Practice Item Guide

VMAST
Virginia Modified Achievement Standards Test

Algebra I

March, 2013
Pearson

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OVERVIEW

The Virginia Modified Achievement Standards Test (VMAST) is intended for students with disabilities who are being instructed in grade level content but are not likely to achieve proficiency in the same time frame as their non-disabled peers. According to the United States Education Department's (USED) guidance, tests designed to measure modified achievement standards must address grade level content but may be less rigorous than the tests administered to regular education students. In the VMAST mathematics assessments, research-based supports and simplifications identified by Virginia educators have been applied to existing online mathematics items to make them more accessible for students with disabilities.

The VMAST practice items give students the opportunity to practice using supports and simplifications which may be found on an actual VMAST test. Additionally, these items illustrate the technology-enhanced item (TEI) types. These practice items do not cover all the content assessed on the Algebra I VMAST and should not be used in place of review for the VMAST test content.

This practice guide may be used by teachers or other adults to guide students through the VMAST practice items for Algebra I. 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 VMAST Algebra I test. The directions in the guide will also lead students through practice with the online tools, familiarize students with how to navigate through the test, and provide practice with using the Section Review Screen within TestNav. Appendix B summarizes how student responses for TEI are indicated on the Section Review screen.

Prior to guiding students through the VMAST practice items, carefully read this practice item guide and review the practice items to become familiar with the items and the supports and simplifications. 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. While these VMAST 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 Appendix A.

All associated VMAST resources are available at
http://www.doe.virginia.gov/testing/alternative_assessments/vmast_va_mod_achievement_stds_test/index.shtml

The following Change Log indicates any updates to this document.

Change Log		
Version	**Date**	**Description**
V.1	03/21/2012	Original document posted.
V.2	10/31/2012	Additional practice items added to existing set. Various changes throughout guide regarding how TEI appear on the Section Review screen. Updated directions and screen shots for exiting TestNav. Added Appendix B.
V.3	03/15/2013	Overview and TEI description page amended; 5 new items added.

SYSTEM REQUIREMENTS FOR TESTNAV

The minimum hardware requirements for all workstations used to access TestNav are available at http://pearsononlinetesting.com/TN7requirements

TECHNOLOGY-ENHANCED ITEM (TEI) TYPES FOR VMAST

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 VMAST practice items for Algebra I will introduce three of the TEI types: drag and drop, hot spot, 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 VMAST reading and mathematics 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, the testing software used in Virginia, 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 VMAST reading and mathematics 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 VMAST mathematics 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 spell a word correctly; however, alphabetic characters may be used in an answer.

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

OPENING THE VMAST MATHEMATICS PRACTICE ITEMS

1. Go to the Virginia Department of Education Web site: http://www.doe.virginia.gov/testing/alternative_assessments/vmast_va_mod_achievement_stds_test/practice_items/index.shtml

2. In the table titled "VMAST Mathematics Practice Items," click on the Algebra I "Practice Items" link. Since this is a web-based application, the link will take you directly to the Algebra I VMAST Mathematics Practice Items.

   OR

   For the audio version of the VMAST Mathematics Practice Items, click on the audio version link in the table.

MATERIALS NEEDED FOR COMPLETING VMAST PRACTICE ITEMS

Algebra I: Scratch paper, pencil, and graphing calculator

ONLINE TOOLS AVAILABLE FOR COMPLETING 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 tool can be used to respond to the questions.

	**Pointer** – Use the pointer to answer 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 on multiple-choice questions to mark choices 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** – Use the dot tool to place a dot on the screen.
	**Exhibit** – Use to display an exhibit. Tool contains information only about the Commonwealth of Virginia copyright. The exhibit icon only appears on the first screen of these practice items.
	**Help** – Use the help tool to display information about a specific tool on the top toolbar.

PROVIDE ACCOMMODATIONS

If a student's Individualized Education Plan (IEP) includes accommodations, those accommodations should be provided during administration of the VMAST practice items. If a student's accommodation includes an audio assessment, the audio practice items can be used with the student. The directions in this guide will need to be adjusted by the teacher or adult administering the practice items.

BE PREPARED TO ANSWER STUDENTS' QUESTIONS DURING THE VMAST PRACTICE ITEMS

If a student asks a question while administering the VMAST practice items, it is acceptable to give assistance. You may answer students' questions referring to the mechanics of testing, such as how to navigate to the next question or how to use a specific tool. Because these are practice items, the content of the practice questions also may be discussed.

SPECIFIC DIRECTIONS FOR THE VMAST ALGEBRA I 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 Algebra I practice items for the Virginia Modified Achievement Standards Test (VMAST). There are 16 questions that will show you some of the ways in which a VMAST item can be presented. Some questions will be multiple-choice and others are technology-enhanced items. Technology-enhanced items require you to show your answer in another way, such as typing your answer in a box, completing a graph, or clicking and dragging your 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. Most questions will be followed by three possible answers. Please remember that the questions you see are practice questions. They will not be graded or scored, and I will tell you the answer for each item.

Do you have 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 the first question reads "Question 1 of 16."**

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 each tool as we work through the practice questions. If you forget what a tool does, you can click on the Help symbol (**  **).**

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.

Note that the exhibit window for these practice items and for the VMAST for Algebra I contains information only about the Commonwealth of Virginia copyright. The exhibit icon only appears

on the first screen of the practice items. Formulas found on the formula sheet located within the exhibit window for the Standards of Learning (SOL) practice items and for the Algebra I SOL Test are embedded within the VMAST items themselves; therefore, a formula sheet is not necessary for these items.

SAY **Remember that the tools at the top of the screen are there to help you answer the questions. The only tool that can be used to mark an answer to a question is the pointer tool ( ).**

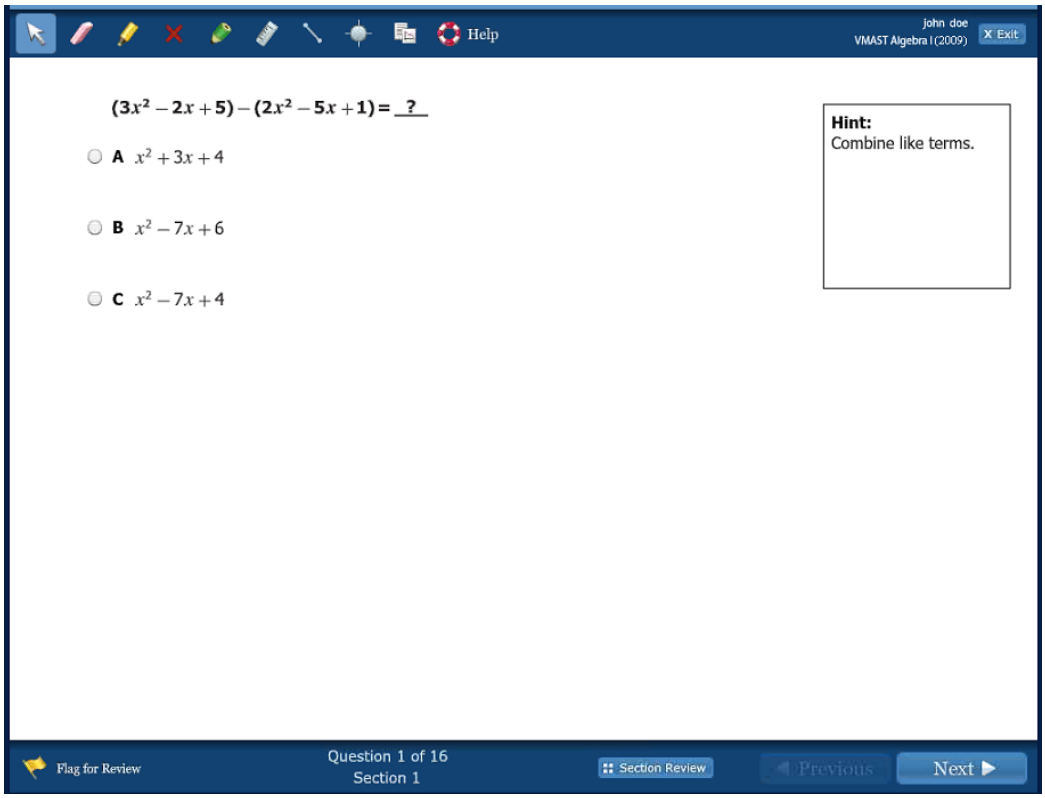
Look at the first practice item on your screen.

Check to see that the students are looking at the first question.

SAY **Read question 1 to yourself.**

If a student's IEP provides for a read-aloud accommodation, then all questions should be read to the student.

Pause while students read the question.



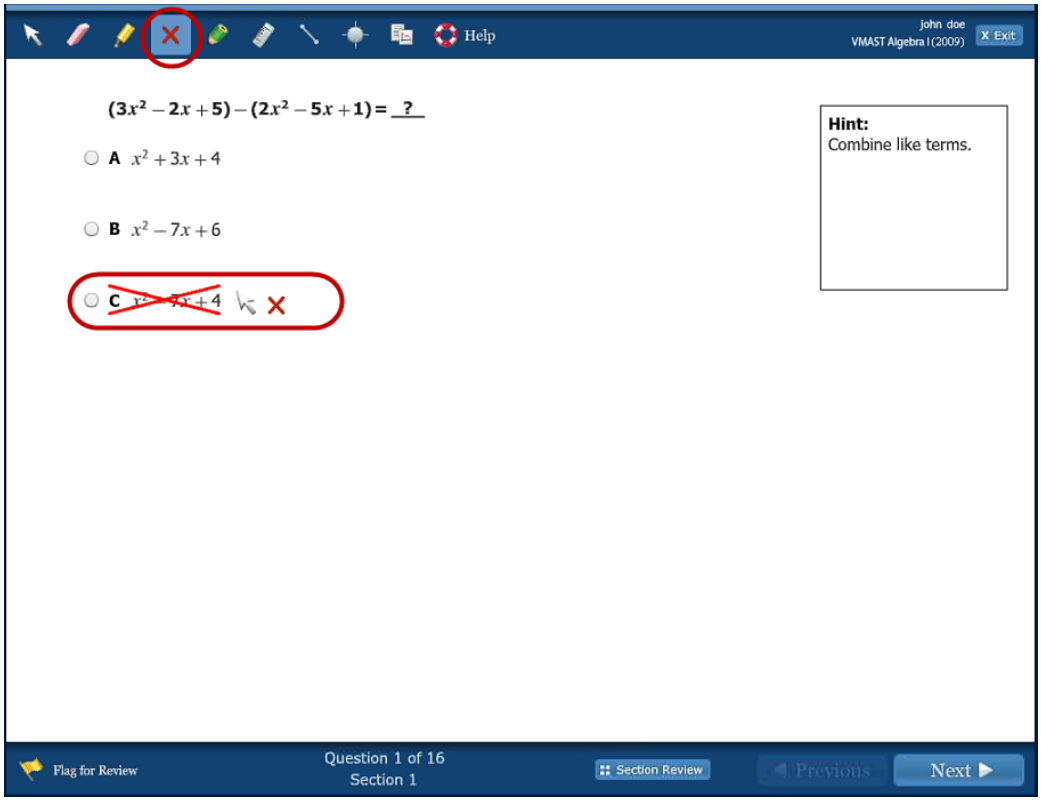
SAY **Notice that question 1 contains a "Hint" box located to the right of the question. Hint boxes have information that may assist you in answering the question. Always read the information in a hint box.**

This hint box says "Combine like terms."

