Standards of Learning (SOL) test. Students can also use these items to practice with the online tools available within TestNav™.

It is important to note that the navigation through the practice items does not replicate the navigation through the online Grade 6 Mathematics Computer Adaptive Test (CAT). Practice with the navigation through a computer adaptive test (CAT) is available in a [CAT Training Test](#) provided on the Virginia Department of Education Web site.”

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OVERVIEW

The practice items available for the Virginia Standards of Learning (SOL) Grade 6 Mathematics test provide examples of the new content and increased rigor represented by the 2009 *Mathematics Standards of Learning*. Additionally, these items illustrate the technology-enhanced item (TEI) types. These practice items do not cover all grade 6 mathematics SOL and should not be used in place of review of the SOL test content.

This practice guide may be used by teachers or other adults to guide students through the practice items for grade 6 mathematics. While the use of this guide with the practice items is not required, it is strongly encouraged, as it will help ensure that students are familiar with the types of items that they may encounter while taking the grade 6 mathematics test.

The directions in the guide will also lead students through practice with the online tools. **However, it is important to note that the navigation through these practice items does not replicate the navigation through the online version of the Computer Adaptive Test (CAT) being administered to students beginning with the spring 2015 test administration.** Practice with the navigation through the Grade 6 Mathematics CAT is available in a [CAT Training Test](#) provided on the Virginia Department of Education Web site.

Prior to guiding students through the practice items, carefully read this practice item guide and review the practice items to become familiar with them. All directions that must be read aloud to the students are in **bold Arial font** so that they stand out from the rest of the text. All other text is for your information and should not be read to students.

The following Change Log indicates any updates to this document.

Change Log		
Version	Date	Description
V.1	03/05/2012	Original Document Posted
V.2	03/30/2012	Text amended for question #7 to indicate that a forward slash is an allowable character.
V.3	03/15/2013	Overview amended; 20 new practice items added.
V.4	04/12/2013	Updated screenshot of item #16 added.
V.5	03/24/2015	Updated due to implementation of Computer Adaptive Testing for Grade 6 Mathematics, including removal of information about the Flag for Review Button, the Section Review Screens, closing screens, and the amendment of Appendix B.

SYSTEM REQUIREMENTS FOR TESTNAV

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 (TEI) TYPES

There are four types of technology-enhanced items:

- drag and drop,
- hot spot (which includes number line and coordinate plane items),
- bar graph or histogram, and
- fill-in-the-blank.

A brief description of each technology-enhanced item (TEI) type is provided below. The SOL practice items for grade 6 mathematics will introduce each of the TEI types: drag and drop, hot spot, bar graph, and fill-in-the-blank.

Drag and Drop

Drag and drop items contain draggers and bays.

- Draggers are the answer options that are moved to bays in response to the question.
- Bays 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 bay(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 bay.

Drag and drop items may be used in reading, writing, mathematics, and science assessments.

Hot Spot

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

- Hot spot zones are answer options which may be part of a graphic, art, numbers, or text, that 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 answer the item correctly.
- Number line and coordinate plane items require students to respond by clicking on a number line or coordinate plane to plot one or more points. In these items, the points themselves are the hot spot zones. Only points plotted with the pointer tool within TestNav are scorable responses. Points plotted with the dot tool are not scorable responses.

The student selects a hot spot by clicking on it. In some hot spot items, there will be an indication on the screen, such as the zone being outlined in blue, which confirms that the pointer is over a hot spot. After the hot spot is clicked, there will always be an indication that the zone has been selected as an answer, such as the hot spot being outlined in burnt orange, the hot spot being shaded, an asterisk being placed on the hot spot, or a red point being plotted on the number line or coordinate plane.

Hot spot items may be used in reading, writing, mathematics, and science assessments.

Bar Graph or Histogram

Bar graph or histogram items require students to graph data by indicating the height (if the bars are vertical) or length (if the bars are horizontal) of one or more bars or intervals. The bar height or length is graphed by clicking on a location within the graph or by dragging the bar to the desired location.

Bar graph and histogram items may be used in mathematics and science assessments.

Fill-in-the-Blank

Fill-in-the-Blank items require students to input characters from the keyboard (numbers, letters, or symbols) to answer the question. For this item type, the student responds to a question by typing 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.
- Students should carefully follow directions in fill-in-the-blank items, such as providing an answer in simplest form, rounding a number as indicated, or using significant digits.
- Currently, no fill-in-the-blank item requires students to correctly spell a word; however, alphabetic characters or symbols may be used in an answer.

Fill-in-the-blank items are currently used in mathematics and science assessments.

OPENING THE VIRGINIA SOL MATHEMATICS PRACTICE ITEMS

1. Go to the Virginia Department of Education Web site:
http://www.doe.virginia.gov/testing/sol/practice_items/index.shtml
2. Under the heading “Mathematics Practice Items” click on the grade 6 link. Since this is a web based application, the link will take you directly to the grade 6 mathematics practice items.

MATERIALS NEEDED FOR COMPLETING THE VIRGINIA SOL PRACTICE ITEMS

Scientific calculator, scratch paper and pencil

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, and only the pointer can be used to respond to the questions.

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

SPECIFIC DIRECTIONS FOR THE SOL GRADE 6 MATHEMATICS PRACTICE ITEMS

Introduction

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

SAY Today you will be working on some grade 6 mathematics practice items for the SOL test. There are 35 questions that will show you some of the types of test items that will be administered as part of the new grade 6 mathematics assessments. Some questions are multiple-choice and others are technology-enhanced items. Technology-enhanced items may require you 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. I will guide you through each item one at a time. Please remember these questions are for practice. They will not be graded, and I will tell you the answer for each question.

Do you have any questions before we start?

Pause to answer questions.

SAY There are some navigation features within these practice items that will not be available when you take the actual Grade 6 Mathematics computer adaptive Standards of Learning (SOL) test. A computer adaptive test (CAT) provides a customized test for every student. When you are taking the CAT, the questions and problems presented to you will be based on how you answer the questions.

(Recommended.) **We will be taking a practice CAT at another time so you can experience what the navigation through the actual SOL test will be like. Today we will be focusing on the content of the questions, the types of questions, and the online tools that are available to use.**

The [CAT training test](#) provides students with practice in navigating through a computer adaptive test (CAT) prior to the actual test taking experience. This training test is comprised of previously released grade 6 mathematics test questions. Because of the limited number of released items, the CAT training test has fewer questions than the actual grade 6 mathematics CAT. Therefore, the test will not have the same degree of customization for different levels of achievement as the actual CAT will provide. The training test will not be scored.

The online tools available within these practice items are the same as those available in the online computer adaptive version of the test.

SAY Let’s look at the bottom of the screen. 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 There is a *Flag for Review* button () located at the bottom left of the screen. Please disregard this button as we will not be using it today.

It is really important for me to say again that these features are different than what you will experience when you take the actual computer adaptive test. In the CAT, you will NOT see a *Previous* button or a *Flag for Review* button. In the CAT, you will only be able to click on the *Next* button after you have answered the question on the screen.

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 One thing to remember is that the tools at the top of the screen are there to help you solve a problem. The only tool that can be used to mark an answer to a question is the pointer tool ().

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

The screenshot shows a digital math practice interface. At the top, there is a dark blue header bar with various icons (arrow, eraser, highlighter, X, pencil, ruler, compass, protractor, calculator, help) and the text "John doe" and "Grade 6 Practice Items (2009 Math SOL) EXIT". The main content area is white and contains the following text:

SAMPLE A

The first four terms of a sequence are shown.

