Simple Fractions with a Diagonal Fraction Line

Background

After you completed the *1. How to Read and Write a Simple Fraction* focused lesson, you could write a simple fraction with a horizontal fraction line in Nemeth Code. However, fractions may also be displayed in print with the **numerator** to the left of a diagonal line, or slash, and the **denominator** to the right. There are actually two different ways these particular types of fractions can be written in print, and therefore there are two different ways to write them in Nemeth Code. We will learn how to write both, one way at a time.

Basic Rules for Writing a Simple Fraction with a Diagonal Fraction Line (Numerator Raised Higher than the Denominator)

A simple fraction with a diagonal fraction line where the numerator appears to be raised higher than the denominator, uses the same opening simple fraction indicator and closing simple fraction indicator, but it takes two cells to write a diagonal fraction line in Nemeth Code. Basically, the diagonal fraction line is written with dots 4-5-6 in the first cell, followed by dots 3-4 (the horizontal fraction line) in the second cell. To summarize, this type of fraction with a diagonal fraction line uses the following Nemeth symbols:

 (dots 1-4-5-6) opening simple fraction indicator

 (dots 4-5-6, dots 3-4) diagonal fraction line

 (dots 3-4-5-6) closing simple fraction indicator

So to write the simple fraction $\frac{1}{8}$ in Nemeth Code, you would write:

 or opening simple fraction indicator, one, diagonal fraction line, eight, closing simple fraction indicator. Notice that the numerator of 1 is to the left of the diagonal fraction line, and the denominator of 8 is to the right.

Examples

1. $\frac{3}{4}$ three over four or three-fourths

2. $\frac{5}{8}$ five over eight or five-eighths

3. $\frac{33}{100}$ thirty-three over one hundred or thirty-three hundredths

Activity time: See if you can re-create the fractions in examples 1 to 3.

The numerator and denominator don't always have to be a specific number. We could have an unknown number in either the numerator or the denominator or both. These unknown numbers are written as letters called **variables**.

Examples with Variables

4. $\frac{3}{y}$ three over y or open fraction three over y close fraction

5. $\frac{x}{y}$ x over y or open fraction x over y close fraction

Activity time: See if you can re-create the fractions with variables in examples 4 and 5.

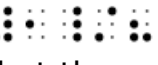
Basic Rules for Writing a Simple Fraction with a Diagonal Fraction Line (Numerator Not Raised Higher than the Denominator)

Different rules apply if the numerator and denominator are printed at the same level and the size of print is the same as the surrounding math expressions. In this situation, simple fraction indicators are not used. Instead, when writing this type of fraction, you would write the numeric indicator, the numerator, the diagonal fraction line, and end with the denominator. There is no need for any type of closing fraction indicator. To summarize, this type of fraction with a diagonal fraction line uses the following Nemeth symbols:

 (dots 3-4-5-6) numeric indicator

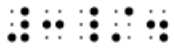
 (dots 4-5-6, dots 3-4) diagonal fraction line

So to write the simple fraction $1/8$ in Nemeth Code, you would write:

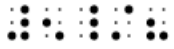
 or numeric indicator, one, diagonal fraction line, eight. Notice that the numerator of 1 is to the left of the diagonal fraction line, and the denominator of 8 is to the right.

Examples

6. $3/4$ three over four or three-fourths



7. $5/8$ five over eight or five-eighths



8. $33/100$ thirty-three over one hundred or thirty-three hundredths

Activity time: See if you can re-create the fractions in examples 6 to 8.

The numerator and denominator don't always have to be a specific number. We could have an unknown number in either the numerator or the denominator or both.

Examples with Variables

9. $3/y$ three over y or open fraction three over y close fraction

10. x/y x over y or open fraction x over y close fraction

Activity time: See if you can re-create the fractions with variables in examples 9 and 10.