

Virginia

Standards of Learning Guided Practice Suggestions

For use with the Grade 7 Mathematics
Practice Items in TestNav™ 8

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Change Log

Updates to this document will be reflected in the table.

Change Log		
Version	Date	Description
V.3	10/21/2016	General information updated.
V.2	09/16/2016	Update available tools.
V.1	07/08/2016	Original Document Posted

Introduction to TestNav™ 8: MC/TEI Document

The [*Introduction to TestNav 8: MC/TEI*](#) document serves as an introduction to the new online navigation, tools, accessibility features, and overall functionality and appearance of TestNav 8. It is highly recommended that teachers (or other adults) read the *Introduction to TestNav 8: MC/TEI* document prior to reading this guide, the *Guided Practice Suggestions* for the Grade 7 Mathematics practice item set.

Reading the *Introduction to TestNav 8: MC/TEI* document will give teachers an understanding of the features of TestNav 8 prior to working with students. In part, the document provides information on:

- opening the practice item sets within the required TestNav 8 Application,
- navigating through the practice item sets,
- answering technology-enhanced items (TEI) and multiple-choice items,
- using the online tools, and
- using the accessibility features available in TestNav 8.

This important information should be used in conjunction with the information found in this guide.

Guided Practice Suggestions

This guide provides specific item information for each question in the Grade 7 Mathematics practice item set in table format. Along with the item information in the table, there is a column titled “Guided Practice Suggestions.” This column contains information for teachers as they guide students through the practice items. For instance, guided practice suggestions can state, “Use the eliminator tool to place a red ‘X’ on the answers that are not correct,” or, “Make sure students know how to select draggers and place them in the empty boxes using their mouse, keypad, or touchscreen.” Following the suggestions in the table will ensure that students are exposed to all of the different tools within TestNav 8, the different functionality features of TEI, and the common messages that may appear as students complete TEI.

Grade 7 Mathematics Practice Item Information and Recommended Guided Practice Suggestions

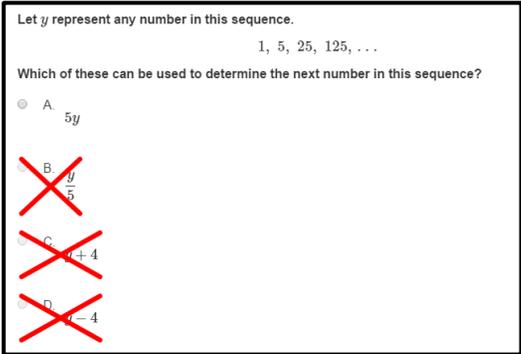
General Note about the Grade 7 Mathematics Practice Items: Since Grade 7 students will be taking a computer adaptive version of the mathematics Standards of Learning test, there is no mention of using the *Bookmark* button to review items and no reference to the *Review* button to determine the status of questions. However, information about when a TEI will be considered “Answered” is provided in the table since this determines when the *forward arrow* button becomes active in the computer adaptive test (CAT).

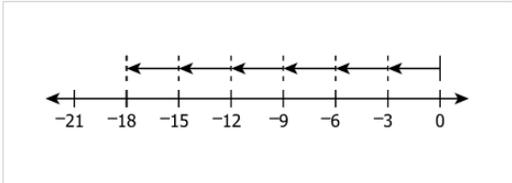
Section	Question	Item Type	Answer Key	Guided Practice Suggestions
1	1	TEI Hot Spot	The top box and the bottom box must be selected. ($13,250,000 = 1.325 \times 10^7$; $0.00000102 = 1.02 \times 10^{-6}$)	Throughout the practice item set, move to the next or previous screen in a section by selecting an arrow in the top left corner of the screen. An arrow with a blue background indicates the button is active and can be selected. (On the actual computer adaptive test, only the forward arrow will be active.) 

