

Creating math worksheets for the BrailleSense line of notetakers is easy, straight forward, and simple to do. This document will go through some of the best practices, including what to do and what not to do.

Quick Overview

The BrailleSense Polaris and the BrailleSense 6 notetakers allow users to read and write math in both UEB and Nemeth. The way the BrailleSense notetakers do this is by allowing math to be included directly into the Word Processor, where a person can have a document with both text and math simultaneously.

A major benefit to the approach to math in the BrailleSense notetakers is that there are minimal and intuitive steps to creating and editing math on the notetakers, and teachers can create a math worksheet with relative ease and widely available software.

Teacher's Software Requirements

To create a math worksheet for the BrailleSense notetakers you will need to have a computer and Microsoft Word or Google Docs. While Google Docs can do much of what Microsoft Word can, Google Docs is more limited in math capabilities, so it is recommended to use Microsoft Word if you have more advanced math students. For this document we will be using Microsoft Word.

Creating Basic Math Worksheet

To create a basic math worksheet from scratch, we begin by opening Microsoft Word and selecting a new blank document. With a new document open you can begin to add text as you normally would.

When adding a math equation in Microsoft Word you will find there is a box that outlines the equation. For this document we will call this container and any equations in it an "equation field". We are calling it that because Microsoft Word and the BrailleSense notetakers both know that whatever is contained in that equation field is math. We are not calling it an equation because, as you will learn, you can technically add multiple equations into one of these fields if you wanted to.

One line per equation

You will want one equation per line for BrailleSense notetakers. This means if you have multiple equations then you will want to use a line break (press Enter) after each equation.

Good example:

$$y=3x+2$$
$$2x+9=5 \quad 3x-2=8$$

Bad example:

$$y=3x+2 \quad 2x+9=5$$

In the bad example I added spaces between equations, however, Microsoft thinks this is one equation because the content is held inside one equation field.

Mixing Text with Math

When creating a math document for the BrailleSense, you will want to keep text and math in separate lines. Typing math inline with text, such as $y=2x+3$ makes for difficulties. Instead, you will want to use a line break to keep the equation on its own line.

Sometimes there are instances where an equation field is not the right way to present the information to your student. A good example of this is when you have a math word problem. For example, "Jane has two apples, and was given two more. How many apples does Jane have?". This is a classic math word problem, and an equation field is not appropriate.

Good Example:

Solve the following equation for x:
 $2+2=x$

Next, take the value for x and use it in the following equation to solve for y:
 $x+4=y$

Bad Example:

Solve the equation for x. $2+2=x$. Now use the value for x and solve for y. $3*x=y$.

In this bad example you have two equations in the same line as text. The BrailleSense will attempt to display the math inline with the text, however, this creates a major issue distinguishing between the math and text in braille. There is also the chance the equation

Bulleted, Numbering, and Multilevel lists

You will want to avoid using automatic lists in Microsoft Word when creating a math worksheet. When using lists, it is the default behavior for Word to have the bullet, number, or letter as a character next to the equation instead of part of the equation.

Good Example:

$$1. 2x+3=y$$

In this good example, the number 1 and the following period are inside the math object with a space between the period and the start of the equation. This was done by creating the equation field and typing "1. " inside the equation field.

Bad Example:

$$2*4x-3=y$$

In this bad example there is a numbered list that the number 1 and period are outside the math object. This is effectively the same as having text inline with the equation and will create issues.

Creating Math Objects

There are three ways to add a math equation to Microsoft Word. The first method is to move to a blank line then use the keyboard shortcut alt + = (press the Alt and Equals sign together). If you are in a blank line, then you will be placed into a math object with text that reads "Type equation here.". The math object will be centered in the page by default. Once the math object is available you can type an equation.

The second way to add a math equation is to place your cursor at a blank line, then click the "Insert" tab from the Ribbon. Next, click the "Equation" button to insert a blank equation field.

The third method is to click the "Insert" tab, then click the dropdown arrow below the "Equation" button, and choose a premade equation that you can fill in.