SAY **Before you answer the question, let's practice using the eliminator tool. The eliminator tool can be used on multiple-choice questions like this one to eliminate choices you do not wish to consider.**

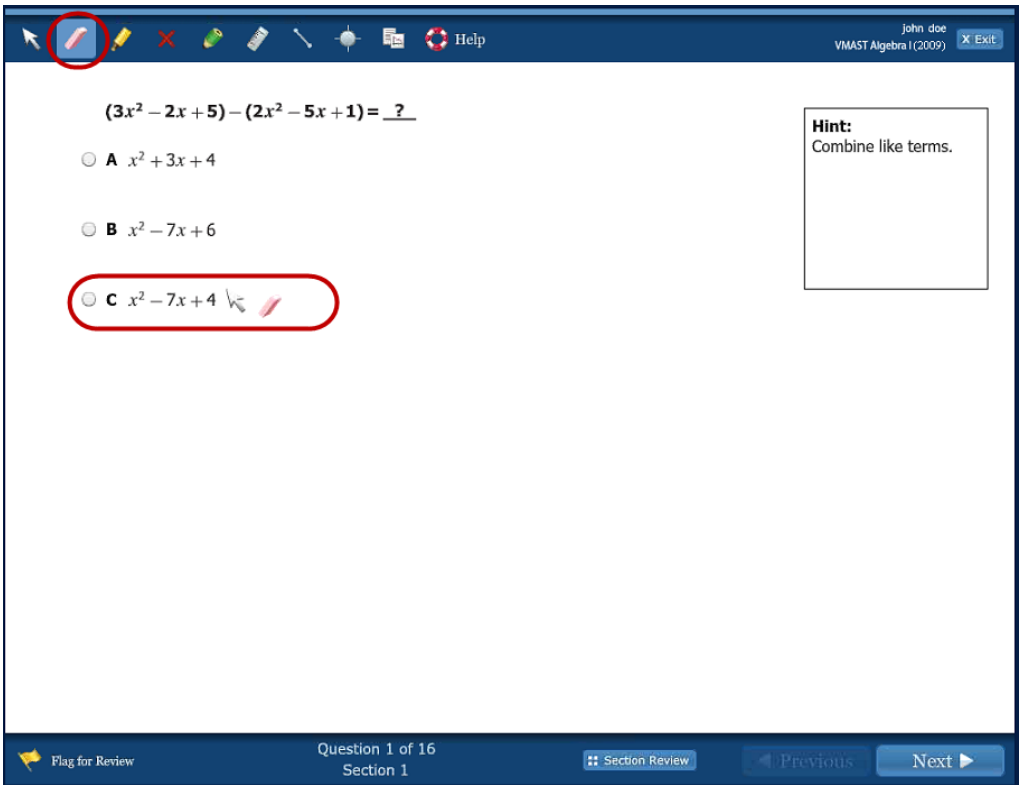
At the top of the screen, click on the button with the red X( ). Selecting this tool will change your pointer to an arrow with a red X next to it. You can use this tool to eliminate as many choices as you want. To practice eliminating answers, click on answer choice C. Then click the eliminator tool again to put it away.

Wait for students to eliminate choice C and put the tool away.



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.**

Pause while students practice using this tool.



SAY **Click on the eraser tool icon to put it away.**

Now use your scratch paper and calculator to decide which answer is correct and click on the answer.

Pause while students answer the question.

SAY **Which answer did you choose?**

Pause for replies.

SAY **The correct answer is A, $x^2 + 3x + 4$. Do you have any questions about how to select an answer, use the eliminator, or use the eraser?**

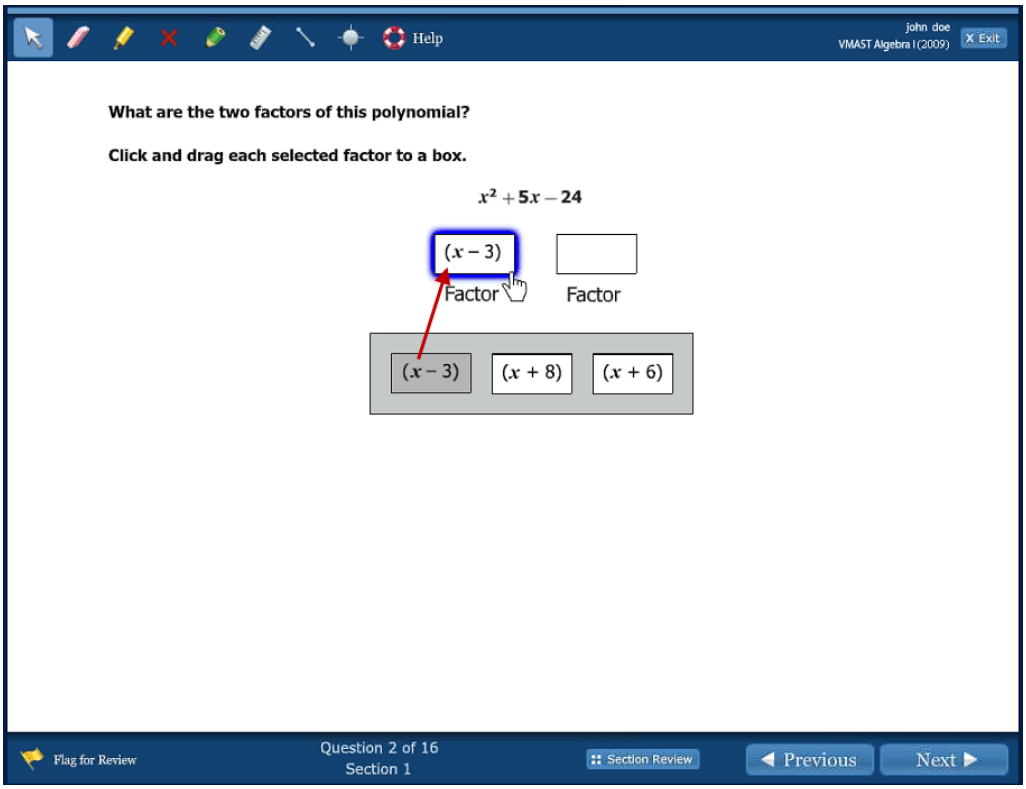
Answer questions about how to click to select an answer or use the tools. Since these are practice items, it is acceptable to give assistance or discuss how to find the correct answer to any question.

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

Wait for students to click *Next*. Check to see that the students are looking at the correct question.

SAY **Read question 2 to yourself. Notice question 2 is not a multiple-choice question; it is an example of a technology-enhanced item. It requires you to click and drag your answer choices from the dark gray box to the empty boxes.**

Pause while students read the question.



SAY **The directions say, "Click and drag each selected factor to a box."**

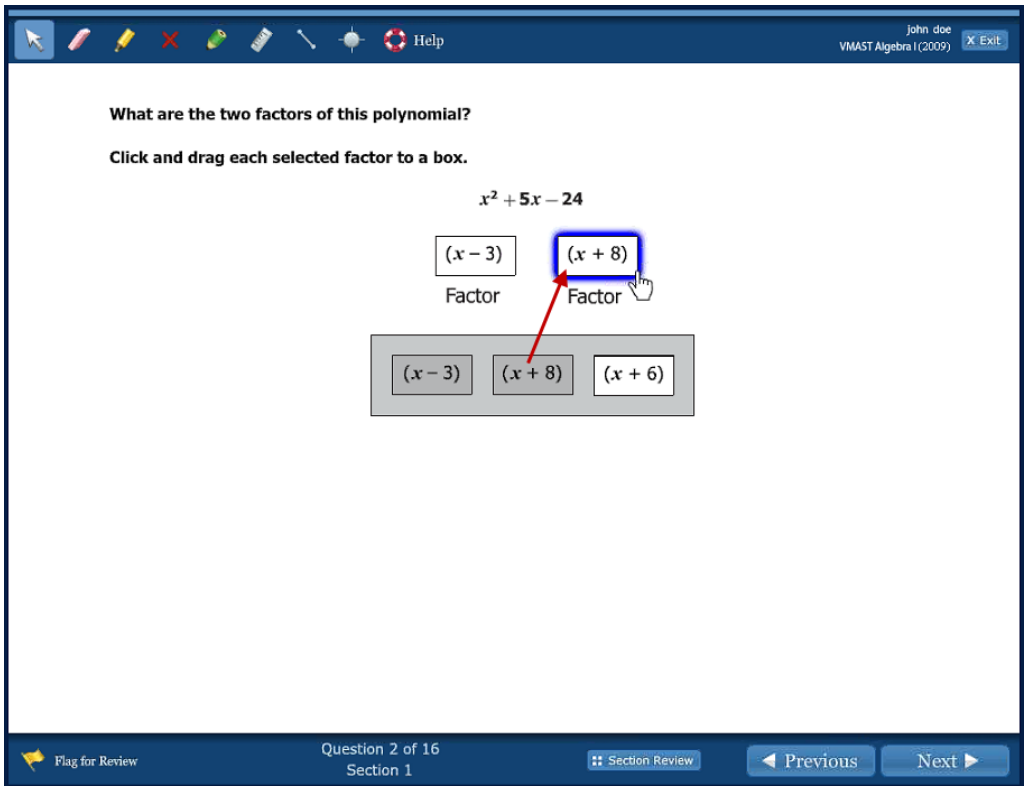
Notice that the question asks you for two factors and that there are two empty boxes. To answer this question, you must drag a factor from the dark gray box into each of the empty boxes labeled "Factor" in the diagram. The question indicates that you should select two factors in order to answer the question fully.

Answer options for drag and drop items will typically be within a dark gray box.

SAY **If you change your mind after clicking and dragging a factor to a box, you can drag the factor back to the dark gray box and select another factor.**

Now answer the question.

Pause while students factor the polynomial and select the factors.



SAY **Which two factors did you choose?**

Pause for replies.

SAY **The correct factors are (x – 3) and (x + 8). It does not matter in which order you put the factors in the boxes.**

When we are done looking at the practice items, we will look at a Section Review Screen. The Section Review screen shows which questions you have answered, which questions you have not answered, and which questions you have flagged for review. In order for this question to show as "Answered" on the Section Review screen, both of the empty boxes below the polynomial must contain a factor. If you do not click and drag a factor into each of these boxes, the question will show as "Unanswered" on the Section Review screen, because the item indicated that you should select two factors.

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

Please note that additional information regarding the requirements for an item to appear as "Answered" on the Section Review screen within TestNav is located in Appendix B for reference.

SAY **Do you have any questions?**

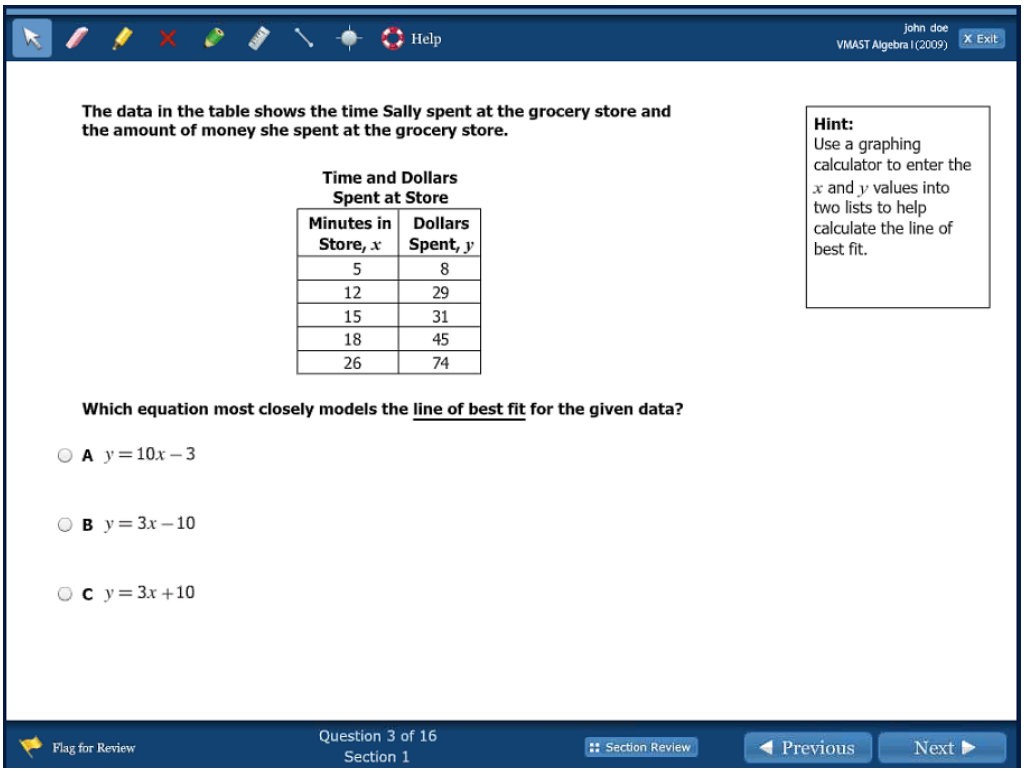
Answer all questions.

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

Wait for students to click *Next*. Check to see that the students are looking at the correct question.