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
1	1 (Cont.)			<p>To answer this question correctly, the two correct answers in the gray box must be selected. A blue box outlines the answer choice when it is selected, indicating a student has chosen that response as an answer.</p> <div data-bbox="1066 418 1785 771" style="border: 1px solid black; padding: 10px;"> <p>Directions: Select the correct answers.</p> <p>Which two statements show a number and its equivalent written in scientific notation?</p> <div style="border: 1px solid gray; padding: 2px; margin-bottom: 2px;">13,250,000 = 1.325 × 10⁷</div> <div style="border: 1px solid gray; padding: 2px; margin-bottom: 2px;">8,950,000 = 8.95 × 10⁻⁶</div> <div style="border: 1px solid gray; padding: 2px; margin-bottom: 2px;">77,200 = 77.2 × 10³</div> <div style="border: 1px solid gray; padding: 2px; margin-bottom: 2px;">0.000046 = 4.6 × 10⁶</div> <div style="border: 1px solid gray; padding: 2px;">0.00000102 = 1.02 × 10⁻⁶</div> </div> <p>In order to deselect an answer and remove the blue box, the answer choice must be selected again. Have students practice selecting and deselecting an answer.</p> <p>This item also specifies the number of answers a student must select. If a student tries to select more than the number of answers indicated, a message appears in the top right corner of the screen. This message will remain for approximately five seconds unless the “x” is selected to close the message. Have students try to select an additional answer so that they can see this message appear.</p> <div data-bbox="1178 1266 1583 1377" style="border: 1px solid black; background-color: #f4a460; padding: 5px; margin-top: 10px;"> <p>You must remove an answer before you can choose a new one. x</p> </div>

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
1	2	TEI Hot spot	All of these answers and only these answers should be selected: – 2, 0, 4, and 10	<p>This is another hot spot technology enhanced item. A blue box outlines the answer choice when it is selected, indicating a student has chosen that response as an answer. In order to deselect an answer and remove the blue box, the answer choice must be selected again.</p> <p>Tell students that when there are an unspecified number of answers, the question will be considered “Answered” when one answer has been selected. This is so no clue or hint is given as to how many answers are correct. (On a computer adaptive test, the <i>Next</i> arrow will turn active once an item is considered answered.)</p>

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	1	TEI Drag and Drop	Fraction Form: $\frac{1}{100}$; Decimal Form: 0.01	<p>Have students select draggers and place them in the empty boxes using the mouse, keypad, or touchscreen.</p> <p>Selecting a dragger and moving it to the empty box may cause the remaining draggers to shift location in the answer option area.</p> <p>Have students select the number $\frac{1}{100}$. As they move this number, only the box on the left shades blue, indicating this is the only box that will accept this dragger.</p> <p>Have students try to place a decimal answer into the box on the left. They will not be able to do this. The decimal numbers can only be used in the box on the right. Sometimes a restriction is placed on where a dragger can be placed to limit errors</p> <p>Have students practice moving draggers back to the gray box. Draggers will go back to their original location when returned to the gray box.</p> <p>This item will not be considered “Answered” until each box has an answer in it.</p>
2	2	TEI Hot Spot	These three answers, and only these answers, must be selected: $9 = 9 $; $4.1 = -4.1 $; $ -8.5 = 8.5$	<p>Tell students that when there are an unspecified number of answers, the question will be considered “Answered” when one answer has been selected. This is so no clue or hint is given as to how many answers are correct.</p>

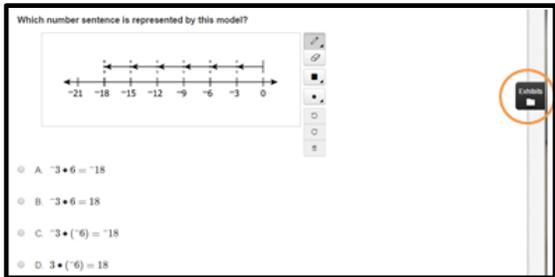
Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	3	MC	A 5y	<p>Have students select the eliminator tool located in the toolbar and then place a red “X” on the answers that are not correct.</p>  <p>To remove an ‘X’ keep the eliminator tool active and select the ‘X’ again. Have students practice removing an ‘X.’</p>  <p>Tell students: Multiple-choice items must be answered in TestNav 8 by selecting the letter of the answer option or the option itself using the mouse, keypad, or touchscreen. On multiple-choice items, once an answer is selected, the item cannot be returned to an unanswered state (no answer selected) unless the student uses the eliminator tool to place an ‘X’ over the selected answer and then selects the ‘X’ again to remove it.</p> <p>Remind students that placing an “X” on the incorrect answer choices does not complete the item. A selection must be made with the pointer tool in order for the item to be considered “Answered.”</p>