9, 12, 15, 18, ...

What is the next term in this sequence?

A 21

B 27

C 33

D 54

At the bottom, there is a dark blue footer bar with the text "Flag for Review", "Sample Section 1", "Section Review", "Previous", and "Next".

SAY 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, 21.

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

Pause while students go to the next sample item.

" data-bbox="175 88 902 520"/>

John doe
Grade 6 Practice Items (2009 Math SOL) X Exit

Directions: Type your answer in the box. Your answer must be in the form of an improper fraction. Use "/" for the fraction bar.

SAMPLE B

What is the value of $\frac{2^2 - 1}{2}$?

Your answer must be in the form of an improper fraction.

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. Your answer must be in the form of an improper fraction. Use "/" (forward slash) for the fraction bar."

This sample question is an example of a fill-in-the-blank technology-enhanced item.

You may use scratch paper to solve for the answer. Then type your answer in the box on the screen using the keyboard. Make sure you are using the pointer tool, and then click inside the box before you type your answer. Remember, to be correct your answer must be an improper fraction.

Pause while students find and enter the answer.

SAY Which answer did you type in the box?

Pause for replies.

SAY The correct answer is $\frac{3}{2}$. You should have typed *three forward slash two (3/2)* in the box. Do you have any questions about how to enter your answer?

Answer all questions.

SAY Notice that the answer you entered does not need to be the same length as the box. For questions that are fill-in-the-blank, once any character is entered into the response box and remains in the response box, the question will be considered answered. Do you have any questions about how to type your answer in the box?

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.

The screenshot shows a math practice interface. At the top, there is a toolbar with various icons (eraser, pencil, highlighter, eraser, calculator, ruler, protractor, compass, help) and a user name 'John doe' and 'Grade 6 Practice Items (2009 Math SOL)' with an 'Exit' button. The main content area contains the question: "Which expression is represented by this model?" Below the question is a 4x7 grid. The first three rows are shaded gray, and the first three columns of the fourth row are also shaded gray, representing a total of 15 shaded cells out of a total of 28 cells. Below the grid are four multiple-choice options, each with a radio button:

- A $\frac{1}{7} \times \frac{1}{4}$
- B $\frac{3}{7} \times \frac{1}{4}$
- C $\frac{1}{7} \times \frac{3}{4}$
- D $\frac{3}{7} \times \frac{3}{4}$

At the bottom of the screen, there is a navigation bar with a 'Flag for Review' button, 'Question 1 of 35 Section 1', a 'Section Review' button, and 'Previous' and 'Next' buttons.

SAY The bottom of your screen should say “Question 1 of 35.”

On the computer adaptive test, the bottom of the screen will read, for example, “Question 1” rather than “Question 1 of xx.”

Now, read question 1 to yourself, then answer the question.

Pause while students read and answer the question.

SAY Which answer did you select?

Pause for replies.

SAY You should have selected B, $\frac{3}{7} \times \frac{1}{4}$. Make sure the circle next to choice B is selected as your answer.

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.

The screenshot shows a math practice interface. At the top, there is a toolbar with various icons including a pencil, eraser, highlighter, and a document icon. The text reads: "The measurements of a rectangular prism are shown." Below this is a 3D diagram of a rectangular prism with dimensions labeled: the front edge is 5 in., the depth is 3 in., and the height is 3 in. The question asks: "What is the total surface area of this prism?" There are four multiple-choice options: A 39 square inches, B 45 square inches, C 66 square inches, and D 78 square inches. At the bottom of the interface, there is a navigation bar with buttons for "Flag for Review", "Section Review", "Previous", and "Next". The text "Question 2 of 35 Section 1" is also visible.

SAY This item requires you to find the total surface area of a rectangular prism. For items like this, where you may need a formula to help solve a problem, you should refer to the formula sheet located in the toolbar to help find your answer.

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.

Pause while students work to find the answer.

SAY Which answer did you choose?

Pause for replies.

SAY You should have chosen D, 78 square inches. 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, "What is the total surface area of this prism?" 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. Read question 3 to yourself and then determine the answer. Before you select your answer with the pointer, we will practice with the eliminator tool.

Pause while students read the question and determine the answer.

This line plot shows the number of letters in the names of 7 students.

Letters in Names

Each X represents 1 student.

What is the balance point for this set of data?

A 5 letters

B 6 letters

C 7 letters

D 8 letters

John doe
Grade6 Practice Items (2009 Math SOL) [X Exit](#)

Question 3 of 35
Section 1

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

SAY 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 "X" (). 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 answers, click the choices you believe are not correct. Then click 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 a red "X".

Pause while students select an answer.

SAY Click on the eraser tool icon to put it away. Now click on your answer.

Pause while students select the answer.

SAY Which answer did you choose?

Pause for replies.

SAY You should have selected C, 7 letters.

SAY Do you have any questions about the answer or how to use the eliminator tool or eraser?

Answer all questions.

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

Read question 4 to yourself.

Pause while students read the question.

The screenshot shows a digital interface for a math practice item. At the top, there is a toolbar with various icons for navigation and editing, including a mouse cursor, eraser, highlighter, and help. The user's name 'John doe' and the text 'Grade6 Practice Items (2009 Math SOL)' are visible in the top right corner. The main content area contains the following text:

A jar contains these pens that are all the same size and shape.

- 4 red pens
- 3 green pens
- 5 blue pens
- 4 black pens

One pen is randomly selected from the jar. After replacing the first pen, a second pen is randomly selected. Randomly selecting the second pen is —

Four multiple-choice options are listed, each with a radio button:

- A a dependent event because the outcome of the second pen depends on the outcome of the first pen
- B a dependent event because the outcome of the second pen does not depend on the outcome of the first pen
- C an independent event because the outcome of the second pen depends on the outcome of the first pen
- D an independent event because the outcome of the second pen does not depend on the outcome of the first pen

At the bottom of the interface, there is a navigation bar with a 'Flag for Review' button, the text 'Question 4 of 35 Section 1', a 'Section Review' button, and 'Previous' and 'Next' buttons.

SAY For this practice item, read the text on the screen and then answer the question.

Pause while students answer the question.

SAY Which answer did you choose?

Pause for replies.

SAY You should have selected option D, an independent event because the outcome of the second pen does not depend on the outcome of the first pen.

Do you have any questions?

Answer all questions.

SAY Click *Next* at the bottom of the screen to continue to the question 5.

Pause.

SAY Read question 5 to yourself. Then take a moment to answer the question.

Pause while students answer the question.

The screenshot shows a digital math practice interface. At the top, there is a toolbar with various icons for navigation and editing, including a mouse cursor, eraser, highlighter, and help. The user's name 'John doe' and the title 'Grade 6 Practice Items (2009 Math SOL)' are visible in the top right corner. The main content area contains a word problem: 'A spinner has four equal sections labeled W, X, Y, and Z. A fair coin has faces labeled heads and tails. Edward will spin the arrow of the spinner and flip the coin one time each. What is the probability the arrow will land on the section labeled Z and the coin will land with heads face-up?'. Below the question are four multiple-choice options: A $\frac{1}{8}$, B $\frac{1}{4}$, C $\frac{1}{3}$, and D $\frac{1}{2}$. At the bottom of the interface, there is a navigation bar with a 'Flag for Review' button, 'Question 5 of 35 Section 1' text, a 'Section Review' button, and 'Previous' and 'Next' buttons.

SAY Which answer did you choose?

Pause for replies.

SAY You should have selected A, $\frac{1}{8}$.

Do you have any questions?

Answer all questions.

