

Enhancing accessibility of mathematical equations, tables, and graphs

➤ **MathML (Mathematical Markup Language)** as the standard of accessible digital presentation of mathematics, approved by the World Wide Web Consortium (W3C).

- Avoid inserting equations or graphs as an image. If image must be used, provide alternative text ("Alt Text") or detailed text description.
- Consider spelling out the intended meaning of the symbols to enhance accessibility to assistive technologies.

25% – 50% ❌

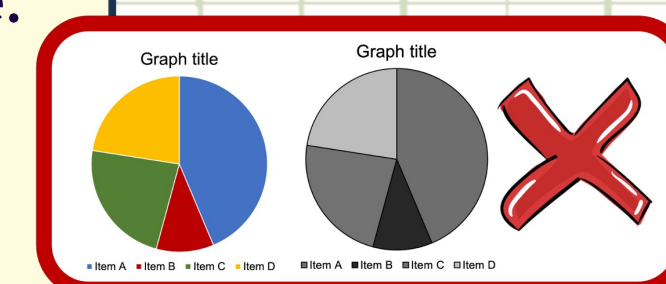
25% to 50% ✅

- Convert screenshots or handwritten content into typewritten and editable format.

$$ax^2 + bx + c = 0$$

- Avoid merged, split, nested, or multiple headings of tables.

- Do not use colour as the sole visual cue.
- Do not put all the text labels below the graphs.



Multi-modal presentation

Equation editors

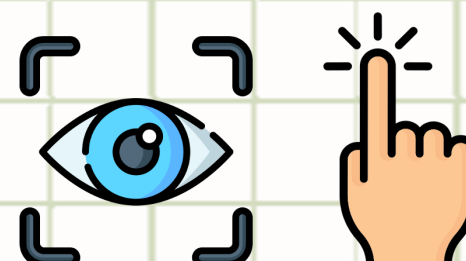
- Insert equations using the built-in equation builder of authoring tools.

$\frac{x}{y}$ e^x $\sqrt[n]{x}$ \int_{-x}^x $\sum_{i=0}^n$ $\{ \}$ $\sin \theta$ \ddot{a} $\lim_{n \rightarrow \infty}$ $\frac{\Delta}{\Delta}$ $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$
 Fraction Script Radical Integral Large Bracket Function Accent Limit and Log Operator Matrix

- Do not use alphabets, superscripts, or subscripts to insert mathematical expressions.

x_2 ❌ $x^2 \neq x^2$ ✅ π Equation

- Tactile graphs.

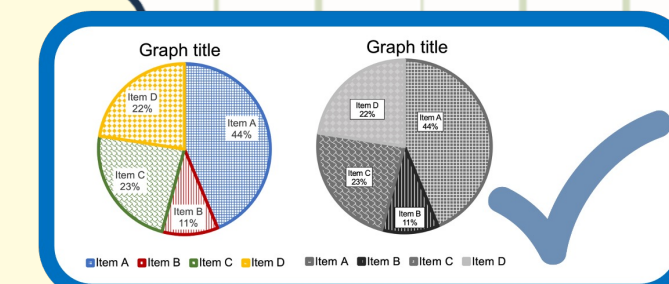


- Changes in the stereo field, pitch, timbre, and a "pop" sound that reflect changes in variables as presented in the waveforms.
- Reading aloud equations.



Table and colour

- Ensure sufficient colour contrast.
- Check whether the graphs are properly displayed in grayscale.



- Use multiple cues, such as line style, text, pattern fill, labels, and legend.
- Put the text labels near or directly on the corresponding section to enable readers to understand the graphs clearly.