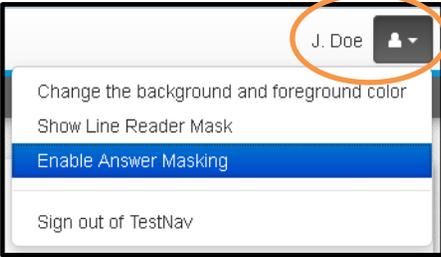
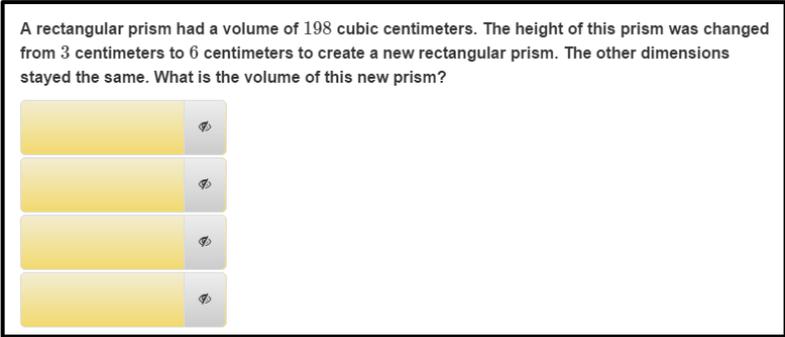
Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	4	MC	A $-3 \cdot 6 = -18$	<p>This question has the Drawing Interaction Tool. The Drawing Interaction Tool is a boxed area that exists on certain mathematics questions. The pencil may be used to make marks, notations, straight lines, or dots on or around artwork or graphs inside the Drawing Interaction area. The student selects the specific tool he/she wants to use, and uses it to help answer the question.</p> <div data-bbox="1060 511 1774 808" style="border: 1px solid black; padding: 5px;"> <p>Which number sentence is represented by this model?</p>  </div> <p>The top tool is the pencil or straight line tool. The arrow in the bottom right corner expands the tool so a student may select free draw or the straight line. A dot may be placed if a student uses their mouse, keypad, or touchscreen. The student would select free draw and use their mouse or keypad to click and release to place a point. If using a touchscreen, the student would use their finger to place a point.</p>  <p>The second tool is used to erase selected lines or writing.</p>  <p>The third tool allows the markings to be black or green. The arrow in the bottom right corner expands the tool so a student may select the color.</p> 

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	4 (Cont.)			<p>The fourth tool allows the students to select the thickness of the markings. The arrow in the bottom right corner expands the tool so a student may select  the size.</p> <p>The fifth and sixth tools are to Undo or Redo the most recent markings. </p> <p>The last tool allows all markings to be eliminated at the same time. </p> <p>Have students practice drawing markings and removing them to help answer the question.</p> <p>Students must select the correct answer using the answer options below the Drawing Interaction Tool.</p>

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	5	MC	D 40.2 Turkish lire	<p>Have students use the highlighter tool to highlight the sentence “1 U.S. dollar=1.34 Turkish lire” in the question.</p> <div data-bbox="1100 339 1776 634" style="border: 1px solid black; padding: 5px;"> <p>Patty went on a trip. The currency exchange rate for the trip is shown.</p> <p>1 U.S. dollar = 1.34 Turkish lire</p> <p>Patty bought an item that cost 30 U.S. dollars. Which is closest to the cost of this item in Turkish lire?</p> <ul style="list-style-type: none"> <input type="radio"/> A. 22.4 Turkish lire <input type="radio"/> B. 28.7 Turkish lire <input type="radio"/> C. 31.3 Turkish lire <input type="radio"/> D. 40.2 Turkish lire </div> <p>To highlight using a keyboard, place the pointer next to the sentence “1 U.S. dollar=1.34 Turkish lire,” left click, hold down, and drag over the sentence. Then select the highlighter color.* To remove the highlight, left click, hold down, and drag over the sentence. Then select the white box on the left with the red line.</p> <p>On a touchscreen, hold down on the sentence with a finger, and adjust the area to be highlighted with the blue anchors. Then select the highlighter color.* To remove the highlight, hold down on the sentence with a finger, then select the white box on the left with the red line.</p> <p>On a touchscreen, the following message may appear when students highlight text.</p> <div data-bbox="1243 1166 1499 1232" style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Copy Define Share...</p> </div> <p>In the practice items, selecting one of the options listed will open a new window and direct students to the internet. This will not occur in the actual testing environment; selecting an option will not direct the students to another screen.</p>