SAY Click *Next* at the bottom of the screen to go to question 6.

Pause.

SAY Question 6 is an example of a technology-enhanced item where there may be more than one answer.

john doe
Grade6 Practice Items(2009 Math SOL) X Exit

Directions: Click on a box to choose each number you want to select. You must select all correct numbers.

Identify each number that has an absolute value of 4.

16	4	2	$\frac{1}{4}$	0	-2	-4	-16
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Flag for Review Question 6 of 35 Section 1 Section Review Previous Next

SAY The gray directions banner at the top of the screen says, “Click on a box to choose each number you want to select. You must select all correct numbers.” The item says, “Identify each number that has an absolute value of 4.”

To answer the item correctly, you need to select all the correct answers by clicking on them. If you change your mind about an answer, you can click the answer choice and it will remove your selection, or you can use the eraser tool at the top of the screen to remove your selection. (Pause.)

SAY On the actual SOL test, you may see questions that require you to pick one or more answers. Some questions will tell you the number of correct answers to select. Other questions, like this one, 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 Before you answer this item, let's practice using the pencil tool to eliminate answer choices you do not wish to consider. Click the icon on the toolbar that looks like a

green pencil (). Draw an "X" over an answer choice that you do not wish to select. Since this is a technology-enhanced item, you cannot use the eliminator tool to narrow down your answer choices.

If you change your mind after eliminating an answer with the pencil tool, you can use the eraser tool to remove the "X". (Pause.)

Now use the pencil tool to eliminate the choices that are not correct. When you have finished with the pencil tool, click on the pencil icon again to put the tool away. Then, finish answering the question by selecting each number that has an absolute value of 4 with your pointer tool.

Pause while students answer the question.

SAY How did you answer the question?

Pause for replies.

SAY You must have both 4 and -4 selected, and only those two numbers selected, to get the item correct.

Do you have any questions about how to select your answer?

Answer all questions.

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

Pause.

John doe
Grade6 Practice Items(2009 Math SOL) X Exit

Directions: Type your answer in the box. Do not use a calculator to solve this problem.

What is the value of $200 - 2 \cdot 6^2$?

Flag for Review Question 7 of 35
Section 1 Section Review Previous Next

SAY Question 7 is an example of a fill-in-the-blank item. The directions say, “Type your answer in the box. Do not use a calculator to solve this problem.”

The actual grade 6 mathematics test has a non-calculator and calculator section. Students only have access to a hand-held scientific calculator in the second section (calculator section) of the test.

There are no sections in this set of practice items; therefore, items that would appear in the non-calculator section of a test are flagged with a banner that reads: “Do not use a calculator to solve this problem.” Instructors should ensure that students do not use calculators on these specific items as they practice. This banner DOES NOT appear on the actual online test. Instead, items in the non-calculator section will have a “No Calculator” icon in the upper right corner of the screen. (To see how items in the non-calculator section will appear in the CAT, see the [CAT Training Test](#).)

SAY You will need to solve for the answer and enter it in the box on the screen using your keyboard.

Now read and answer this question. Type your answer into the box.

Pause while students read and answer the question.

SAY What answer did you enter?

Pause for replies.

SAY The correct answer is 128. Notice the correct answer is not the same length as the box.

SAY Do you have any questions?

Answer all questions.

SAY 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 and a forward slash (/).

SAY This box will only accept numbers and a forward slash. 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 or the delete key on the keyboard to clear your answer. 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 their answer.

SAY Do you have any questions?

Answer all questions.

SAY Click *Next* at the bottom of the screen to go to question 8. Read the directions and the question to yourself, then answer the question. You will notice that in this item the directions tell you how many answers to select.

Pause.

John Doe
Grade 6 Practice Items (2009 Math SOL) X Exit

Directions: Click on a box to choose each measurement you want to select. You must select the two correct measurements.

Mr. Miller is putting a border around the edges of a rectangular ceiling. The perimeter of the ceiling is 18 meters. Identify the measurements that could be the two dimensions of the ceiling.

2 meters 3 meters 4 meters 5 meters 8 meters 9 meters

Flag for Review Question 8 of 35 Section 1 Section Review Previous Next

SAY Which answers did you choose?

Pause for replies.

SAY The correct responses are 4 meters and 5 meters. You must have selected both of these measurements in order to be correct.

On the actual SOL test, you may see questions that require you to pick one or more answers. Some questions, like this one, indicate the number of correct answers to select. In order for this item to be considered completely answered, you must select two measurements.

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

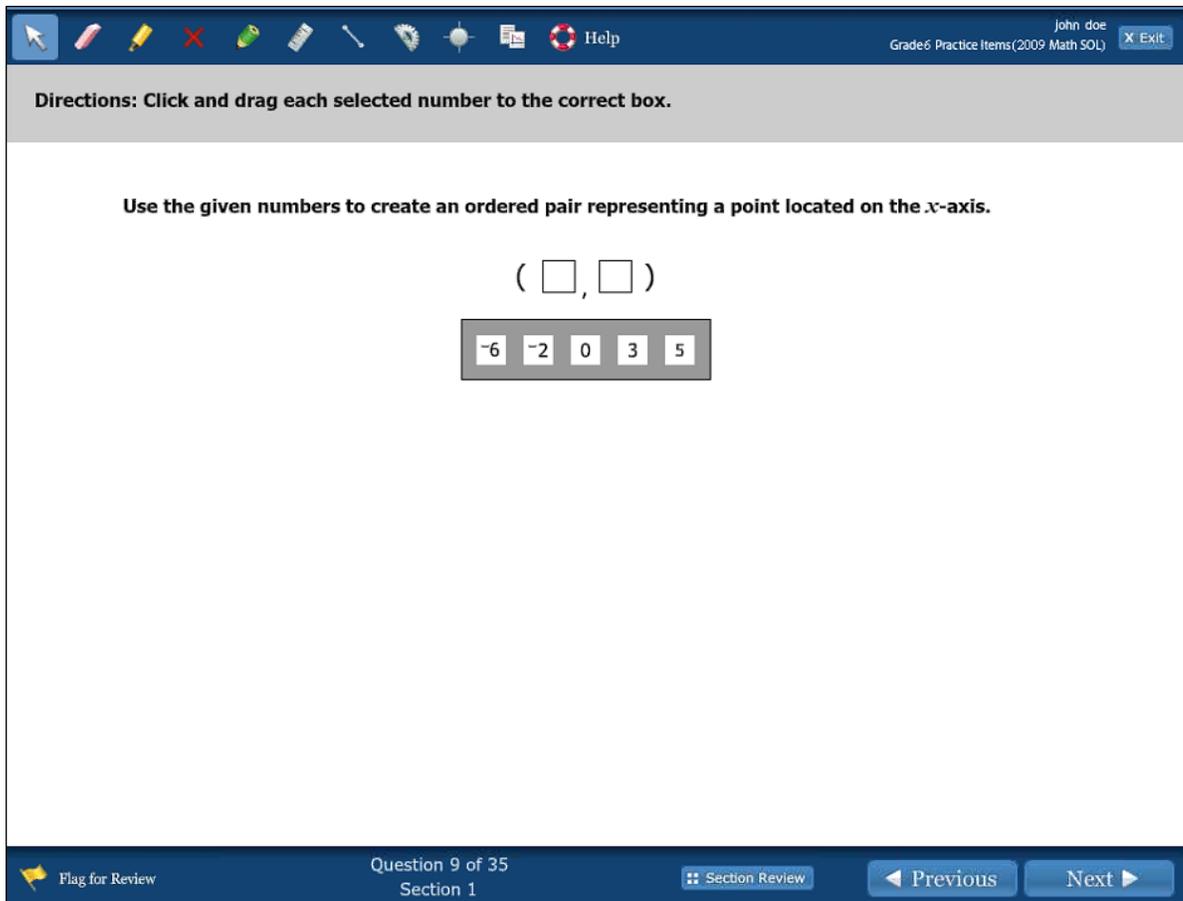
SAY Before we go to the next question, let's practice using the straightedge tool. You can use the straightedge tool on the toolbar to make a straight line or to underline text. Look for the straightedge tool icon () at the top of the screen. When you click on the straightedge tool, you will see a drop 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 “rectangular,” “perimeter,” and “two dimensions.” Then click again on the straightedge tool on the toolbar to put the tool away.

