

How to Use the Digitally Accessible Worksheets

These worksheets are accessible to all users (visually impaired, blind, keyboard users, and non-visually impaired)

1. The MathJax Menu triggers Assistive Technology (AT) to say “clickable” before each math element. This allows keyboard users to enter the MathJax Menu via the spacebar or menu key.
2. Once you have opened the menu, select **Accessibility** option and select **Activate**.
3. This will activate all accessibility features of MathJax.

How to Use the Zoom setting to magnify content of math worksheets

1. The MathJax Menu triggers Assistive Technology (AT) to say “clickable” before each math element. This allows keyboard users to enter the MathJax Menu via the spacebar or menu key.
2. Once you have opened the menu, select **Math Settings** option.
3. Inside this option, select **Zoom Trigger** or **Zoom Factor**.
4. When moving inside a mathematical expression, focused sub-expressions are highlighted and optionally magnified.

How to Use Braille Output and Braille Subtitles

Tactile rendering tool enabling Nemeth Braille output on a connect Braille displays.

1. The MathJax Menu triggers Assistive Technology (AT) to say “clickable” before each math element. This allows keyboard users to enter the MathJax Menu via the spacebar or menu key.
2. Once you have opened the menu, select **Accessibility** option, and select **Speech**.
3. Inside this option, select Braille Output or Braille Subtitles.
4. In addition, an aural rendering is pushed to a screen reader, if one is available, and a tactile rendering can be read on a Braille display, if one is connected.

How to Use this page if you are a Keyboard User

The keyboard explorer is used to interact with a mathematical expression using keyboard commands. Interaction allows a reader to move through an expression in a mathematical meaningful way and examine sub-expressions step-by-step.

The explorer is activated in the context menu by checking the Activate item in the Accessibility sub-menu. Once a math expression is focused, the explorer can be started by pressing the **Enter** key. The cursor keys then allows you to move through the expression.

The keyboard explorer supports multiple types of output: Speech and Braille output for the sub-expression that is explored, magnification of that sub-expression, and synchronized highlighting with the navigation.

Navigation can be started when a MathJax expression is focused and quit at any time during the exploration. When navigation is restarted, the application will continue where the user has left off within the expression.

Overview of key bindings

Essential Keys

Enter Activate explorer. Requires math expression to have the focus.

Escape Leave exploration mode.

Down Explore next lower level of the formula by moving down in the sub-expression tree. Exploration will start at the left-most sub-expression on the level.

Up Move up the sub-expression tree.

Right Navigate the expression horizontally by moving to the next sub-expression on the current level.

Left Navigate the expression horizontally by moving to the previous sub-expression on the current level.

An earcon is played as indicator that the boundary of an expression has been reached in either direction.

Advanced Options

Tab Repeat previous speech-text or announcement.

Space Get positional information; i.e., the current level in the sub-expression tree as well as collapsibility/expandability of the current subexpression.

Enter Collapse or expand expression under cursor, if possible. Speech-text is regenerated to match.

Home Navigate directly to top-most level of expression.

X Summarize the expression under cursor, without collapsing it.

Z Give detailed description of expression under cursor, without expanding it.

V Start new virtual cursor from the current position.

P Go to last position or previous virtual cursor

U Undo all virtual cursors; i.e.; go to position where first virtual cursor was started.

> Switch rule sets between MathSpeak and ClearSpeak, if both are available for the current locale.

< Cycle styles or preferences for the currently active rule sets.

Special key combinations for navigating tables

Shift+Down Move one cell vertically down in the table.

Shift+Up Move one cell vertically up in the table.

Shift+Right Move one cell horizontally right in the table.

Shift+Left Move one cell horizontally left in the table.

0-9+0-9 Move directly to cell (n,m) if it exists. (0,0) is cell (10,10).