SAY **Read question 3 to yourself.**

Pause while students read the question.



SAY **Notice that question 3 also contains a hint box. This hint box says "Use a graphing calculator to enter the *x* and *y* values into two lists to help calculate the line of best fit."**

Use your scratch paper and calculator to decide which answer is correct. You may use the eliminator tool to narrow down the answer choices. Then click on the answer you have chosen with the pointer tool.

Pause while students answer the question.

SAY **Which answer did you choose?**

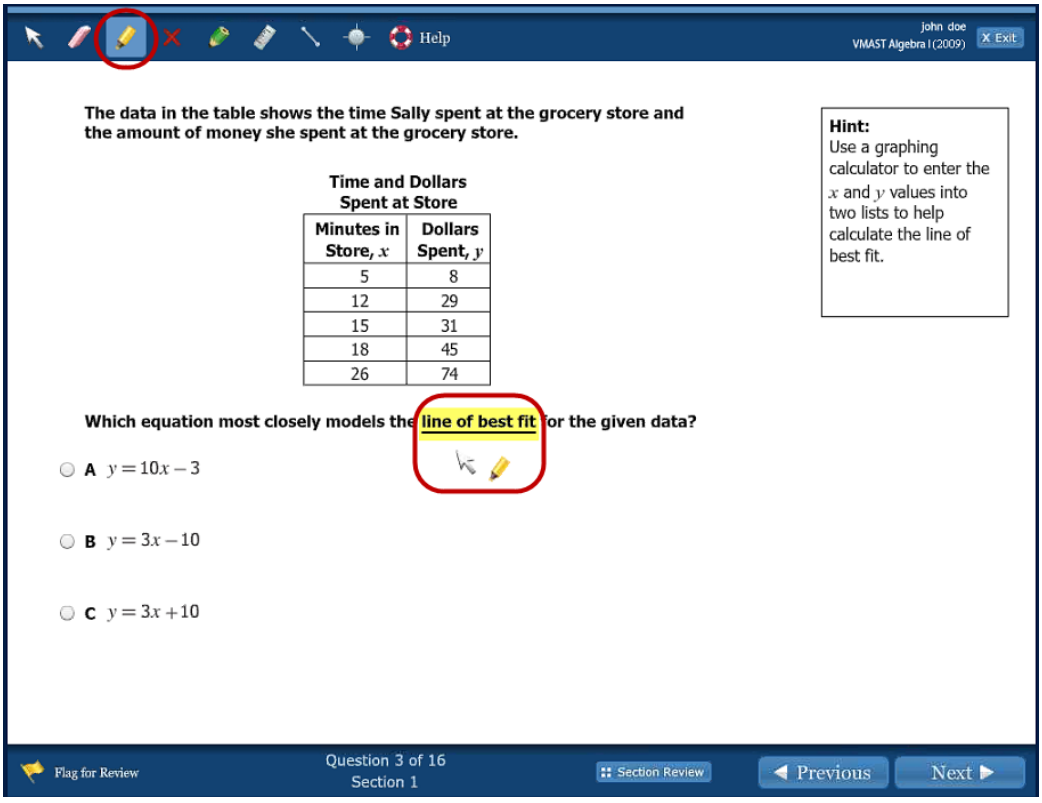
Pause for replies.

SAY **The correct answer is B, $y = 3x - 10$. Do you have any questions?**

Answer all questions.

SAY **Before we go to the next question, let's practice with the highlighter. You can use the highlighter tool on the toolbar to highlight text. To select this tool, click the icon that looks like a yellow highlighter ( ). Selecting the highlighter tool will change your pointer to an arrow with a highlighter next to it. Practice using the highlighter by highlighting the phrase "line of best fit" above the answer choices. Click again on the highlighter tool on the toolbar to put the tool away.**

Pause while students practice using the highlighter tool.



SAY **Do you have any questions on how to use the highlighter tool?**

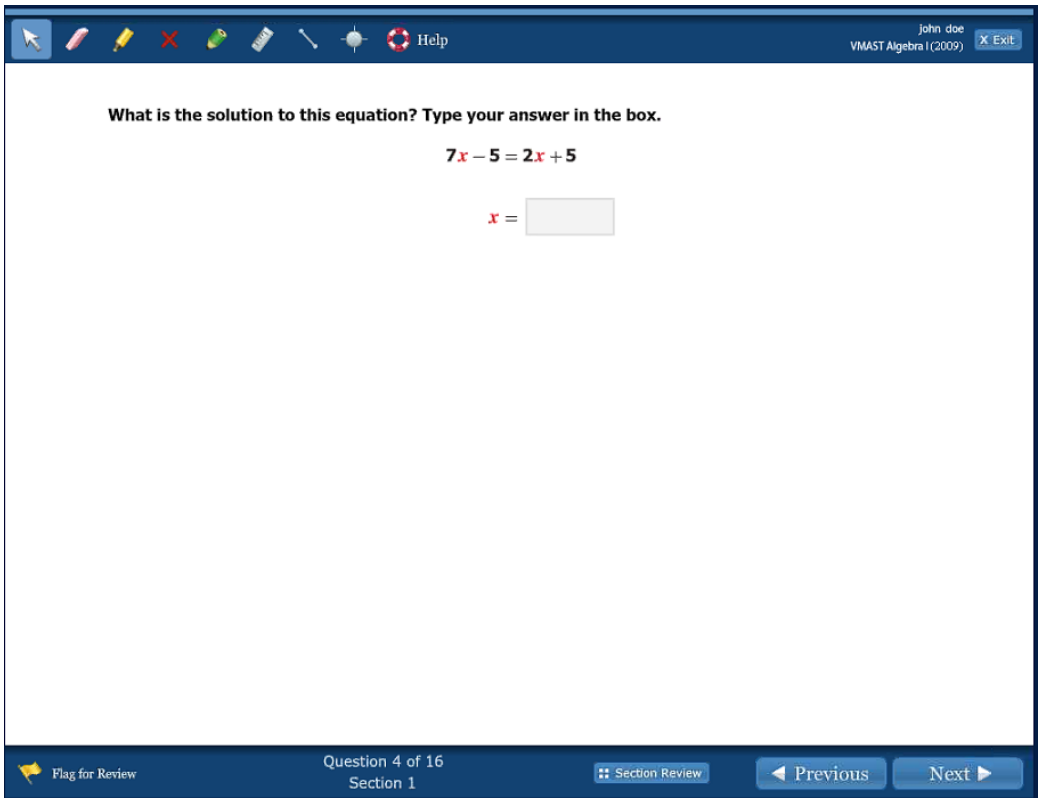
Answer all questions.

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

Wait for students to click *Next*. Check to see that the students are looking at the correct question.

SAY **Read question 4 to yourself.**

Pause while students read the question.



SAY **Question 4 is an example of a fill-in-the-blank technology-enhanced item. To answer this question, you will need to solve the equation and type your answer in the empty box. After you solve the equation, use the pointer tool ( ) to click inside the empty box and then use your keyboard to type the answer.**

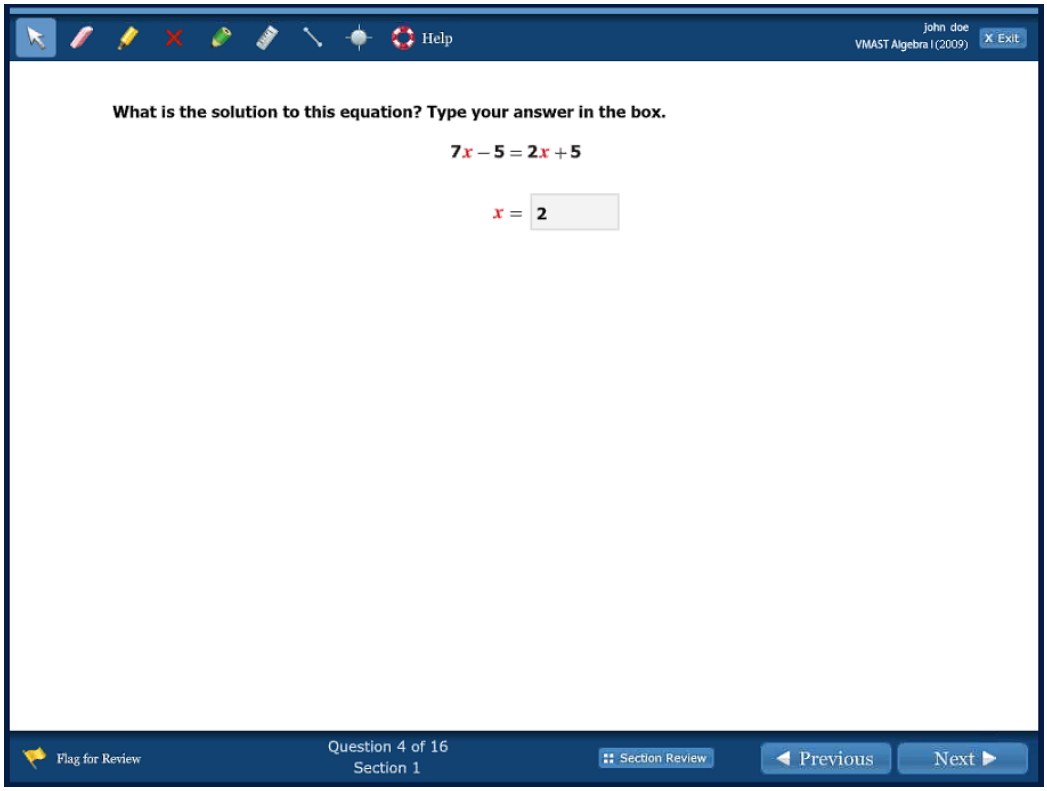
Pause while the students solve the equation and type their answer in the box.

SAY **What is the solution to the equation?**

Pause for replies. Since these are practice items, it is acceptable to give assistance or discuss how to find the correct answer to any question.

SAY **The correct answer is 2. Notice that the answer you entered does not need to be the same length as the box.**

Answer all questions. Since the decimal is an allowable character, 2.0 is also an acceptable answer.



SAY **Try entering other characters into the box, such as letters, spaces, or symbols. Notice that this box will only accept numbers and a decimal point.**

For any item that requires you to type your answer, if a letter, number or symbol does not appear in the answer box after you've tried to enter it, then you cannot use that character in your answer. Make sure you pressed the correct key before deciding the character cannot be used.

Pause while students try to enter other characters.

SAY **You can use the backspace key or the delete key on the keyboard to clear your answer. To use the backspace key, put your pointer tool after the last number you typed and press the backspace key to clear it. To use the delete key, place the pointer in front of the numbers you want to clear, then press "delete" to remove each number one at a time. Now try clearing your answer and retyping 2, the correct answer to this problem.**

Pause while students clear the answer box and retype 2.

SAY **When we finish looking at the practice items, we will look at a Section Review screen. The Section Review screen shows which questions you have answered and which questions you have not answered. 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 show as "Answered" on the Section Review screen; however, if you completely remove all entries from the response box, the question will be "Unanswered."**

Do you have any questions about how to enter or change your answer?

Answer any questions.

Please note that additional information regarding the requirements for an item to appear as "Answered" on the Section Review screen within TestNav is located in Appendix B for reference.