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

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

Pause.



The screenshot shows a digital math practice interface. At the top, there is a toolbar with various icons including a mouse cursor, eraser, highlighter, pencil, and straightedge. The user's name "John doe" and the text "Grade6: Practice Items(2009 Math SOL)" are visible in the top right corner. Below the toolbar, a gray banner contains the directions: "Directions: Click and drag each selected number to the correct box." The main area of the interface displays the question: "Use the given numbers to create an ordered pair representing a point located on the x-axis." Below the question, there is an ordered pair template: (\square, \square) . Underneath the template is a dark gray box containing five numbers: -6, -2, 0, 3, and 5. At the bottom of the interface, there is a navigation bar with buttons for "Flag for Review", "Question 9 of 35 Section 1", "Section Review", "Previous", and "Next".

SAY Question 9 is an example of a drag and drop technology-enhanced item. The directions banner says “Click and drag each selected number to the correct box.”

You will click and drag your answers from the dark gray box to the correct location in the ordered pair. If you do not click and drag a number into each box, the question will not be completely answered.

SAY You may answer the question now. If you change your mind after clicking and dragging a number to a box, you can drag the number back to the dark gray box and then select another number to drag into the empty box. You may also click and drag the numbers between the two boxes if you want to switch their order.

Pause while students answer the question.

SAY How did you answer the question?

Pause for replies.

SAY For this item, there is more than one correct answer. You must have created one of these ordered pairs to be correct: $(-6, 0)$, $(-2, 0)$, $(3, 0)$, or $(5, 0)$.

Since the point must be located on the x -axis, the zero must be used as the y -coordinate, but any of the other numbers could be used as the x -coordinate.

This question will only be considered completely answered when both empty boxes contain a number. Do you have any questions on how to answer the question?

Answer all questions.

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

Pause.

SAY Read question 10 to yourself.

Pause while students read the question.

John doe
Grade 6 Practice Items (2009 Math SOL) X Exit

Directions: Click on a location above each bar to show the bar height.

Cindy surveyed 60 students about their favorite type of movie. This circle graph represents the results of the survey.

Construct a bar graph that could represent the same set of data.

Favorite Movies

Favorite Movies

Flag for Review Question 10 of 35 Section 1 Section Review Previous Next

SAY Question 10 is an example of a graphing technology-enhanced item. The directions say “Click on a location above each bar to show the bar height.”

Now read the item.

Pause while students read the item.

SAY To answer this question correctly, you will click the location above each bar so the correct height is displayed. Use the circle graph on the left side of the screen to determine the correct height for each bar.

If you change your mind about a bar height as you are graphing the data, you can click on another location, and the bar height will change.

Pause while students create the graph.

SAY Which bar height did you graph for each category?

Pause for replies.

SAY You should have graphed the following bar heights:
 The bar representing “Action” should have a bar height of 15.
 The bar representing “Comedy” should have a bar height of 30.
 The bar representing “Other” should have a bar height of 5.
 The bar representing “Musical” should have a bar height of 10.

SAY For bar graph or histogram questions, if one bar has been raised and remains above its original height, the question will be considered as answered.

Do you have any questions on how to graph the data?

Pause to answer questions.

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

Pause.

SAY Read question 11 to yourself.

Pause while students read the question.

SAY Use your scratch paper, calculator, and any of the tools we have practiced to help you answer the question. Then select the best answer.

The dimensions of a line segment are shown.

What is the distance from point *C* to point *D* ?

A 5.25 cm

B 9.75 cm

C 11.25 cm

D 15.75 cm

John doe
Grade6 Practice Items (2009 Math SOL) X Exit

Flag for Review Question 11 of 35 Section 1 Section Review Previous Next

Pause while students work to solve the problem and select an answer.

SAY Which answer did you choose?

Pause for replies.

SAY The correct answer is A, 5.25 cm. Do you have any questions?

Answer all questions.

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

Pause.

SAY Read question 12 to yourself and select the best answer.

Pause while students read and answer the question.

The screenshot shows a digital math practice interface. At the top, there is a toolbar with various icons for navigation and editing, including a mouse cursor, eraser, highlighter, and help. The user's name 'John doe' and the title 'Grade 6 Practice Items (2009 Math SOL)' are visible in the top right corner. The main content area contains the following text:

Greta has 2 bags of tiles that are all the same size and shape.

- Bag A has 1 blue tile and 3 green tiles.
- Bag B has 2 yellow tiles and 4 black tiles.

Which of these best describes dependent events?

A Randomly selecting one tile from Bag A, replacing the tile, then randomly selecting another tile from Bag A

B Randomly selecting one tile from Bag B, not replacing the tile, then randomly selecting another tile from Bag B

C Randomly selecting one tile from Bag A, replacing the tile, then randomly selecting one tile from Bag B

D Randomly selecting one tile from Bag B, not replacing the tile, then randomly selecting one tile from Bag A

At the bottom of the interface, there is a navigation bar with a 'Flag for Review' button, the text 'Question 12 of 35 Section 1', a 'Section Review' button, and 'Previous' and 'Next' buttons.

SAY What answer did you choose?

Pause for replies.

SAY The correct answer is option B: Randomly selecting one tile from Bag B, not replacing the tile, then randomly selecting another tile from Bag B. Are there any questions about the answer?

Answer all questions.

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

Pause.

SAY Read question 13 to yourself and select the best answer.

Pause while students read and answer the question.

Each hexagon represents 1 whole.

Which product is represented by the shading shown on this model?

A 3×6
 B $3 \times \frac{1}{6}$
 C $\frac{1}{3} \times \frac{1}{6}$
 D $\frac{1}{3} \times 6$

Question 13 of 35
Section 1

Flag for Review Section Review Previous Next

SAY What answer did you choose?

Pause for replies

SAY The correct option is B, $3 \times \frac{1}{6}$.

Do you have any questions?

Answer all questions.

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

Pause.

SAY Read the directions and question 14 to yourself. Choose one of the tools we have practiced with (eliminator, highlighter, pencil, straightedge, and eraser) as you work to find the answer. You may use your scratch paper, but you may not use a calculator for this item.

Pause while students read the question and use a tool while evaluating the given expression.

The screenshot shows a digital math practice interface. At the top, there is a toolbar with various icons for navigation and assistance, including a mouse cursor, eraser, highlighter, red X, green checkmark, calculator, pencil, and a help icon. The user's name 'John doe' and the page title 'Grade 6 Practice Items (2009 Math SOL)' are visible in the top right corner. A grey banner at the top of the question area reads 'Do not use a calculator to solve this problem.' The question asks for the value of the expression $\frac{30 + 4 \cdot 5}{2} - 6$. Four radio button options are listed: A 79, B 34, C 29, and D 19. At the bottom of the interface, there is a navigation bar with a 'Flag for Review' button, 'Question 14 of 35 Section 1' text, a 'Section Review' button, and 'Previous' and 'Next' navigation buttons.