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	5(Cont.)			<p>*Pink and blue are the two highlighter colors available when the foreground and background settings are set to the default (black text on white background). These colors may change when the foreground and background setting is changed. Practice with changing the foreground and background colors will be done on question 29 in Section 2 of this practice item set.</p> <p>Tell students that the highlighter tool will only work on text. It will not work on art (images/pictures).</p>
2	6	TEI Fill-in-the-Blank	\$19.50	<p>Have students attempt to enter a character that cannot be used as part of the answer (such as a fraction bar). A message will appear that states:</p> <p style="text-align: center;">You cannot use that character.</p> <p>This message will remain on the screen for approximately three seconds.</p> <p>Tell students that the answer does not need to be as long as the response box.</p> <p>Information for teachers: Equivalent answers would be scored as correct.</p>

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	7	MC	C 1,187 sq in.	<p>Students may want to use the <i>Grade 7 Mathematics Formula Sheet</i> when answering this question. In order to access the online formula sheet, students can click on the black <i>Exhibits</i> icon that is located on the far right of the screen.</p>  <p>When the icon is selected, the formula sheet will appear on the screen.</p> <p>Have students practice scrolling to the bottom of the formula sheet and back up to the top. On a desktop or laptop, scroll by using the scroll bar on the right side of the <i>Exhibits</i> window. On a touchscreen device, use a finger to hold down on the white part of the formula sheet to drag it up and down.</p> <p>Have students practice moving the <i>Exhibits</i> window around the screen. To move the <i>Exhibits</i> window on a desktop or laptop, place the pointer on the gray bar across the top of the <i>Exhibits</i> window and drag it to a new location on the screen. To drag the <i>Exhibits</i> window on a touchscreen device, use a finger to hold down on the gray bar across the top of the <i>Exhibits</i> window, and drag the window to a new location.</p> <p>To close the <i>Exhibits</i> window, select the “X” in the upper right corner.</p>

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	8	MC	C 396 cm ³	<p data-bbox="1003 237 1845 383">Have students practice using the Answer Masking accessibility feature with this item. Select the user drop-down menu in the top right corner of the screen and select <i>Enable Answer Masking</i> from the menu.</p>  <p data-bbox="1003 667 1745 732">The answer options on multiple-choice items will now be masked as shown in the screenshot.</p> 

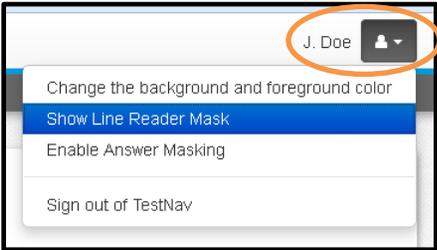
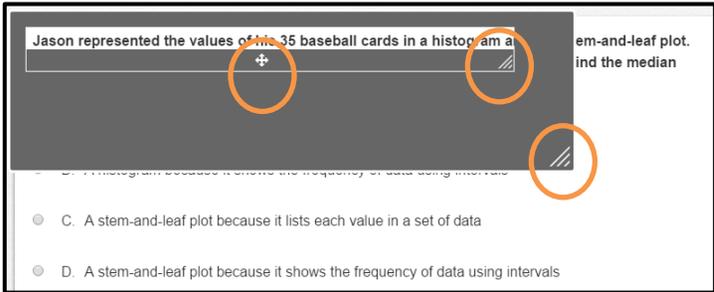
Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	8 (Cont.)			<p>Students may show or hide each option by selecting the “eye.”</p> <div data-bbox="1031 316 1816 641" style="border: 1px solid black; padding: 5px;"> <p>A rectangular prism had a volume of 198 cubic centimeters. The height of this prism was changed from 3 centimeters to 6 centimeters to create a new rectangular prism. The other dimensions stayed the same. What is the volume of this new prism?</p> <p><input type="radio"/> A. 1,188 cm³ </p> <p><input type="radio"/> </p> <p><input type="radio"/> </p> <p><input type="radio"/> </p> </div> <p>Answer Masking will remain on in each multiple-choice item until it is turned off. To turn off Answer Masking, select the user drop-down menu and select <i>Disable Answer Masking</i>.</p> <p>Students may also want to use the formula sheet on this question. The formula sheet can be accessed by using the <i>Exhibits</i> icon on the far right of the screen.</p>

