

Virginia

Standards of Learning Guided Practice Suggestions

For use with the Grade 6 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 6 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.


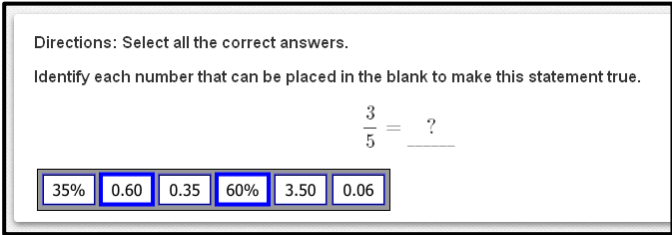
This important information should be used in conjunction with the information found in this guide.

Guided Practice Suggestions


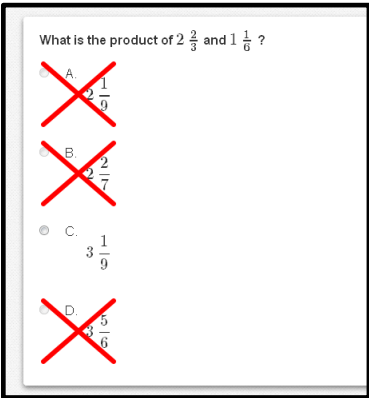
This guide provides specific item information for each question in the Grade 6 Mathematics practice item set in table format. Along with the item information in the table, there is a column titled “Guided Practice Suggestions.” This column contains information for teachers as they guide students through 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 6 Mathematics Practice Item Information and Recommended Guided Practice Suggestions


General Note about the Grade 6 Mathematics Practice Items: Since grade 6 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).

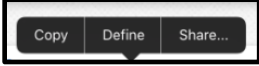
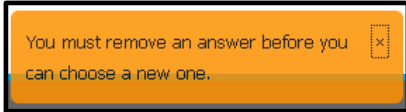
Section	Question	Item Type	Answer Key	Guided Practice Suggestions
1	1	TEI Hot Spot	All of these numbers and only these numbers should be selected: 0.60 and 60%	<p>Throughout the practice item set, move to the next or previous screen in a section by selecting an arrow in the top left corner of the screen. 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.)</p>  <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> 

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
1	1 (Cont.)			<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>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>
1	2	TEI Drag and Drop	<p>Answers from top to bottom: $\frac{7}{10}$; 10%; 0.09</p>	<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>As soon as a dragger is selected and moved, all of the boxes shade blue. This indicates that the dragger can be placed in any box - whichever location the student chooses as the correct location.</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>

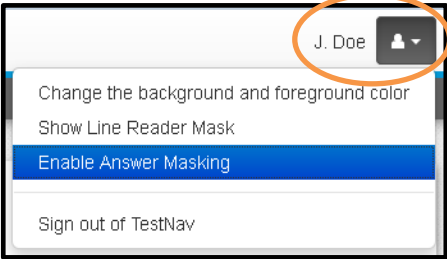
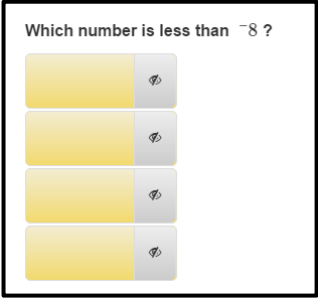
Section	Question	Item Type	Answer Key	Guided Practice Suggestions
1	3	MC	C $3\frac{1}{9}$	<p>Have students select the eliminator tool located in the toolbar and then place a red "X" on the answers that are not correct.</p>  <p>To remove an "X" keep the eliminator tool active and select the "X" again. 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>