SAY What answer did you choose?

Pause for replies.

SAY The correct answer is D, 19. Do you have any questions?

Answer all questions.

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

Pause.

SAY Notice question 15 has a directions banner and is NOT a multiple-choice item. Read the directions to yourself, then follow the directions to answer the question.

Pause for students to read and solve the problem.

John doe
Grade 6 Practice Items (2009 Math SOL) X Exit

Directions: Click on a part of the model to choose each part you want to shade.

This model represents 1 whole and is divided into equal parts. Shade this model to represent $\frac{3}{8}$ of this whole.

Flag for Review Question 15 of 35 Section 1 Section Review Previous Next

SAY How did you answer this question?

Pause for student responses.

SAY You should have shaded exactly six boxes out of the 16 boxes. Do you have any questions?

Answer all questions. Shading any six out of the sixteen boxes is considered a correct answer.

SAY Click the *Next* button at the bottom of the screen to go to question 16.

Directions: Click on each box to choose a ratio. You must select the three correct ratios.

There are 24 fiction books and 36 nonfiction books on a shelf. Select the three ratios that represent the number of fiction books to the total number of books on the shelf.

$\frac{3}{5}$	2 to 3	2 : 5
2 to 5	2 : 3	3 to 5
3 : 5	$\frac{2}{5}$	$\frac{2}{3}$

Question 16 of 35
Section 1

SAY The gray directions banner for this question says, “Click on each box you want to select. You must select the three correct ratios.”

This question is another technology-enhanced item. To answer this question, you must click on the correct answers in the box. You may have already noticed that with this type of question, a blue box outlines the answer choice when you hover over it. After you click the answer option, that choice is outlined in orange to indicate that you have selected that choice as your answer. If you change your mind, click the orange box to remove the selection, and the orange outline disappears.

Answer the question now.

Pause while students answer the question.

SAY Which answers did you select?

Pause for replies.

SAY To answer this question correctly, you must have selected 2:5, 2 to 5, and $\frac{2}{5}$.

For this question, three choices must be selected in order for the question to be considered answered.

Answer all questions.

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

Pause.

SAY Read question 17 to yourself then answer the question.

Pause while students read and answer the question.

The screenshot shows a digital math practice interface. At the top, there is a toolbar with various icons for navigation and editing, including a mouse cursor, eraser, highlighter, and help. The user's name "John doe" and the text "Grade 6 Practice Items (2009 Math SOL)" are visible in the top right corner. The main content area displays the question: "Which of these is equivalent to $14 \times 14 \times 14$?". Below the question are four radio button options: A 3×42 , B 14×42 , C 3^{14} , and D 14^3 . At the bottom of the interface, there is a navigation bar with a "Flag for Review" button, the text "Question 17 of 35 Section 1", a "Section Review" button, and "Previous" and "Next" buttons.

SAY Which answer did you choose?

Pause for replies.

SAY The correct answer is D, 14^3 .

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 doe
Grade6 Practice Items(2009 Math SOL) X Exit

Directions: Click and drag each number into the correct box. Do not use a calculator to solve this problem.

Arrange the numbers in order from greatest to least.

Greatest	<input type="text"/>
↓	<input type="text"/>
Least	<input type="text"/>

10%	$\frac{7}{10}$	0.09
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Flag for Review Question 18 of 35 Section 1 Section Review Previous Next

SAY Item 18 is an example of a drag and drop technology-enhanced item. The directions banner says, “Click and drag each number into the correct box. Do not use a calculator to solve this problem.” You will click and drag your answers from the dark gray box to the correct locations. In order to have a complete answer, you must drag a number into each empty box.

The item says, “Arrange the numbers in order from greatest to least.” You may answer the item now. If you change your mind after clicking and dragging a number to a box, you can drag the number back to the dark gray box and then select another number to drag into the empty box.

Pause while students answer the item.

SAY How did you answer the item?

Pause for replies.

SAY You should have dragged $\frac{7}{10}$ into the top box, 10% into the middle box, and 0.09 into the bottom box.

You must have each number in the correct location for your answer to be correct. In order for this question to be considered as completely answered, all boxes must contain a number. Do you have any questions on how to answer the question?

Answer all questions.

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

Pause.

SAY Read question 19 to yourself and then answer the question.

Pause while students read and answer the question.

The screenshot shows a digital math practice interface. At the top, there is a toolbar with various icons for navigation and assistance, including a mouse cursor, eraser, highlighter, red X, green checkmark, calculator, ruler, protractor, compass, and a Help icon. The user's name 'John doe' and the text 'Grade 6 Practice Items (2009 Math SOL)' are visible in the top right corner, along with an 'Exit' button.

The main content area contains the following text: "Timothy ordered 150 sandwiches on Monday. This circle graph represents the number of each kind of sandwich he ordered."

Below the text is a pie chart titled "Sandwiches Ordered". The pie chart is divided into four sections: Turkey (the largest section, approximately 50%), Cheese (approximately 25%), Ham (approximately 15%), and Salami (approximately 10%).

Below the pie chart is the question: "Which is closest to the total number of turkey sandwiches Timothy ordered?"

There are four multiple-choice options:

- A 25
- B 38
- C 50
- D 75

At the bottom of the interface, there is a navigation bar with a "Flag for Review" button, the text "Question 19 of 35 Section 1", a "Section Review" button, and "Previous" and "Next" buttons.

SAY Which answer did you choose?

Pause for replies.

SAY The correct answer is D, 75.

Do you have any questions?

Answer all questions.

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

Pause.

The screenshot shows a digital math practice interface. At the top, there is a toolbar with various icons for navigation and editing, including a mouse cursor, eraser, highlighter, and calculator. The user's name "John doe" and the page title "Grade 6 Practice Items (2009 Math SOL)" are visible in the top right corner. The main content area displays the question: "Which number is less than -8 ?" with four radio button options: A -10, B -3, C 6, and D 14. At the bottom, there is a navigation bar with a "Flag for Review" button, the question identifier "Question 20 of 35 Section 1", a "Section Review" button, and "Previous" and "Next" navigation buttons.

SAY Read question 20 to yourself and then answer the question.

Pause while students read and answer the question.

SAY Which answer did you choose?

Pause for replies.

SAY The correct answer is A, -10.

Do you have any questions?

Answer all questions.

SAY Click the *Next* button at the bottom of the screen to go to question 21.

John doe
Grade 6 Practice Items (2009 Math SOL) X Exit

Do not use a calculator to solve this problem.

What is the product of $2\frac{2}{3}$ and $1\frac{1}{6}$?

A $2\frac{1}{9}$

B $2\frac{2}{7}$

C $3\frac{1}{9}$

D $3\frac{5}{6}$

Flag for Review Question 22 of 35 Section 1 Section Review Previous Next

SAY For question 22, please notice that the directions indicate that you may not use a calculator. Now read the problem and answer the question.

Pause while students read and answer the question.

SAY Which answer did you choose?

Pause for replies.

SAY The correct answer is C, $3\frac{1}{9}$.

Do you have any questions?

Answer all questions.

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

Pause.

The screenshot shows a digital math practice interface. At the top, there is a dark blue header bar with various icons (pencil, eraser, highlighter, etc.) and a 'Help' button. On the right side of the header, it says 'John doe' and 'Grade 6 Practice Items (2009 Math SOL)' with an 'Exit' button. The main content area is white and contains the following text:

Nigel has 3 rolls of ribbon. Each roll has $8\frac{3}{4}$ feet of ribbon. It takes $1\frac{3}{4}$ feet of ribbon to make one bow. What is the total number of bows that Nigel can make using these 3 rolls of ribbon?