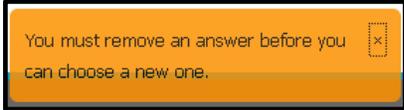
Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	9	TEI Hot Spot	These three figures and only these figures should be selected: The middle figure in row 1; the left figure in row 2; and the middle figure in row 3	<p>This question does not require the use of the ruler tool, but have students practice measuring the width and height of the model using the centimeter ruler. This provides them the opportunity to practice manipulating the tool.</p> <p>It may be helpful to have students zoom in on the model before they determine the measurements of the width and height. Have students practice zooming in to look at the question on the screen, and then have them zoom out.</p> <p>On a PC or Chromebook, press the CTRL and + keys at the same time to zoom in. Press the CTRL and – keys at the same time to zoom out. Press the CTRL and 0 (zero) keys at the same time to return to the default screen setting.</p> <p>On a Mac, press the COMMAND and + keys at the same time to zoom in. Press the COMMAND and – keys at the same time to zoom out. Press the COMMAND and 0 (zero) keys at the same time to return to the default screen setting.</p> <p>On a touchscreen, have students touch two points on the screen and then move their fingers away from each other to zoom in. Touch two points on the screen and then move their fingers toward each other to zoom out.</p> <p>Before students go to the next question, make sure they return to the default screen setting.</p>

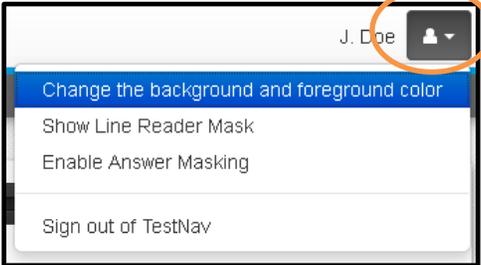
Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	9 (Cont.)			<p>As students are practicing how to zoom in and out, make sure they are doing so within reason. If students zoom in too far, they may not be able to see all of the information necessary to answer the question. If students zoom out too far, they may not be able to clearly see details of the question on the screen. It should also be noted that zooming in and out on the screen may cause the text wrapping to change. Remind students that they should only use this feature when necessary.</p> <p>There are two ruler tools on the top of the screen (). The icon on the left should be used to access the inch ruler and the icon on the right should be used to access the centimeter ruler.</p> <p>Have students select the centimeter ruler for this measurement. To move the ruler, select and drag the ruler over to the object to be measured. To rotate the ruler, select and drag an end with the circle. Have students practice moving and rotating the ruler. Selecting the ruler tool icon again will put the ruler tool away; or, select the pointer tool to put it away.</p> <div data-bbox="1150 961 1671 1182" data-label="Image"> </div> <p>The width of the model is approximately 1.6 cm and the height is approximately 2.4 cm.</p> <p>Before students go to the next question, make sure they press the CTRL (or CMD) and 0 keys at the same time to return to the default screen size.</p>

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	9 (Cont.)			<p>Students may also want to use the formula sheet on this question. The formula sheet can be accessed by using the <i>Exhibits</i> icon on the far right of the screen.</p> <p>Before students go to the next question, make sure they press the CMD and 0 keys at the same time to return to the default screen size.</p>
2	10	TEI Fill-in-the-Blank	102°	
2	11	MC	C Exactly one pair of parallel sides	
2	12	MC	C $(3, -5)$	
2	13	TEI Fill-in-the-Blank	A $\frac{1}{3}$	Make sure students know to enter the forward slash "/" for the fraction bar. The allowable characters (those that a student can enter) are the numbers 0-9 and the fraction bar.
2	14	MC	A The theoretical probability of $\frac{1}{3}$ is less than the experimental probability.	
2	15	MC	B $\frac{8}{35}$	
2	16	MC	B $\frac{1}{20}$	