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

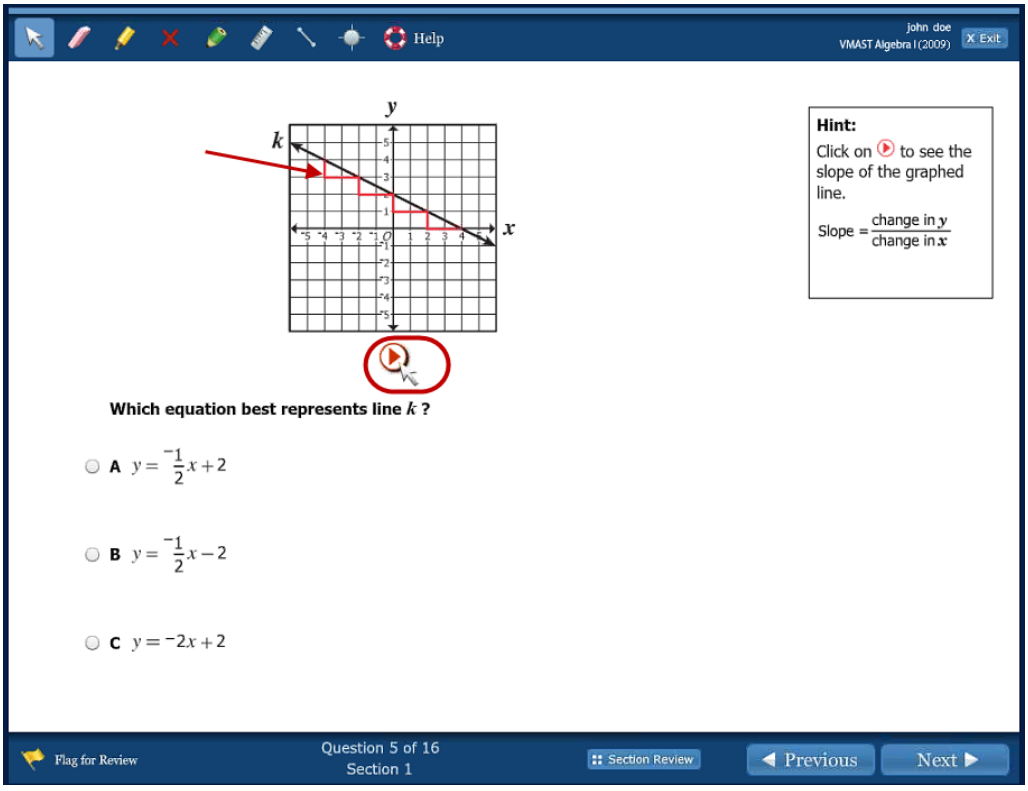
Wait for students to click *Next*. Check to see that the students are looking at the correct question.

SAY **Read question 5 to yourself.**

Pause while students read the question.

SAY **Question 5 contains a hint box. This hint box says "Click on (the red arrow button) to see the slope of the graphed line. Slope equals the change in y divided by the change in x." Some questions will contain red arrow buttons that can be used to cause some action on the screen. Click on the red arrow button below the grid to see the slope of the graphed line. To replay the action, click on the red arrow button again.**

Pause while students click the red arrow button.



SAY **Select the correct answer. Which answer did you choose?**

Pause for replies.

SAY **The correct answer is A, $= -\frac{1}{2}x + 2$.**

SAY **Do you have any questions about the answer you selected or how to use the red arrow button?**

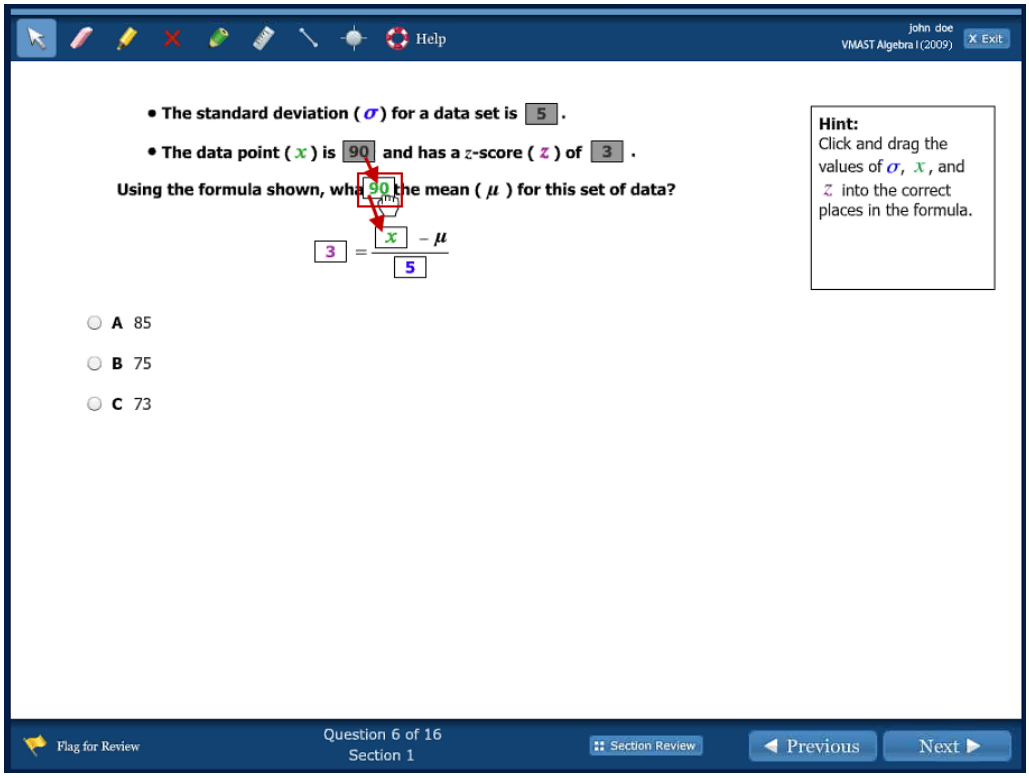
Answer all questions.

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

Wait for students to click *Next*. Check to see that the students are looking at the correct question.

SAY **Read question 6 to yourself.**

Pause while students read the question.



SAY **Question 6 contains a hint box. The hint box says, "Click and drag the values of sigma (σ), x, and z into the correct places in the formula." Notice the variables and their values have color to help you solve this problem. Click and drag the value of each of the variables into the expression.**

If you decide to change the location of a value in the formula, you must drag the value back to its original position and then drag it to its new box within the formula.

Use your scratch paper, your calculator, and the formula to find the mean. Then select an answer choice. You may use the tools we have practiced: the eliminator, eraser, and highlighter.

Pause while students select the answer to the question.

SAY **Which answer did you choose?**

Pause for replies.

SAY **The correct answer is B, 75. Do you have any questions?**

Answer all questions.

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 VMAST 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. Earlier I explained that the Section Review screen shows which questions you have answered and which questions you have not answered; it also shows which items you have flagged for review. The questions you *Flag for Review* will have a picture of a flag next to them to remind you that you want to review the item when you reach the end of the test.**

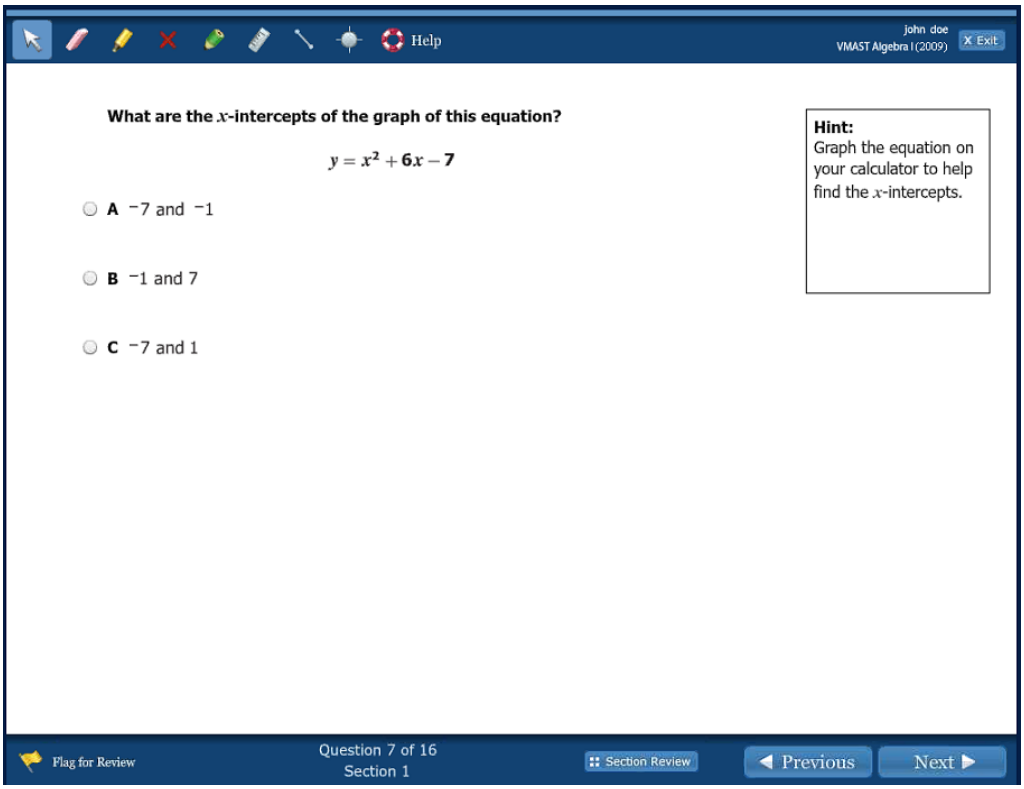
Pause.

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

Wait for students to click *Next*. Check to see that the students are looking at the correct question.

SAY **Read question 7 to yourself.**

Pause while students read the question.



SAY **Question 7 contains a hint box. This hint box says "Graph the equation on your calculator to help find the *x*-intercepts." So, use your graphing calculator to graph the equation to help you select an answer choice. Then select your answer.**

Pause while students click on answer choices and select their answer.

SAY **Which answer did you choose?**

Pause for replies.

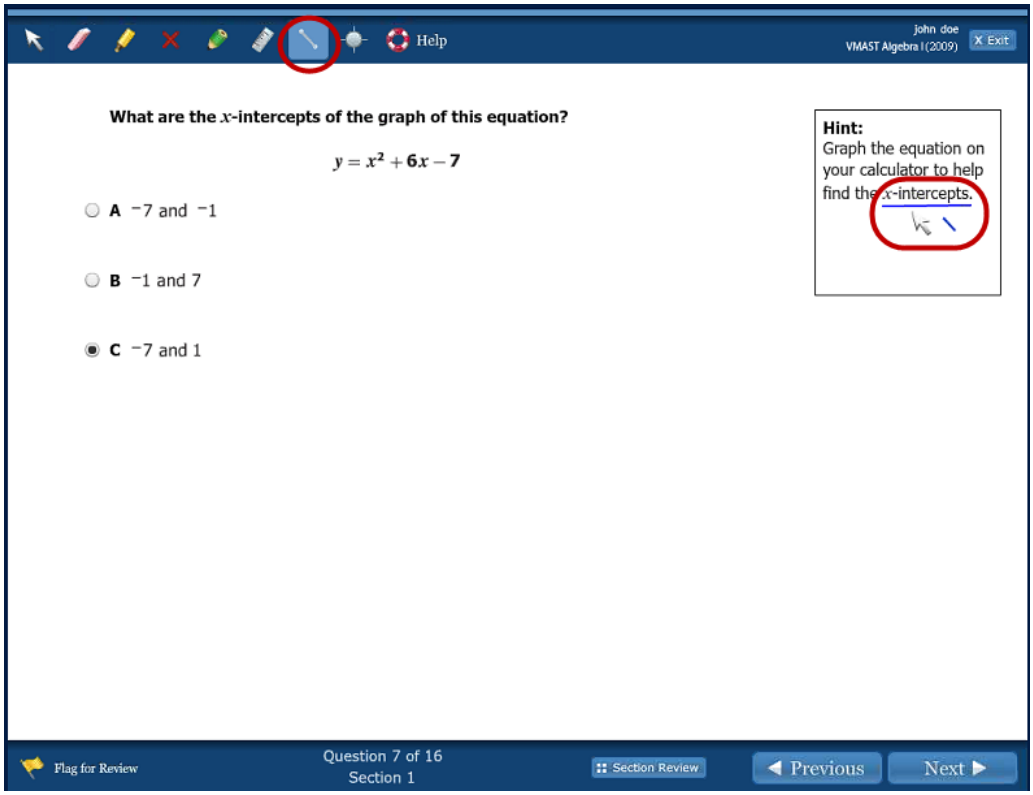
SAY **The correct answer is C, −7 and 1. Do you have any questions?**

Answer all questions.

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. 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 "*x*-intercepts" in the hint box. Then click again on the straightedge tool and "Tool 2" on the toolbar to put the tool away.