Below the question are four multiple-choice options, each with a radio button:

- A 5 bows
- B 15 bows
- C 31 bows
- D 46 bows

At the bottom of the interface, there is a dark blue footer bar. On the left, there is a 'Flag for Review' button. In the center, it says 'Question 23 of 35' and 'Section 1'. On the right, there are 'Section Review', 'Previous', and 'Next' buttons.

SAY Read question 23 to yourself and then answer the question.

Pause while students read and answer the question.

SAY Which answer did you choose?

Pause for replies.

SAY The correct answer is B, 15 bows.

Do you have any questions?

Answer all questions.

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

Pause.

The screenshot shows a digital interface for a math practice test. At the top, there is a dark blue header bar with various icons (arrow, eraser, pencil, X, highlighter, calculator, ruler, compass, protractor, calculator, and a red lifebuoy labeled 'Help'). On the right side of the header, it says 'John doe' and 'Grade 6 Practice Items (2009 Math SOL)' with an 'Exit' button. The main content area is white and contains the following text: 'The length of a television screen is 60 centimeters. Which measurement is closest to the length of this screen?' Below this text are four radio button options: 'A 24 feet', 'B 24 inches', 'C 152 feet', and 'D 152 inches'. At the bottom of the interface is another dark blue bar with a 'Flag for Review' button, 'Question 24 of 35 Section 1', a 'Section Review' button, and 'Previous' and 'Next' navigation buttons.

SAY Read question 24 to yourself and then answer the question.

Pause while students read and answer the question.

SAY Which answer did you choose?

Pause for replies.

SAY The correct answer is B, 24 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.

The screenshot shows a digital math practice interface. At the top, there is a toolbar with various icons for navigation and assistance, including a pencil, eraser, calculator, and help. The user's name 'John doe' and the title 'Grade6 Practice Items(2009 Math SOL)' are visible in the top right corner. The main content area contains a math problem: 'The diameter of the circular base of a storage container is 18.8 meters. The circumference of the base is approximately 59 meters. Which of these could be used to estimate the value of π ?'. Below the question are four multiple-choice options: A $\frac{9.4}{59}$, B $\frac{59}{9.4}$, C $\frac{18.8}{59}$, and D $\frac{59}{18.8}$. At the bottom of the interface, there is a navigation bar with buttons for 'Flag for Review', 'Section Review', 'Previous', and 'Next'. The current question is identified as 'Question 25 of 35' in 'Section 1'.

SAY Read question 25 to yourself and then answer the question. Remember that you may refer to the formula sheet located in the exhibit window if it will help you determine the answer.

Pause while students read and answer the question.

SAY Which answer did you choose?

Pause for replies.

SAY The correct answer is D, $\frac{59}{18.8}$.

Do you have any questions?

Answer all questions.

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

Pause.

The screenshot shows a digital math practice interface. At the top, there is a toolbar with various icons for navigation and editing, including a mouse cursor, eraser, pencil, highlighter, and a red 'X' for deletion. The user's name 'John doe' and the text 'Grade6 Practice Items(2009 Math SOL)' are visible in the top right corner, along with an 'Exit' button. The main content area contains the following text: 'The circular campfire site at Camp Willow has a diameter of 5 yards. Which is closest to the area of this campfire site?'. Below this text are four multiple-choice options, each with a radio button: 'A 15.7 sq yd', 'B 19.6 sq yd', 'C 31.4 sq yd', and 'D 78.5 sq yd'. At the bottom of the interface, there is a dark blue navigation bar containing a 'Flag for Review' button, the text 'Question 26 of 35 Section 1', a 'Section Review' button, and 'Previous' and 'Next' buttons with arrows.

SAY Question 26 is another item for which you may want to use the formula sheet. Now read the question and determine the answer.

Pause while students read and answer the question.

SAY Which answer did you choose?

Pause for replies.

SAY The correct answer is B, 19.6 sq yd.

Do you have any questions?

Answer all questions.

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

Pause.

Which graphed point is best represented by $(-7, 0)$?

A Point K
 B Point L
 C Point M
 D Point N

Question 27 of 35
 Section 1

SAY Read question 27 to yourself and then answer the question.

Pause while students read and answer the question.

SAY Which answer did you choose?

Pause for replies.

SAY The correct answer is C, Point M.

Do you have any questions?

Answer all questions.

SAY 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 an item. Only the pointer tool can be used to plot a point that is an answer to the question. On the SOL test, points plotted with the dot tool will not be scored.

SAY Take a moment to practice using the dot tool to see what the dots made with this tool look like. Click on the dot tool in the toolbar. Now, use the dot tool to place a dot on the coordinate grid at the origin. (Pause.)

Notice that dots placed with the dot tool are large and blue. On the SOL test, there may be items that require you to answer by selecting a point on the coordinate grid or on a number line by clicking on that location with your pointer tool. Points plotted with the pointer tool are red, so it is important to note that the dots placed with the dot tool look different than the points 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.

SAY 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. If you mistakenly use the dot tool instead of the pointer tool in the CAT to answer a question, you will not be able to go on to the next question until you answer it using the pointer tool.

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

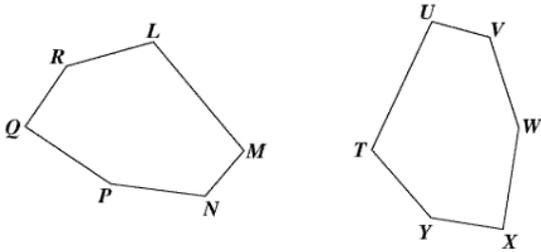
Answer all questions. Make sure that students understand that the dot tool cannot be used to answer a question.

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

Pause.

Directions: Type your answer in the box.

Figures $LMNPQR$ and $TUVWXY$ are congruent.



Which line segment in figure $TUVWXY$ must be congruent to \overline{LR} ?

Line Segment

Flag for Review Question 28 of 35 Section 1 Section Review Previous Next

SAY Question 28 is an example of a fill-in-the-blank item. The directions say, “Type your answer in the box.”

Now read and answer this question. Enter your answer in the box.

Pause while students read and answer the question.

SAY How did you answer the question?

Pause for replies.

SAY The correct answer is line segment TY . Notice the correct answer does not need to be the same length as the box.

Do you have any questions about your answer?

Answer all questions. This response box will only accept the letters used to name figure $TUVWXY$. If students ask, line segment YT would also be considered a correct response. Additionally, the line segment may be named using either upper or lower case letters; that is, ty and yt would be considered correct.

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

Pause.

The screenshot shows a digital math practice interface. At the top, there is a dark blue header bar with various icons (eraser, pencil, highlighter, eraser, ruler, compass, protractor, calculator, help) and the text "John doe", "Grade 6 Practice Items (2009 Math SOL)", and "X Exit". The main content area is white and contains the question: "Which figure appears to be a rhombus with four right angles?". Below the question are four options, each with a radio button and a letter label: A (a trapezoid), B (a rectangle), C (a parallelogram), and D (a rhombus). At the bottom, there is a dark blue footer bar with "Flag for Review", "Question 29 of 35", "Section 1", "Section Review", "Previous", and "Next" buttons.

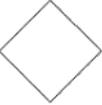
John doe
Grade 6 Practice Items (2009 Math SOL) X Exit

Which figure appears to be a rhombus with four right angles?