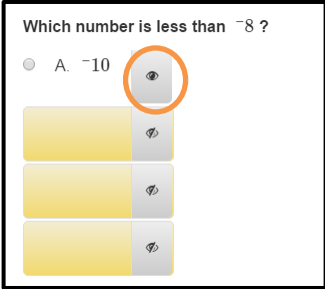
Section	Question	Item Type	Answer Key	Guided Practice Suggestions
1	4	TEI Fill-in-the-Blank	128	<p>Have students attempt to enter a character that cannot be used as part of the answer (such as a fraction bar). A message will appear that states:</p> <p style="text-align: center;">You cannot use that character.</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, and a blank space can never be entered into a response box.</p> <p>Also tell them that although this answer is only three digits, answers with four or more digits will be scored as correct with or without the use of commas. If a comma is used, it must be in the correct location within the number.</p> <p>Information for teachers: Equivalent answers would be scored as correct.</p>
1	5	MC	D 19	


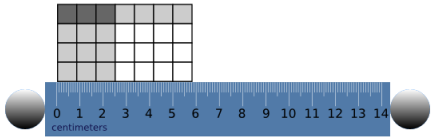
Section	Question	Item Type	Answer Key	Guided Practice Suggestions									
2	1	TEI Hot Spot	All of these answers and only these answers should be selected: 2:5; 2 to 5; and $\frac{2}{5}$	<p>Have students use the highlighter tool to highlight the phrase “the number of fiction books to the total number of books” in the question.</p> <div data-bbox="1016 370 1812 678" style="border: 1px solid black; padding: 5px;"> <p>Directions: Select the correct answers </p> <p>There are 24 fiction books and 36 nonfiction books on a shelf. Which three ratios represent the number of fiction books to the total number of books on the shelf?</p> <table border="1" data-bbox="1045 492 1251 662"> <tbody> <tr> <td>$\frac{3}{5}$</td> <td>2 to 3</td> <td>2 : 5</td> </tr> <tr> <td>2 to 5</td> <td>2 : 3</td> <td>3 to 5</td> </tr> <tr> <td>3 : 5</td> <td>$\frac{2}{5}$</td> <td>$\frac{2}{3}$</td> </tr> </tbody> </table> </div> <p>To highlight using a keyboard, have students place the pointer next to the direction sentence, left click, hold down, and drag the pointer over the sentences. Then have students select the highlighter color from the pop-up box.* To remove the highlight, left click, hold down, and drag over the sentences. Then select the white box with the red line on the left side of the pop-up box.</p> <p>On a touchscreen, have students hold down on the sentences with a finger, and adjust the area to be highlighted with the blue anchors. Then have students select the highlighter color.* To remove the highlight, hold down on the text with a finger, adjust the anchors so that they are at the ends of the highlighted sentences, then select the white box on the left with the red line.</p>	$\frac{3}{5}$	2 to 3	2 : 5	2 to 5	2 : 3	3 to 5	3 : 5	$\frac{2}{5}$	$\frac{2}{3}$
$\frac{3}{5}$	2 to 3	2 : 5											
2 to 5	2 : 3	3 to 5											
3 : 5	$\frac{2}{5}$	$\frac{2}{3}$											




Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	1(Cont.)			<p>On a touchscreen, the following message may appear when students highlight text.</p>  <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> <p>Tell students that the highlighter tool will only work on text. It will not work on art (images/pictures).</p> <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 is included on a later question in this practice item set.</p> <p>Tell students that 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> 





Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	2	TEI Hot Spot	Any 6 boxes should be shaded.	<p>Shading parts of a figure is a type of hot spot technology-enhanced item. Tell students that this question will be considered “Answered” when one part has been selected (or shaded). This is so no clue or hint is given as to how many parts should be selected (or shaded).</p> <p>Have students practice selecting and deselecting a part of the model. To deselect a part, it must be selected again.</p> <p>Information for Teachers: The eliminator tool may also be used to eliminate or deselect a part of the model that was selected with the pointer tool. 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>
2	3	TEI Hot Spot	<p>All of these answers and only these answers should be selected: -25; 0; and $\frac{57}{3}$</p>	<p>This hot spot item has an unspecified number of answers and 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> <p>Have students practice using the eliminator tool on the Hot Spot answers. 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 answers to be selected.</p>