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

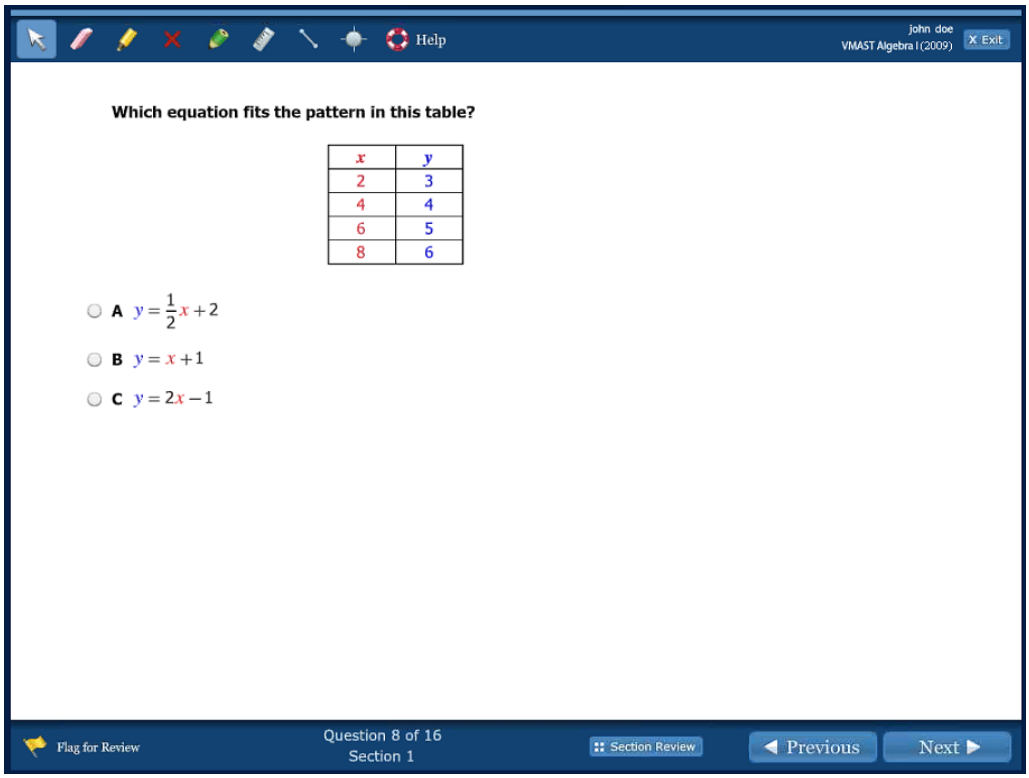


SAY **Click *Next* at the bottom of the screen to continue to the next question.**

Wait for students to click *Next*. Check to see that the students are looking at the correct question.

SAY **Read question 8 to yourself.**

Pause while students read the question.



SAY **In question 8, the table of ordered pairs is color coded to match the variables in the answer choices. Decide which equation contains all of the ordered pairs in the table. Then select your answer. You may use the tools we have practiced: the eliminator, eraser, highlighter or straightedge.**

Pause while students explore this question and the tools. Answer questions, as necessary.

SAY **Which answer did you choose?**

Pause for replies.

SAY **The correct answer is A, $= \frac{1}{2}x + 2$. Do you have any questions?**

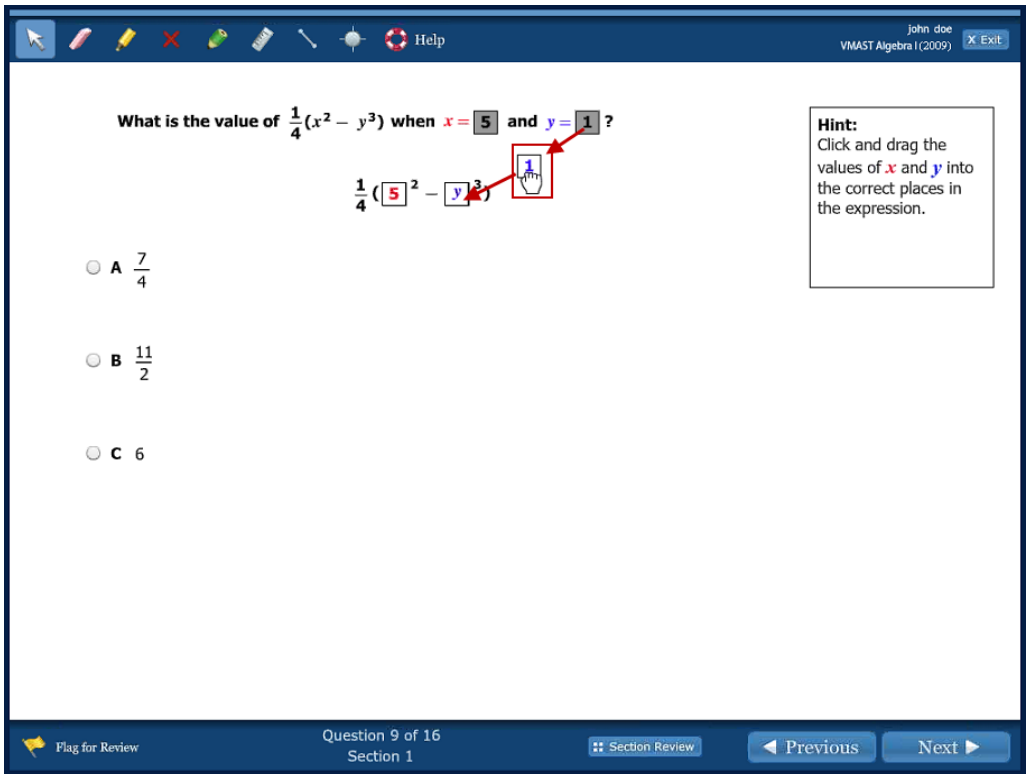
Answer all questions.

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

Wait for students to click *Next*. Check to see that the students are looking at the correct question.

SAY **Read question 9 to yourself.**

Pause while students read the question.



SAY **Question 9 contains a hint box that says "Click and drag the values of *x* and *y* into the correct places in the expression." The color coding will help you decide where in the expression to drag the values of *x* and *y*.**

Use your scratch paper and your calculator to decide which answer is correct. Then select your answer.

Pause while students work to find the answer to the question.

SAY **Which answer did you choose?**

Pause for replies.

SAY **The correct answer is C, 6. Do you have any questions?**

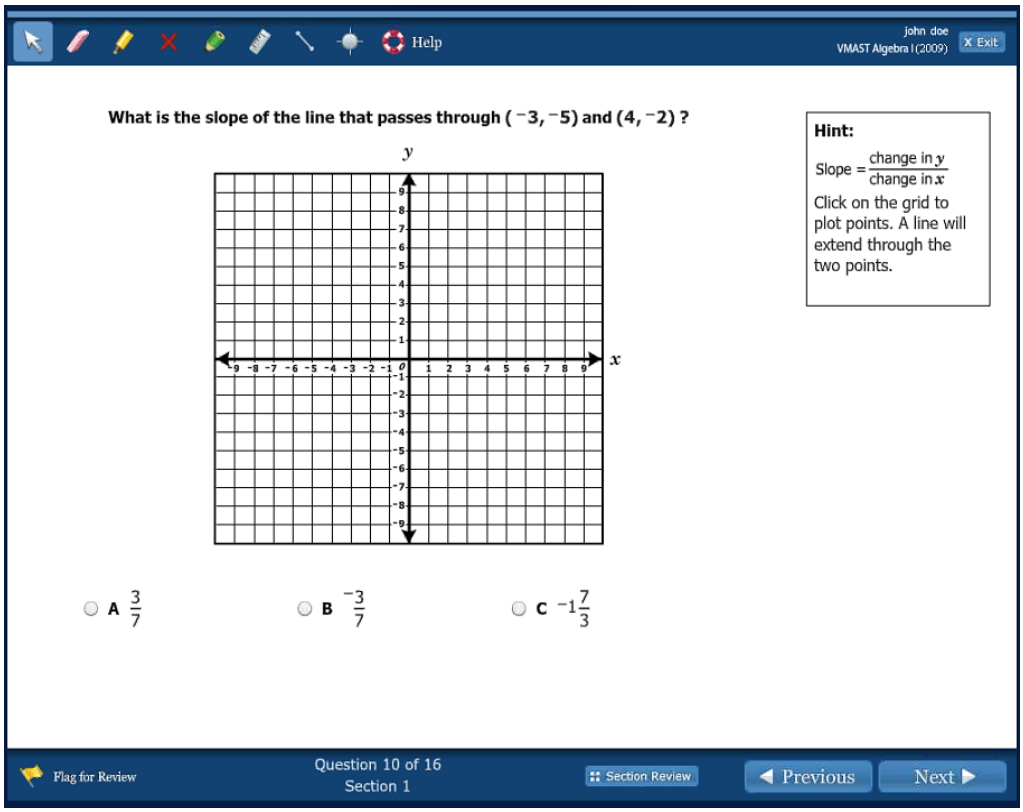
Answer all questions.

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

Wait for students to click *Next*. Check to see that the students are looking at the correct question.

SAY **Read question 10 to yourself.**

Pause while students read the question.



SAY **Question 10 also has a hint box. This hint box says "Slope equals the change in y divided by the change in x. Click on the grid to plot the points. A line will extend through the two points."**

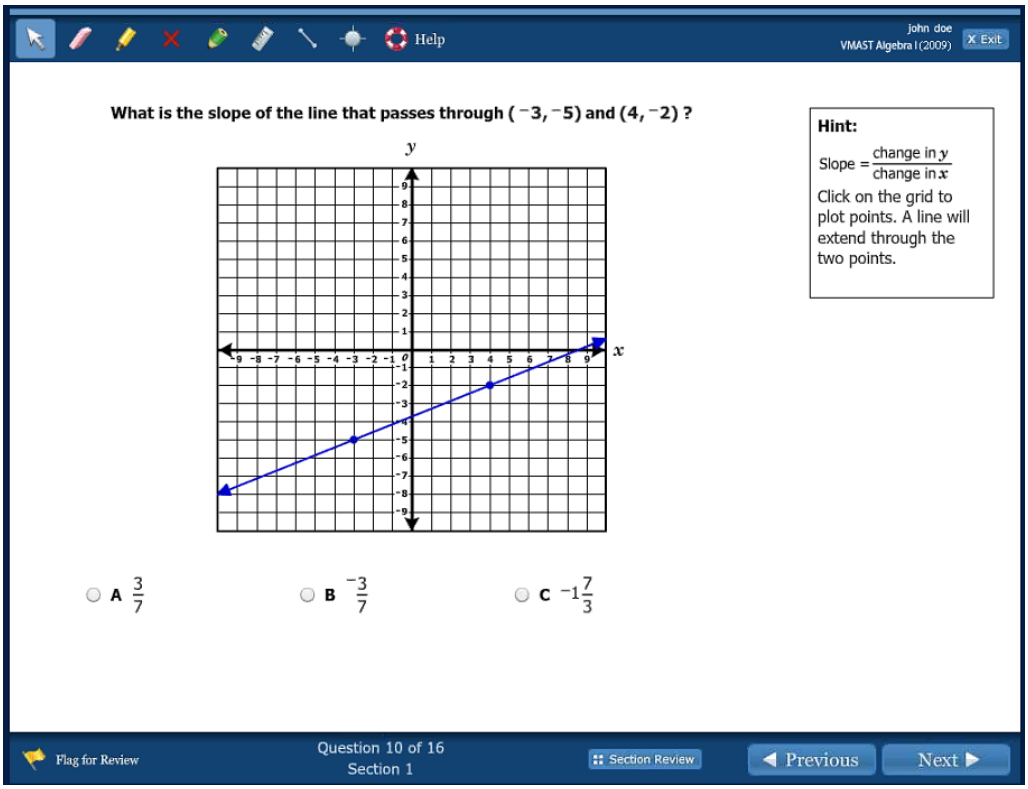
Locate the first ordered pair (¯3, ¯5) on the grid with your pointer and click on this location. A blue point should appear with a vertical red line at x = ¯3 and a horizontal red line at y = ¯5. The red lines will disappear when you move your pointer off the point. Now plot the second point on the grid. After you plot the second point, a blue line will appear through the two points.

If you change your mind and want to change the location of a point on the grid, use the eraser tool to erase the point you want to change or click on the point again to erase it.

Wait while the students plot the second point.

SAY **Now take a moment and select your answer.**

Pause for students to choose an answer.



SAY **Which answer did you choose?**

Pause for replies.