A 

B 

C 

D 

Flag for Review Question 29 of 35 Section 1 Section Review Previous Next

SAY Read question 29 to yourself and then answer the question.

Pause while students read and answer the question.

SAY Which answer did you choose?

Pause for replies.

SAY The correct answer is D.

Do you have any questions?

Answer all questions.

SAY Click the *Next* button at the bottom of the screen to go to question 30.

Directions: Click on each box you want to select. You must select all correct boxes.

Select each number that represents an integer.

$\frac{3}{18}$	-25	0	$\frac{1}{2}$	$\frac{57}{3}$
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Flag for Review Question 30 of 35 Section 1 Section Review Previous Next

SAY The gray directions banner for this question says, “Click on each box you want to select. You must select all correct boxes.”

To answer this question, you must click on each of the correct answers.

Answer the question now.

Pause while students answer the question.

SAY Which answers did you select?

Pause for replies.

SAY For your answer to be correct, you must have selected -25 , 0 , and $\frac{57}{3}$ and only those numbers.

Do you have any questions?

Answer all questions.

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

Pause.

The data set shown represents the growth of eight sequoia trees in centimeters.

78, 50, 152, 67, 75, 50, 95, 61

Which measure of center best represents the growth of these eight sequoia trees?

A Mean

B Median

C Mode

D Range

Question 31 of 35
Section 1

Flag for Review Section Review Previous Next

SAY Read question 31 to yourself and then answer the question.

Pause while students read and answer the question.

SAY Which answer did you choose?

Pause for replies.

SAY The correct answer is B, Median.

Do you have any questions?

Answer all questions.

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

Pause.

The screenshot shows a digital math practice interface. At the top, there is a toolbar with various icons for navigation and editing, and a user profile for 'John doe' with an 'Exit' button. The main content area contains the following text:

The first four terms of a sequence are shown.

48, 24, 12, 6, . . .

This sequence is —

- A a geometric sequence with a common ratio of $\frac{1}{2}$
- B a geometric sequence with a common ratio of 2
- C an arithmetic sequence with a common ratio of $\frac{1}{2}$
- D an arithmetic sequence with a common ratio of 2

At the bottom of the interface, there is a navigation bar with a 'Flag for Review' button, 'Question 32 of 35 Section 1', a 'Section Review' button, and 'Previous' and 'Next' buttons.

SAY Read question 32 to yourself and then answer the question.

Pause while students read and answer the question.

SAY Which answer did you choose?

Pause for replies.

SAY The correct answer is A, a geometric sequence with a common ratio of $\frac{1}{2}$.

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 doe
Grade5 Practice Items(2009 Math SOL) X Exit

What is the value of m when $18 = \frac{m}{6}$?

A $\frac{1}{3}$

B 3

C 12

D 108

Flag for Review Question 33 of 35 Section 1 Section Review Previous Next

SAY Read question 33 to yourself and then answer the question.

Pause while students read and answer the question.

SAY Which answer did you choose?

Pause for replies.

SAY The correct answer is D, 108.

Do you have any questions?

Answer all questions.

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

Pause.

Directions: Click and drag each equation into the correct box.

Identify the equation that illustrates each property of real numbers.

Identity Property of Addition	<input type="text"/>
Identity Property of Multiplication	<input type="text"/>
Multiplicative Property of Zero	<input type="text"/>
Inverse Property of Multiplication	<input type="text"/>

$$(15 + 2) \cdot 0 = 0$$

$$\frac{2}{3} \cdot \frac{3}{2} = 1$$

$$29 + 0 = 29$$

$$37 \cdot 1 = 37$$

Flag for Review Question 34 of 35 Section 1 Section Review Previous Next

SAY Item 34 is another example of a drag and drop technology-enhanced item. The directions banner says, “Click and drag each equation into the correct box.” You will click and drag your answers from the dark gray box to the correct locations. In order to have a complete answer, you must drag an equation into each box.

The item says, “Identify the equation that illustrates each property of real numbers.” You may answer the item now. If you change your mind after clicking and dragging an equation to a box, you can drag the equation back to the dark gray box and then select another equation to drag into the empty box.

Pause while students answer the item.

SAY How did you answer the item?

Pause for replies.

SAY The correct equations are:
 in the “Identity Property of Addition” box: $29 + 0 = 29$;
 in the “Identity Property of Multiplication” box: $37 \cdot 1 = 37$;
 in the “Multiplicative Property of Zero” box: $(15 + 2) \cdot 0 = 0$; and
 in the “Inverse Property of Multiplication” box: $\frac{2}{3} \cdot \frac{3}{2} = 1$.

You must have each equation in the correct location for your answer to be correct. In order for this question to be considered completely answered, all boxes must contain an equation. Do you have any questions on how to answer the question?

Answer all questions.

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

Pause.

The screenshot shows a digital math practice interface. At the top, there is a toolbar with various icons for navigation and assistance, including a cursor, eraser, highlighter, and a help icon. The user's name 'John doe' and the text 'Grade 6 Practice Items (2009 Math SOL)' are visible in the top right corner. The main content area contains the question: 'Which number sentence represents the solutions for this graph?'. Below the question is a number line graph with integers from -5 to 4. A red shaded region starts at -2 with a closed circle and extends to the right, ending with an arrowhead. Below the graph are four radio button options: A $x \geq -2$, B $x \leq -2$, C $x > -2$, and D $x < -2$. At the bottom of the interface, there is a navigation bar with a 'Flag for Review' button, the text 'Question 35 of 35 Section 1', a 'Section Review' button, and 'Previous' and 'Next' buttons.

SAY Read question 35 to yourself and then answer the question.

Pause while students read and answer the question.

SAY Which answer did you choose?

Pause for replies.

SAY The correct answer is A, $x \geq -2$.

Do you have any questions?

Answer all questions.

If you want your students to practice using the Help tool (as mentioned on page 9), they can do so now.

The ruler was not used in these practice items, but if you would like your students to measure an item, have them measure the width of the bar graph on question 10. The students may measure it in inches or centimeters (cm), whichever you prefer. The box width is approximately 4 ½ inches or 11.5 centimeters.

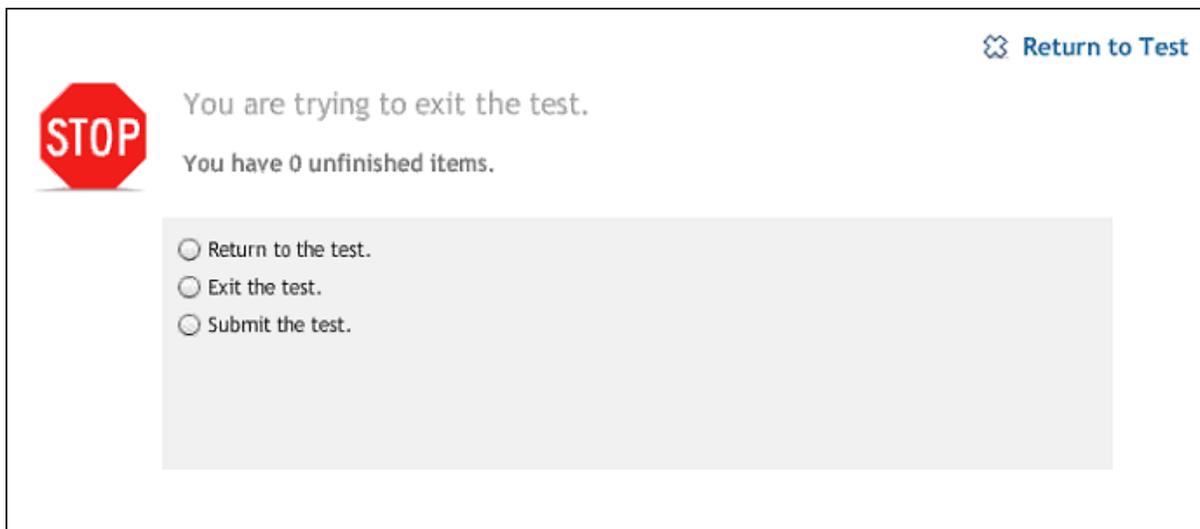
SAY You have completed the practice items. Are there any questions on anything we have reviewed today?