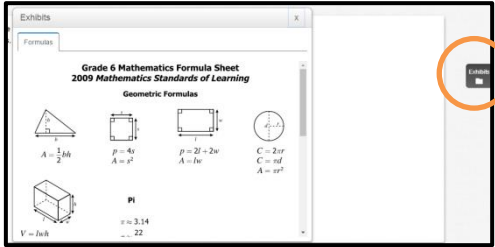
Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	4	MC	A -10	<p>Have students practice using the Answer Masking accessibility feature with this item. Select the user drop-down menu in the top right corner of the screen and select <i>Enable Answer Masking</i> from the menu.</p>  <p>The 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	4 (Cont.)			<p>Students may show or hide each option by selecting the “eye.”</p>  <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>
2	5	TEI Hot Spot	All of these answers and only these answers should be selected: 4 and -4	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.

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	6	MC	B $\frac{3}{7} \cdot \frac{1}{4}$	<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>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="1066 862 1734 1279" style="border: 1px solid black; padding: 5px;"> <p>Which expression is represented by this model?</p>  <p> <input type="radio"/> A. $\frac{1}{7} \cdot \frac{1}{4}$ <input type="radio"/> B. $\frac{3}{7} \cdot \frac{1}{4}$ <input type="radio"/> C. $\frac{1}{7} \cdot \frac{3}{4}$ <input type="radio"/> D. $\frac{3}{7} \cdot \frac{3}{4}$ </p> </div> <p>The width of the model is approximately 5.8 cm and the height is approximately 3.3 cm.</p>



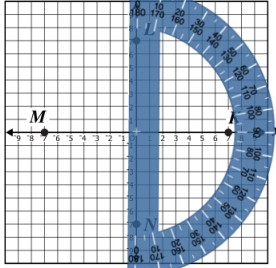
Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	7	MC	B $3 \cdot \frac{1}{6}$	<p>This question has the Drawing Interaction Tool. The Drawing Interaction Tool is a boxed area that exists on certain mathematics questions. The pencil may be used to make marks, notations, straight lines, 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="1087 529 1661 919" style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p>Each hexagon represents 1 whole.</p>  <p>Which product is represented by the shading shown on 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> <div data-bbox="1541 1179 1696 1232" style="border: 1px solid black; padding: 2px; margin: 10px 0;">  </div> <p>The second tool is used to erase selected lines or writing.</p> <div data-bbox="1010 1328 1073 1377" style="border: 1px solid black; padding: 2px; margin: 10px 0;">  </div>

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	7 (Cont.)			<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>  <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>
2	8	MC	D 14^3	
2	9	MC	B 15 bows	
2	10	MC	A 5.25 cm	
2	11	MC	B 24 inches	

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	12	MC	D $\frac{59}{18.8}$	<p>Students may want to use the <i>Grade 6 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>

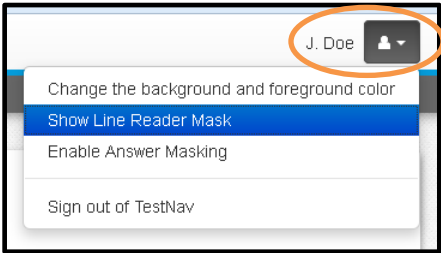
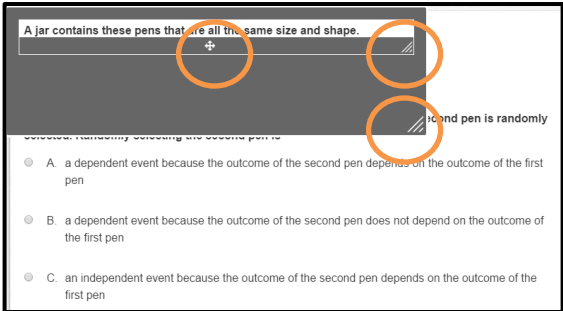
Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	13	MC	B 19.6 sq yd	
2	14	TEI Hot Spot	These answers and only these answers should be selected: 4 meters and 5 meters	This question will be considered "Answered" once two answers have been selected.
2	15	MC	D 78 square inches	