SAY **The correct answer is A, $\frac{3}{7}$. Do you have any questions on how to plot the points?**

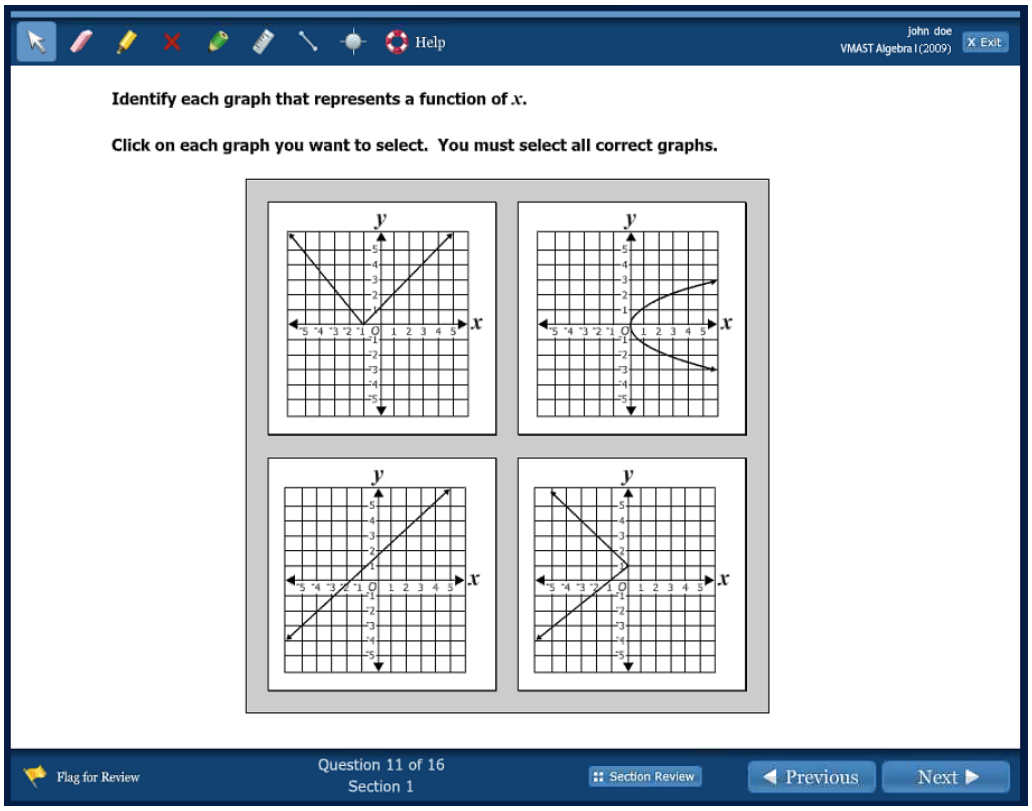
Answer all questions.

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

Wait for students to click *Next*. Check to see that the students are looking at the correct question.

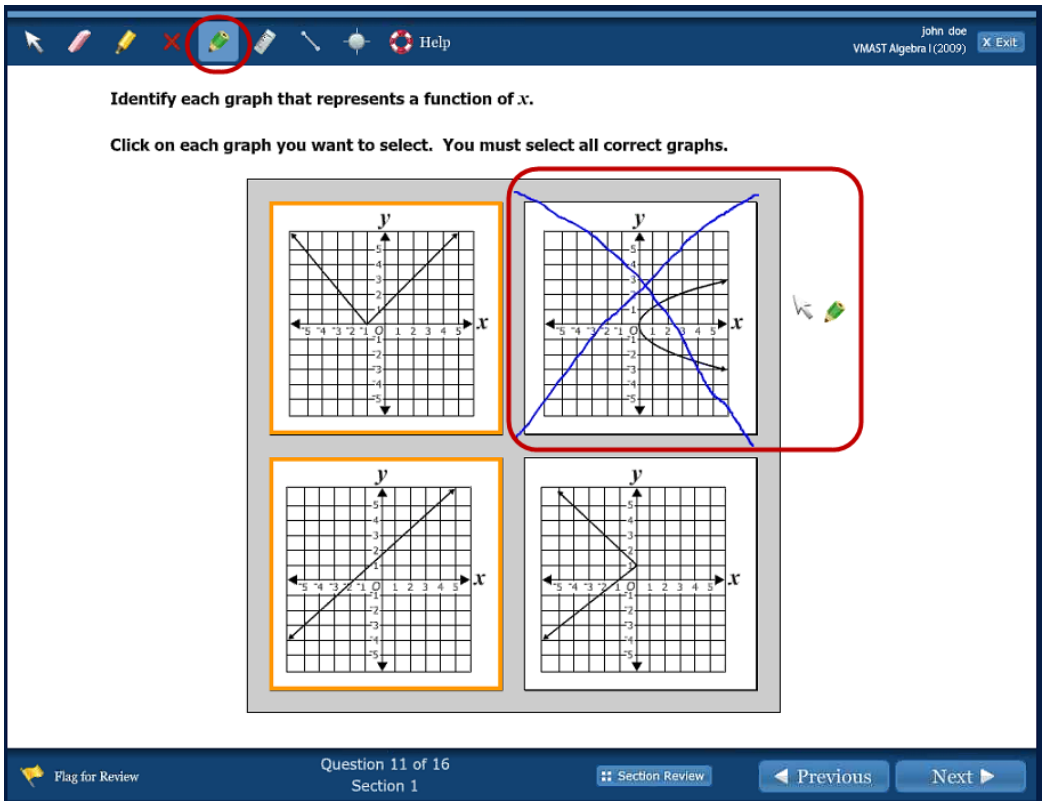
SAY **Question 11 is an example of a technology-enhanced item where there may be more than one answer. Let's read the question together.**

Pause.



SAY **The item says, "Identify each graph that represents a function of x. Click on each graph you want to select. You must select all correct graphs."**

To answer the item correctly, you need to select all the correct answers by clicking on them. When you move your pointer over each graph, there will be a blue outline around the box. When you make your selection, there will be an orange outline around the box. 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 **Let's begin this item together. Look at the graph on the top right. Determine whether this represents a function of *x*.**

Pause while students analyze the graph. The intent is for the students to determine that this is not a correct answer choice so that they may use the pencil tool to practice eliminating answers.

SAY **You should have determined that this graph is not a function and is therefore not an answer. Let's practice eliminating this answer with the pencil tool. Since this is a technology-enhanced item, we cannot use the eliminator tool to narrow down the answer choices. The eliminator tool can only be used to narrow down the answer choices on multiple-choice questions.**

Click the icon on the toolbar that looks like a green pencil ( ). Draw an "x" over this graph.

Pause while the students eliminate this graph.

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

Pause while the students erase the "x."

SAY **Now finish answering the question, using the pencil tool to eliminate the choices that are not correct. When you are done with the pencil tool, click on the pencil icon again to put the tool away. Remember, you must use your pointer tool to select all of the graphs that represent a function of *x*. Each of the graphs that you select will have an orange outline to show that it has been selected as an answer.**

Pause while students answer the question.

SAY **Which graph or graphs did you choose?**

Pause for replies.

SAY **The two graphs on the left side of the box are the correct graphs. You must have those graphs selected, and only those graphs, to get this item correct. On the actual VMAST 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.**

Since the number of correct answers was not indicated in the question, this item will show as "Answered" on the Section Review screen once one answer is selected. This is so no hint or clue is given as to how many correct answers there are, since it was not indicated in the question.

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

SAY **Do you have any questions?**

Answer all questions.

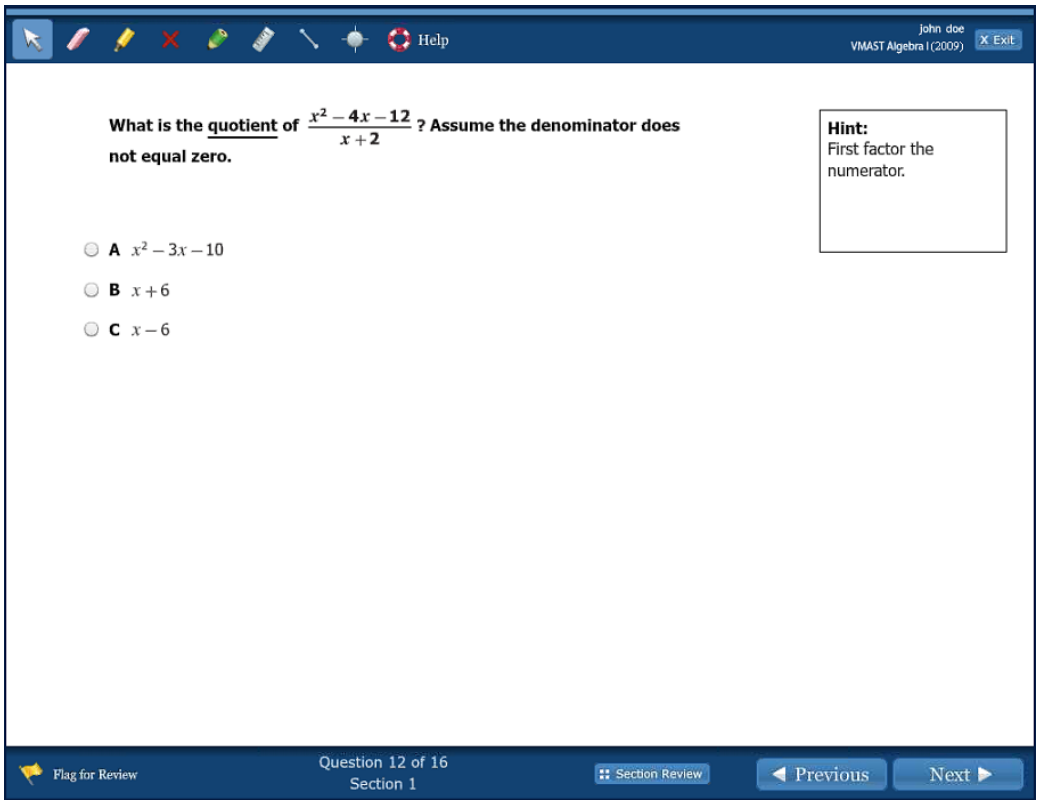
Please note that additional information regarding the requirements for an item to appear as "Answered" on the Section Review screen within TestNav is located in Appendix B for reference.

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

Wait for students to click *Next*. Check to see that the students are looking at the correct question.

SAY **Read question 12 to yourself.**

Pause while students read the question.



SAY **Question 12 also has a hint box. This hint box says "First factor the numerator."**

Use your scratch paper to decide which answer is correct. Then select your answer.

Pause while students work to find the answer to the question.

SAY **Which answer did you choose?**

Pause for replies.

SAY **The correct answer is C, x – 6. Do you have any questions?**

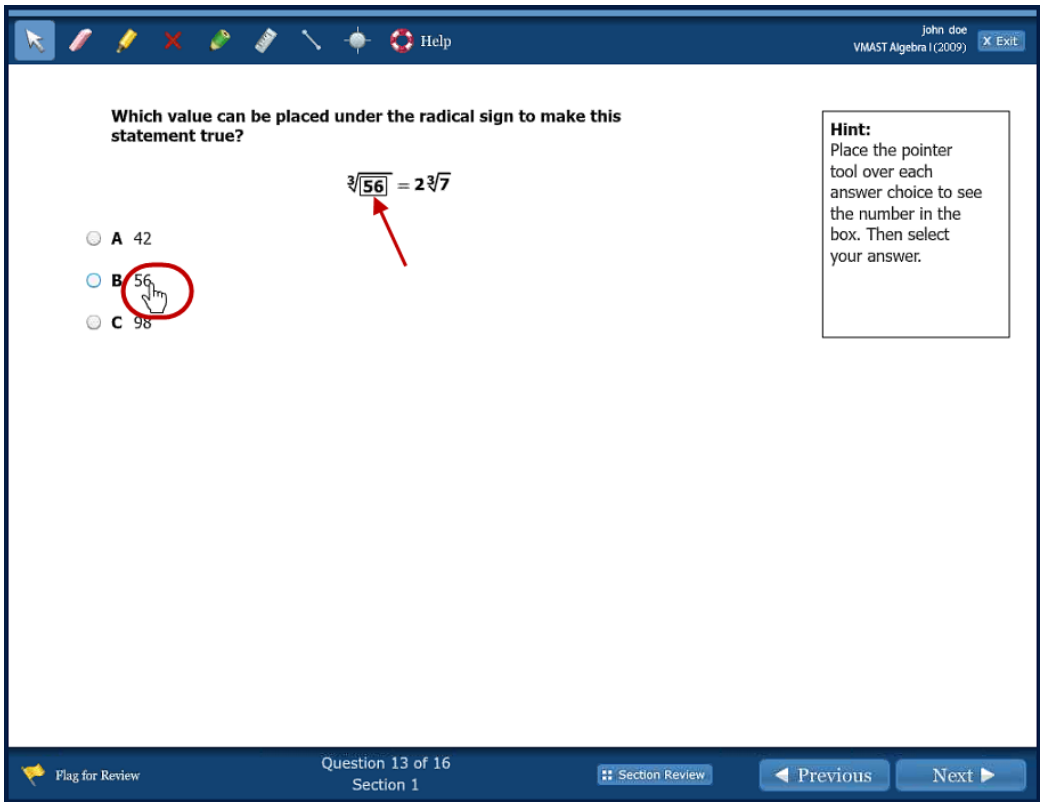
Answer all questions.