Answer all questions.

Since the Grade 6 Mathematics CAT does not have a Section Review screen, the remainder of these instructions will close TestNav on the student’s workstation without discussion of the Section Review screen. Please have students use the [CAT Training Test](#) to experience how they will exit TestNav from the CAT.

SAY Now click the *Exit* button in the top right of the screen. (Pause.)

You will see a stop sign with three choices.



SAY Select the third choice, “*Submit the test.*” A green box will appear that says, “*Final Submit.*” Click on this box. Once you click on this box, another box will appear that says, “*Close TestNav.*” Click on this box.

Students will not see this screen in the CAT because a completed CAT is submitted automatically for a student. However, “Close TestNav” will appear on their screen after they have finished the test so they will know it has been submitted.

This completes our review of the Grade 6 SOL Mathematics Practice Items.

Thank you for reviewing the Grade 6 Mathematics SOL Practice Items
with your students.

APPENDIX A**Answers to Grade 6 Mathematics Practice Items****Sample A**

The correct answer is A, 21.

Sample B

The correct answer is $\frac{3}{2}$, entered as *three forward slash two (3/2)*.

Question 1

The correct answer is B, $\frac{3}{7} \times \frac{1}{4}$.

Question 2

The correct answer is D, 78 square inches.

Question 3

The correct answer is C, 7 letters.

Question 4

The correct answer is D, an independent event because the outcome of the second pen does not depend on the outcome of the first pen.

Question 5

The correct answer is A, $\frac{1}{8}$.

Question 6

You must have both 4 and $\bar{4}$ selected, and only those two numbers selected, to get the item correct.

Question 7

The correct answer is 128.

Question 8

The correct responses are 4 meters and 5 meters (both measurements are required).

Question 9

Any of these ordered pairs are correct:

$(\bar{6}, 0)$, $(\bar{2}, 0)$, $(3, 0)$, or $(5, 0)$.

Question 10

A correct graph includes all of the following bar heights:

The bar representing “Action” should have a bar height of 15.

The bar representing “Comedy” should have a bar height of 30.

The bar representing “Other” should have a bar height of 5.

The bar representing “Musical” should have a bar height of 10.

Question 11

The correct answer is A, 5.25 cm.

Question 12

The correct answer is option B: Randomly selecting one tile from Bag B, not replacing the tile, then randomly selecting another tile from Bag B.

Answers to Grade 6 Mathematics Practice Items (continued)**Question 13**

The correct answer is option B, $3 \times \frac{1}{6}$.

Question 14

The correct answer is D, 19.

Question 15

Shading any six out of the sixteen boxes is considered a correct answer.

Question 16

To answer this question correctly, you must have selected 2:5, 2 to 5, and $\frac{2}{5}$.

Question 17

The correct answer is D, 14^3 .

Question 18

You should have dragged $\frac{7}{10}$ into the top box, 10% into the middle box, and 0.09 into the bottom box.

Question 19

The correct answer is D, 75.

Question 20

The correct answer is A, -10 .

Question 21

To answer this question correctly, you must have selected both 0.60 and 60%.

Question 22

The correct answer is C, $3\frac{1}{9}$.

Question 23

The correct answer is B, 15 bows.

Question 24

The correct answer is B, 24 inches.

Question 25

The correct answer is D, $\frac{59}{18.8}$.

Question 26

The correct answer is B, 19.6 sq yd.

Question 27

The correct answer is C, Point *M*.

Question 28

The correct answer is line segment *TY* or line segment *YT*. (Upper or lower case letters are scored as correct answers.)

Answers to Grade 6 Mathematics Practice Items (continued)**Question 29**

The correct answer is D.

Question 30

The correct answers are -25 , 0 , and $\frac{57}{3}$. All three of these numbers are required.

Question 31

The correct answer is B, Median.

Question 32

The correct answer is A, a geometric sequence with a common ratio of $\frac{1}{2}$.

Question 33

The correct answer is D, 108.

Question 34

The correct equations are:

in the “Identity Property of Addition” box: $29 + 0 = 29$;

in the “Identity Property of Multiplication” box: $37 \cdot 1 = 37$;

in the “Multiplicative Property of Zero” box: $(15 + 2) \cdot 0 = 0$; and

in the “Inverse Property of Multiplication” box: $\frac{2}{3} \cdot \frac{3}{2} = 1$.

Question 35

The correct answer is A, $x \geq -2$.

APPENDIX B

An Overview of when a Technology-Enhanced Item (TEI) is Considered “Answered” by the Student

On the Computer Adaptive Test (CAT), the student cannot proceed to the next question until the current question is considered “Answered.” When an item is considered “Answered” the *Next* button on the bottom toolbar will be active. Once the *Next* button is selected, the student will proceed to the next question and will not be able to return to any previously answered question.

These criteria will be used to determine when a TEI is considered “Answered.”

Fill-in-the-blank Items

For all fill-in-the-blank items, when a student enters any character into the response box, the item will be considered answered. If a student enters an answer and then completely removes that answer from the fill-in-the-blank box, the item will be considered unanswered.

Histogram or Bar Graphing Items

For all histogram or bar graphing items, when a student raises any bar, the item will be considered answered. If the student moves all bars back down to the original heights, the item will be considered unanswered.

Hot Spot Items

When the number of correct responses is indicated in the directions or in the item itself, the item will be considered answered only when the student selects that number of hot spots. For example, if the student is directed to select three answers, the item will be considered unanswered if the student selects one or two answers. It will only be considered answered once the student has selected three answers. If the number of correct responses is not indicated in the directions or in the question itself, then the item will be considered as answered once the student selects one answer. For example, if the student is required to “Select all the correct answers,” the item will be considered as answered once the student selects one answer option. In this case, it is assumed that the student thought there was only one correct answer.

Number Line or Coordinate Plane Items

Many number line or coordinate plane items require the student to plot one or more points as the response. When the number of points necessary to answer the item is indicated in the directions or the item itself, the item will be considered answered only when the specified number of points has been plotted. When the directions or the item do not specify the number of points to plot, the item will be considered as answered once the student plots one point. Only points that have been plotted with the pointer tool are scorable responses. Points plotted with the dot tool are not scorable responses. If a student answers a question with the dot tool, the question will not be considered answered.

APPENDIX B (Continued)**Drag and Drop Items**

Drag and drop items contain answer receptacles called “bays” and “dragers” that the student moves into the bays to answer the question. There are many types of drag and drop items, and each item is evaluated individually as to when it is considered answered. For items with a specified number of bays, the item will show be considered as answered once the student uses that number of dragers. For example, if there are three bays and it is intended for a dragger to be placed into each bay, then the item will be considered answered once three dragers have been input by the student. Or, in another example, if the directions or question indicate that all dragers need to be used to answer the item, then the item will be considered as answered only when all dragers have been used. If the number of dragers necessary to answer the question is not indicated, such as an item that requires the use of a dragger to complete a model or pictograph, the item will be considered as answered once the student places one dragger in a bay.