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	17	TEI Histogram	Interval 1-10: height of 6; Interval 11-20: height of 4; Interval 21-30: height of 4; Interval 31-40: height of 6	Have students practice dragging each bar to the desired height. If a student is using a touchscreen device, it is important that they practice selecting a bar (the bar will flash/blink) before moving it. Once one bar has been moved, the item will appear as "Answered" even if all of the bars are returned to the original heights.

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	18	MC	C A stem-and-leaf plot because it lists each value in a set of data.	<p>Have students practice using the Line Reader Mask accessibility feature with this item. Select the user drop-down menu and <i>Show Line Reader Mask</i> from the menu.</p>  <p>The Line Reader Mask will appear over the item. Have students use the diagonal line areas to practice resizing the area covered by the line reader and the window through which content can be seen. Have students use the cross to move just the window through which content can be seen. Hold down on any part of the gray area and drag the tool to move the entire tool.</p>  <p>To turn off the Line Reader Mask, select the drop-down menu and select <i>Hide Line Reader Mask</i>. If the student does not turn off the Line Reader Mask, it will automatically turn off when the student navigates away from the item.</p>
2	19	MC	A	

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	20	MC	A Eight more than the quotient of a number, d , and three is twelve.	
2	21	MC	A -2.5	
2	22	MC	C 28	
2	23	MC	D $d = 23.0$	
2	24	TEI Fill-in-the-Blank	13.5	Information for teachers: Equivalent answers would be scored as correct (i.e. 13.50)
2	25	MC	D 4 pencils	
2	26	TEI Hot Spot	These two answers: Circle is closed; Graph shaded to the right of the circle.	<p>This item specifies the number of answers a student must select. If a student tries to select more than the number of answers indicated, a message appears in the top right corner of the screen. This message will remain for approximately five seconds unless the “x” is selected to close the message. Have students try to select an additional answer so that they can see this message appear.</p>  <p>Since this item specifies the number of answers a student must select, it will not be considered “Answered” until two answers have been selected.</p>
2	27	MC	B	

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	28	MC	C	<p data-bbox="1003 237 1845 386">Have students practice using the accessibility feature that allows them to change the background and foreground color. Select the user drop-down menu and <i>Change the background and foreground color</i> from the menu.</p>  <p data-bbox="1003 704 1833 889">There are six different options other than black on white, which is the default setting. Have students select a contrast setting and then the <i>Continue</i> button to enable this feature. This feature could be used by students who would benefit from the use of color contrasting to make text more distinct.</p> <p data-bbox="1003 938 1839 1084">This setting will remain enabled until turned off. To turn off this setting, select the user drop-down menu, select <i>Change the background and foreground color</i>, and then select the button next to the default setting. Then select the <i>Continue</i> button.</p>

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	29	TEI Drag and Drop	Answers from left to right: $(7 + 3) + 5 = 5 + (7 + 3);$ $(7 + 3) + 5 = 7 + (3 + 5);$	<p>Have students select draggers and place them in the empty boxes using the mouse, keypad, or touchscreen.</p> <p>As soon as a number is selected and moved, both empty boxes shade blue. This indicates that the answer can be placed in either box- whichever location the student chooses as the correct location. Selecting a dragger and moving it to the empty box may cause the remaining draggers to shift location in the answer option area.</p> <p>Have students practice moving draggers back to the gray box. Draggers will go back to their original location when returned to the gray box. The gray box will expand as answers are added back to it. Please make sure students are aware of the functionality of this item.</p> <p>Have students try to place one dragger “over” another dragger. This cannot be done. If a student wishes to change an answer, the dragger must be moved back to the gray box and another answer must be selected and moved into the response box.</p> <p>This item will not be considered “Answered” until each box has an answer in it.</p> <p>Information for Teachers: This is the end of the practice item set. See the <i>Introduction to TestNav 8: MC/TEI</i> document for information on closing TestNav.</p>