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

Wait for students to click *Next*. Check to see that the students are looking at the correct question.

SAY **Read question 13 to yourself.**

Pause while students read the question.



SAY **Question 13 also has a hint box. This hint box says "Place the pointer tool over each answer choice to see the number in the box. Then select your answer."**

Place your pointer tool over option A. You should see 42 under the radical sign.

Wait for students to look at option A. Please note that the screenshot above shows the correct answer and not the action described above.

SAY **Now place your pointer tool over option B and option C. Notice how the number under the radical sign changes.**

Use your scratch paper and calculator to decide which answer is correct. Then select your answer.

Pause while students work to find the answer to the question.

SAY **Which answer did you choose?**

Pause for replies.

SAY **The correct answer is B, 56. Notice that 56 will remain in the box under the radical sign after you have selected it as the answer, even if you move your pointer to another place on the screen. Do you have any questions?**

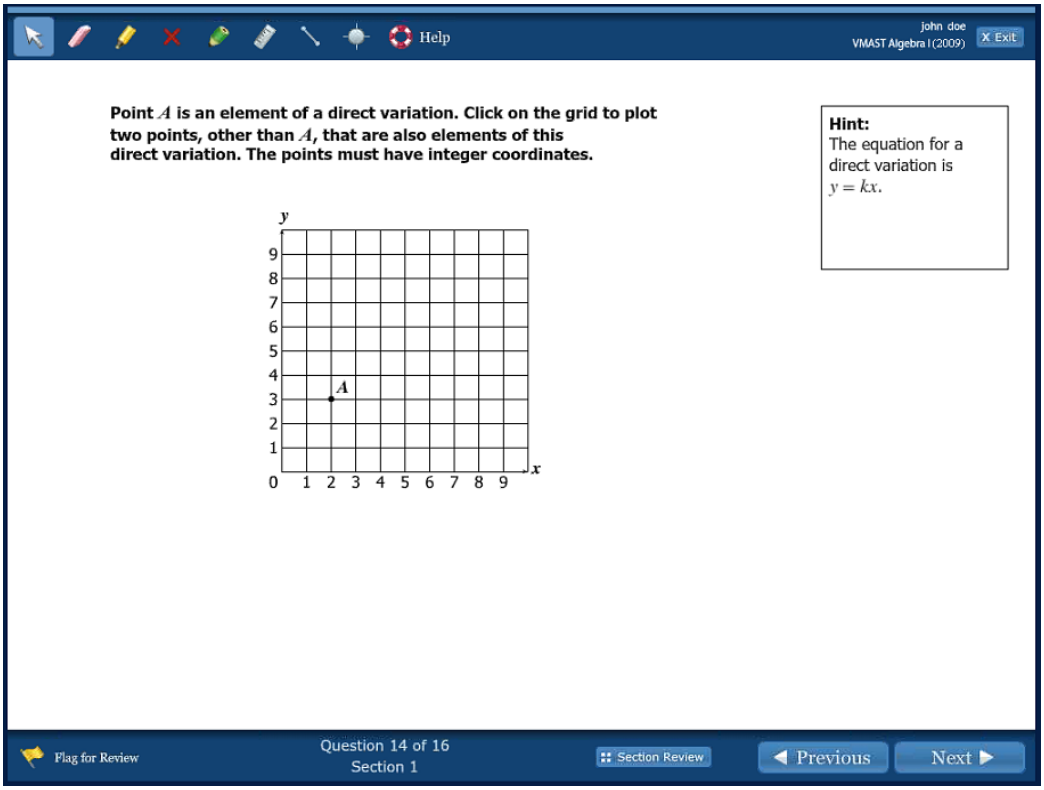
Answer all questions.

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

Wait for students to click *Next*. Check to see that the students are looking at the correct question.

SAY **Read question 14 to yourself.**

Pause while students read the question.



SAY **Question 14 has a hint box. This hint box says "The equation for a direct variation is $y = kx$."**

Notice this is not a multiple-choice question; it is a technology-enhanced item. In this question, it tells you to click on the grid to plot the two points you want to select.

If you plot a point and then change your mind, click on the point to remove it or use your eraser tool to erase the point. Use the pointer tool to select the points on the grid.

Pause while the students plot their points on the grid.

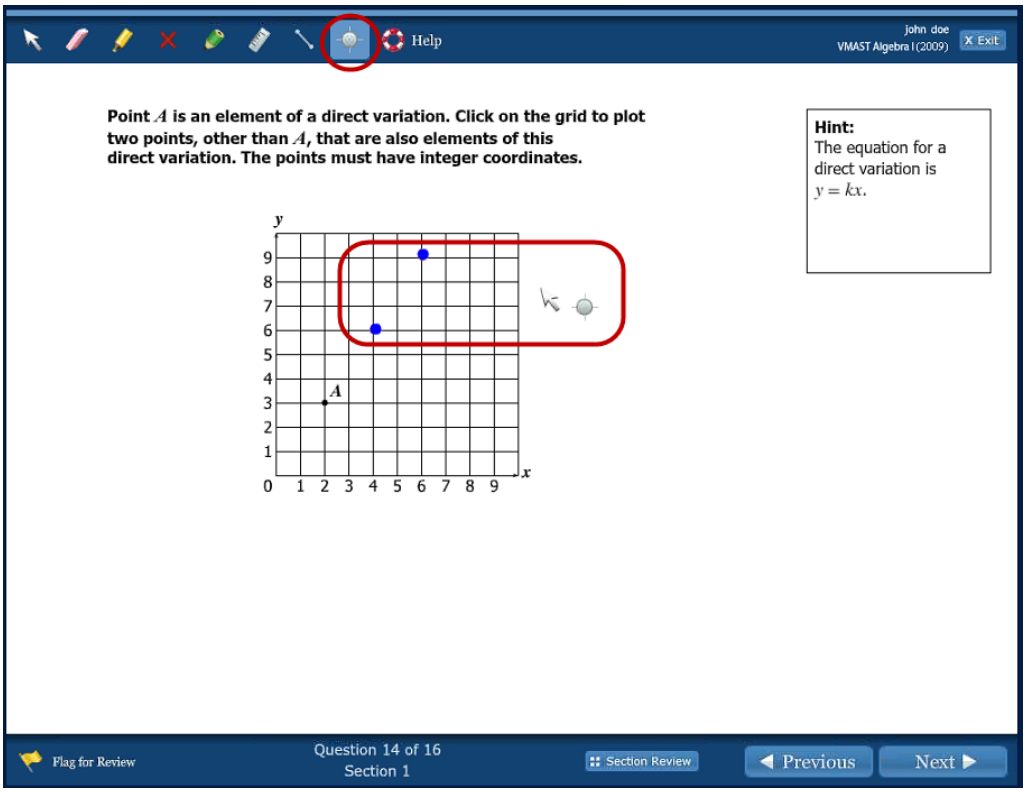
SAY **Which points did you plot?**

Pause for replies.

SAY **There are three possible points, (0, 0), (4, 6), and (6, 9). You must plot two of these points for a correct answer. Do you have any questions?**

Answer all questions.

SAY **Before we go to the next question, let's discuss the dot tool. Look at the toolbar at the top of the screen. Locate the dot tool (**  **) that is directly to the left of the help tool. 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.**



SAY **If an item requires that a point or points be plotted on a number line or coordinate plane to answer a question, only the pointer tool can be used to plot the points. On the VMAST test, <u>points plotted with the dot tool will not be scored.</u>**

To show you how this works, please use the eraser tool to remove the points you selected a moment ago. (Pause.) **Now, click on the dot tool in the toolbar, and then use the dot tool to place a dot on the grid at (4, 6), and (6, 9).** (Pause.) **Notice that these dots are large blue and look different than the points you plotted earlier with the pointer tool. These large blue dots can never be used to indicate an answer. Now click on the dot tool again to put the tool away.** (Pause.)

SAY **Let's move to the Section Review by clicking on the Section Review button at the bottom of your screen.** (Pause.) **Scroll down to question 14, which is the coordinate grid item we are discussing now.** (Pause.) **The screen should indicate that question 14 is "Unanswered," even though there are dots on the grid. If you make a mistake during an actual VMAST test and use the dot tool to plot a point instead of using the pointer tool to indicate your answer, the Section Review screen will remind you to return to that item and answer it. During testing, the Examiner will not be able to assist or remind you about how the tools work, so it is important that you understand this before testing.**

We will discuss the Section Review screen and how it works in more detail when we reach the end of the practice items. Now, click on question 14 in the left column of the Section review screen to return to that item. (Pause.)

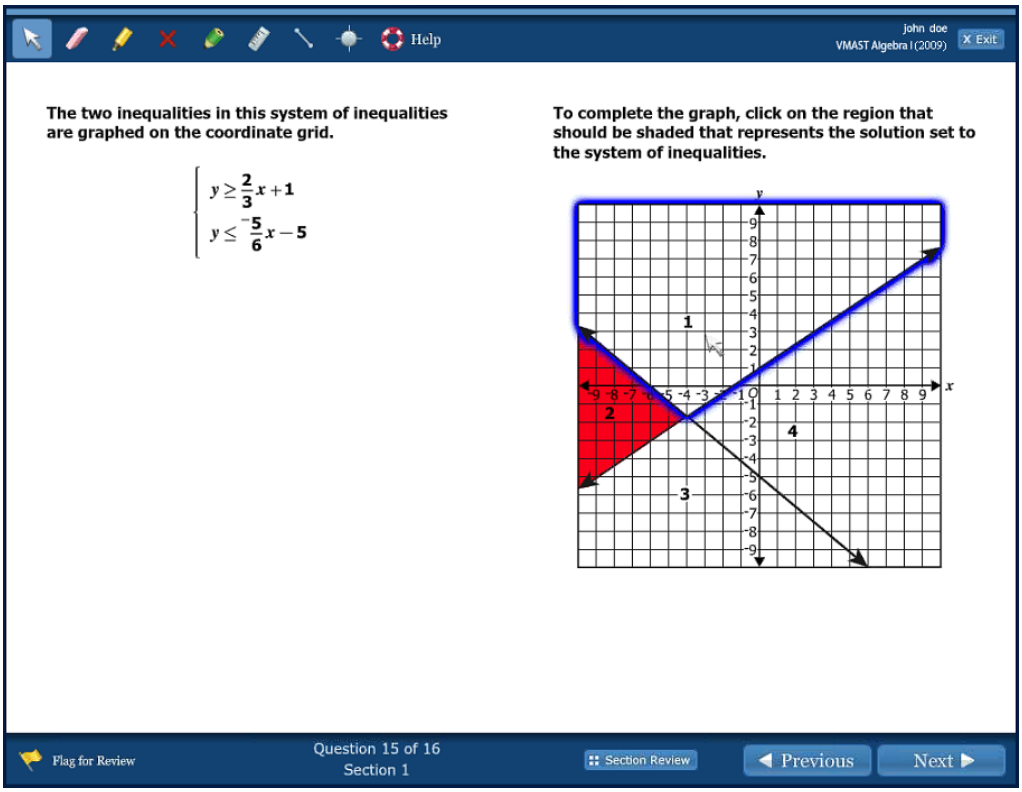
Take a moment to use the eraser tool to remove the dots, and then use the pointer tool to plot the ordered pairs (4, 6), and (6, 9).