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	16	TEI Drag and Drop	Any of these ordered pairs is correct: $(-6, 0)$, $(-2, 0)$, $(3, 0)$, or $(5, 0)$	<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 boxes of the fraction shade blue. This indicates that the number can be placed in either box- whichever location the student chooses as the correct location.</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 practice moving draggers back to the gray box. Draggers will go back to their original location when returned to the gray box.</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>

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	17	MC	C Point <i>M</i>	<p>There is not a question in this practice item set that requires the use of a protractor. However, in order to familiarize students with the protractor tool, have them practice measuring the 90 degree angles at the origin of the coordinate plane.</p> <p>The protractor tool icon () is located on the toolbar at the top of the screen. Have students select the protractor tool. To move the protractor, select any place within the boundaries of the blue protractor and drag it to another location. To rotate the protractor, select and drag an end with the circle. Have students practice moving and rotating the protractor. Selecting the protractor tool icon again will put the protractor tool away; or, select the pointer tool to put it away.</p> <div data-bbox="1184 797 1682 1214" style="border: 1px solid black; padding: 5px;"> <p>Which graphed point is best represented by () ?</p>  <p> <input type="radio"/> A. Point <i>K</i> <input type="radio"/> B. Point <i>L</i> <input type="radio"/> C. Point <i>M</i> <input type="radio"/> D. Point <i>N</i> </p> </div>

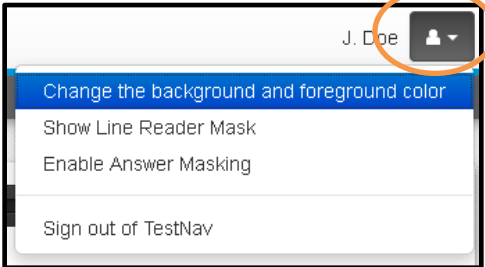
Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	18	TEI Fill-in-the-Blank	<i>TY</i>	<p>Tell students that this question will only allow two characters to be entered.</p> <p>The characters that can be entered are restricted to these characters: T, t, U, u ,V, v, W, w, X ,x, Y, and y.</p> <p>If a student tries to enter more than two characters or a letter other than what is listed above, this message will appear:</p> <div style="text-align: center; border: 1px solid black; background-color: black; color: white; padding: 5px; width: fit-content; margin: 10px auto;"> <p>You cannot use that character.</p> </div> <p>Information for teachers: YT, yt, and ty would also be considered correct answers.</p>
2	19	MC	D 75	
2	20	TEI Bar Graph	<p>Bars should each be raised to these heights:</p> <ul style="list-style-type: none"> • Action = 15 • Comedy = 30 • Other = 5 • Musical = 10 	<p>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.</p> <p>Once one bar has been moved, the item will appear as “Answered” even if all of the bars are returned to the original heights.</p>
2	21	MC	C 7 letters	

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	22	MC	B Median	<p>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>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>Before students go to the next question, make sure return to the default screen setting.</p>

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	23	MC	D an independent event because the outcome of the second pen does not depend on the outcome of the first pen	<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>

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	24	MC	B Randomly selecting one tile from Bag B, not replacing the tile, then randomly selecting another tile from Bag B	
2	25	MC	A $\frac{1}{8}$	
2	26	MC	A a geometric sequence with a common ratio of $\frac{1}{2}$	
2	27	MC	D 108	

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	28	TEI Drag and Drop	Answers from top to bottom: $29 + 0 = 29$; $37 \cdot 1 = 37$;	<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.</p> <p>Selecting a dragger and moving it to the empty box causes 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>This item will not be considered “Answered” until each box has an answer in it.</p>

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	29	MC	A $x \geq -2$	<p>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>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>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> <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>