How to Read and Write Linear Equations with a Multiplication Cross

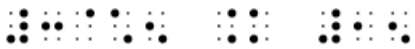
Background

Multiplication is related to addition. For example, if you buy five ice cream cones for your friends and each cone has three scoops, how many scoops are there in all? You could determine the number of ice cream scoops by adding the same number, 3, five times.

$3+3+3+3+3=15$

However, there is another way to approach this problem. It could also be written as an equation using multiplication. Three times (multiplication cross) five equals fifteen.

$3\times5=15$



Basic Rules for Reading and Writing a Linear Equation with a Multiplication Cross

In this lesson, we will learn how to read and write a linear equation with a multiplication cross. Linear equations with a **multiplication cross** use the following Nemeth symbols:

(dot 4, followed by dots 1-6) multiplication cross (×)

(dots 4-6, followed by dots 1-3) equals sign (=)

(dots 1-2-3-4-5-6) general omission symbol

(four cells of dots 3-6) long dash (____)

So to write the equation two times four equals what number in Nemeth Code, you would write:

$2\times4=?$

or numeric indicator, two, multiplication cross, four, space, equals sign, space, general omission symbol

The **general omission symbol** was used to represent the question mark, indicating that a number was missing. Sometimes in print, the words "what number" are used for that missing number.

Notice the equation began with a numeric indicator. It was used at the beginning of the linear equation since the equation began with a numeric symbol such as a whole number or decimal. Also notice that there is not a space before or after the multiplication cross.

Since a multiplication cross was used in print, a multiplication cross was used in braille.

Sometimes a **long dash** is used in equations with a multiplication cross. So to write the equation three times five equals blank in Nemeth, you would write:

$3 \times 5 = ____$

or numeric indicator, three, multiplication cross, five, space, equals sign, space, long dash

Examples

1. $10 \times 10 = ?$ Ten times ten equals what number?

2. $3 \times 3 = ____$ Three times three equals blank.

3. $2 \times ? = 6$ Two times what number equals six?

Did you notice that a numeric indicator was repeated after a space?

4. $5 \times 5 = ____$ Five times five equals blank.

Activity time: See if you can re-create the equations using a multiplication cross in examples 1 to 4.