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

Wait for students to click *Next*. Check to see that the students are looking at the correct question.

SAY **Read question 15 to yourself.**

Pause while students read the question.



SAY **Question 15 is another technology-enhanced item. This question tells you to click on the region that should be shaded to show the solution set for the system of inequalities.**

When you move your pointer over each region, there will be a blue outline around the region. When you make your selection, the region will turn red to show that you have selected it as the answer.

Pause while the students move their pointers over the graphs.

SAY **If you change your mind about the answer, just click the new region you want to select, and the red shading will move to that region. This question will not allow you to select more than one region. Now, determine the answer and select the region that should be shaded.**

Pause while the students select the correct region.

SAY **Which region did you choose?**

Pause for replies.

SAY **The correct answer is region 2. Do you have any questions?**

Answer all questions.

Please note that additional information regarding the requirements for an item to appear as "Answered" on the Section Review screen within TestNav is located in Appendix B for reference.

SAY **Before we move to the next question, let's practice with the ruler tool. Click on the tool at the top of the screen that looks like a ruler (**  **). Notice a drop down box appears. You must select the type of ruler you want to use. For our practice, please click on "Centimeters Ruler."**

Pause while students select the type of ruler they will use.

SAY **When the unit of measure is clicked in the drop down box, a ruler will appear on the screen. To move the ruler, click and drag the ruler over to the object to be measured. To rotate the ruler, click and drag the end with the arrows.**

Pause while the students practice moving the ruler tool.

SAY **Now use the ruler to measure the height of the grid to the nearest centimeter.**

Pause while students position the ruler to measure the height of the grid on the screen. Assist students as necessary.

SAY **What is the height of the grid, to the nearest centimeter?**

Pause for replies.

SAY **The height of the grid is 12.0 centimeters. Do you have any questions about how to use the ruler tool?**

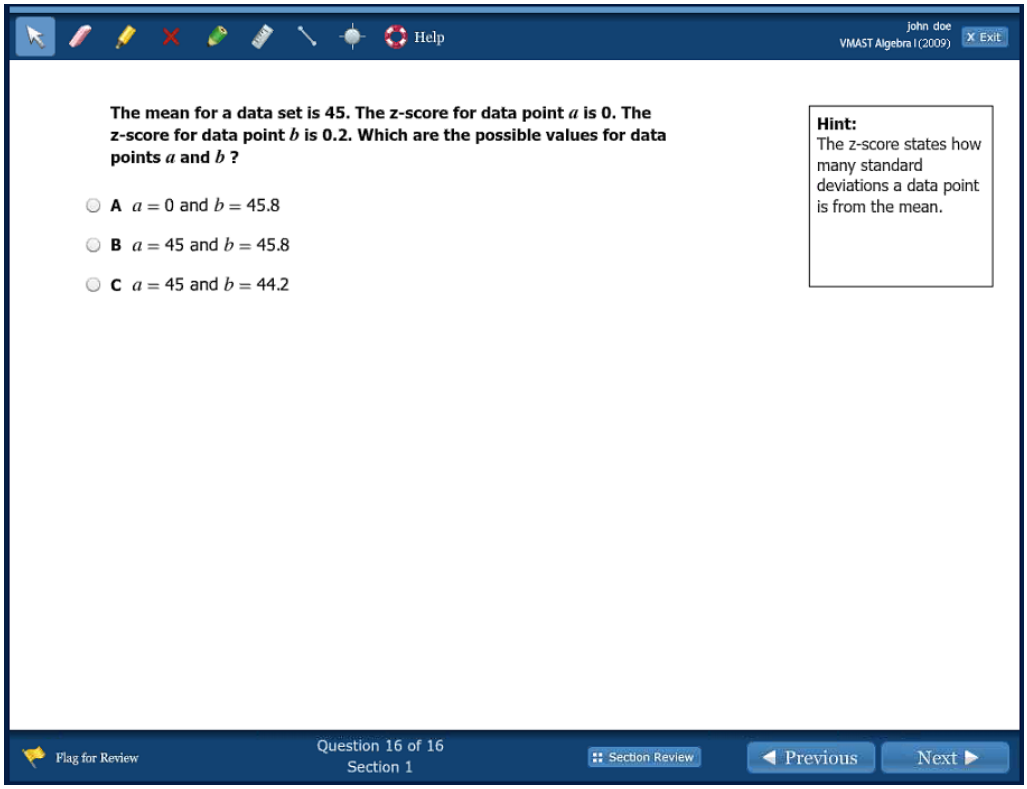
Pause for questions.

SAY **Click on the ruler icon in the toolbar and then "Centimeters Ruler" again to put the ruler away, and then click *Next* at the bottom of the screen to continue to the last question.**

Wait for students to put the ruler away and click *Next.* Check to see that the students are looking at the correct question.

SAY **Read question 16 to yourself.**

Pause while students read the question.



SAY **Question 16 is a multiple-choice question. The hint box for this question says "The z-score states how many standard deviations a data point is from the mean."**

Use your scratch paper and calculator to decide which answer is correct. Then select your answer.

Pause while students work to find the answer to the question.

SAY **Which answer did you choose?**

Pause for replies.

SAY **The correct answer is B, a = 45 and b = 45.8. Do you have any questions?**

Answer all questions. If you would like your students to practice using the Help tool (as mentioned on page 10), they may do so now.

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

SAY **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.**

Practice returning to a question by clicking on question 6, the question we flagged for review. You should see a picture of a flag in the "Flagged for Review" column next to the question. (Pause.) **You can then return to this screen by clicking on the "Section Review" button at the bottom of the screen on question 6.**

Pause while students practice navigating between question 6 and this screen.

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 on the "Answered" header. If you want to view only questions you left unanswered, click on the header that says "Unanswered." Move your pointer over each column heading and notice how that section of the heading changes.**

Pause while students practice sorting the columns.

SAY **If the Section Review screen indicates that a question is unanswered, you have not answered that question. If this happens, it is a good idea to return to the question and read the directions, the question, and any hints before making**

any changes.

SAY **Are there any questions?**

Students should check any questions that show as *Unanswered* on the Section Review screen. When the student returns to the question he or she may see that there is an answer, but it may be incomplete. It is important to note, however, that some questions will show as answered once a student responds with a single answer. This is necessary at times to avoid hinting or cluing an answer. For example, hot spot items that require students to "Select all" fall into this category. Please see Appendix B for detailed information.

SAY **To get back to the Section Review screen that lists all questions, click the top left-hand column header titled "_ of 16 Items."**

The blank number will vary, depending on the column the student filters on last.

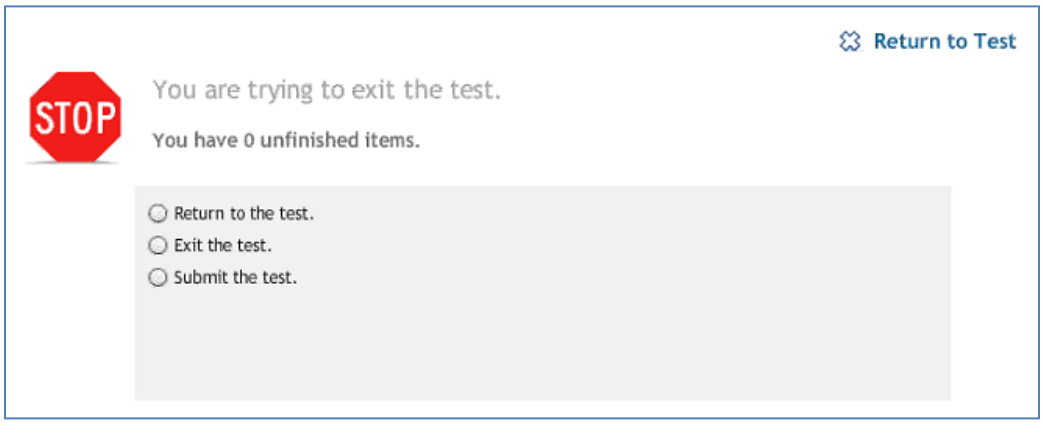
SAY **We are going to review two more screens. Click on the "Continue to Test Overview" button on the lower left corner of the screen.** (Pause.)

SAY **From the Test Overview screen, you can return to the test or move to the final screen. Clicking on Section 1 will take you to the last practice item you were working on or went back to review. Since we have finished with the practice items, we will not return to any question within the section. Clicking on the "Submit and Exit Test" button at the bottom of the screen will move you to the final screen. Are there any questions?**

Pause to answer all questions.

SAY **Now click on "Submit and Exit Test."** (Pause.)

You will see a stop sign with three choices. It is important to review these three choices. (Pause.)



SAY **Notice this screen indicates the number of unfinished items you have on the test.**

The first choice states, *"Return to the test."* This option allows you to go back to the practice questions. You would click this option if you wanted to return to any of the questions. Selecting this would first take you to the screen we just reviewed, and then you would click on Section 1 to return to the practice items.

The second choice states, *"Exit the test."* This option should NOT be chosen. This option may be used during actual VMAST testing, but should NOT be used for this practice set. <u>If you click on this option, you will lose all of your work. It will not be saved.</u>

Pause and make sure students understand not to choose option 2. During actual VMAST testing, students may be directed to choose this option if they are being moved to a different location to complete their tests or if they need to leave the testing environment (while monitored) for a short time.

SAY **The third choice states, "*Submit the test."* This option 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, *"Submit the test."* Next, click on the green button that says *"Final Submit."* When you click this button during actual VMAST testing, your test will be submitted for scoring and you will not be able to return to the test.**

This completes our review of the VMAST Algebra I Practice Items.

Thank you for reviewing the VMAST Algebra I Practice Items with your students.

APPENDIX A

Answers to VMAST Algebra I Practice Items

Question 1
The correct answer is A, $x^2 + 3x + 4$.

Question 2
The correct factors are $(x - 3)$ and $(x + 8)$.

Question 3
The correct answer is B, $y = 3x - 10$.

Question 4
The correct answer is 2.

Question 5
The correct answer is A, $= -\frac{1}{2}x + 2$.

Question 6
The correct answer is B, 75.

Question 7
The correct answer is C, ¯7 and 1.

Question 8
The correct answer is A, $= \frac{1}{2}x + 2$.

Question 9
The correct answer is C, 6.

Question 10
The correct answer is A, $\frac{3}{7}$.

Question 11
The two graphs on the left are the correct graphs.

Question 12
The correct answer is C, $x - 6$.

Question 13
The correct answer is B, 56.

Question 14
The correct answer is any two of the points (0, 0), (4, 6), and (6, 9).

Question 15
The correct answer is region 2.

Question 16
The correct answer is B, $a = 45$ and $b = 45.8$.

APPENDIX B

An overview of how student responses to technology-enhanced items will appear on the Section Review screen is outlined below:

Fill-in-the-blank (FIB) Items

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

Histogram or Bar Graphing Items

For all histogram or bar graphing items, when a student raises any bar, the item will show as answered on the Section Review screen. If the student moves all bars back down to the original heights, the item will show as unanswered on the Section Review screen.

Hot Spot Items

When the number of correct responses is indicated in the directions or in the item itself, the item will show as answered on the Section Review screen only when the student selects that number of hot spots. For example, if the student is directed to select three answers, then the Section Review screen will show unanswered if the student selects one or two answers and will only show as 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 show as answered on the Section Review screen once the student selects one answer. For example, if the student is required to “Select all correct answers,” the item will show 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. This practice avoids providing information as to how many correct answers there are in the “select all” hot spot items.

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 show as answered on the Section Review screen 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 show as answered on the Section Review screen 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 show as unanswered on the Section Review screen.

APPENDIX B (Continued)

Drag and Drop Items

Drag and drop items contain answer receptacles called “bays” and “draggers” 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 so that the student is given the most detailed information possible on the Section Review screen, without providing hints as to the correct answer. For items with a specified number of bays, the item will show as answered on the Section Review screen once the student uses that number of draggers. For example, if there are three bays and it is intended for a dragger to be placed into each bay, then the Section Review screen will show the item as answered once three draggers have been input by the student. Or, in another example, if the directions or question indicate that all draggers need to be used to answer the item, then the item will show as answered on the Section Review only when all draggers have been used. If the number of draggers 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, then the Section Review Screen will show the item as answered once the student places one dragger in a bay.