Illustrative Mathematics

1.NBT Ordering Numbers

Alignment 1: 1.NBT.B.3

Malik is given a list of numbers:

1 5 10 50 100

He wants to include the following numbers so all numbers will be listed in order from least (on the left) to greatest (on the right):

49, 7, 22, 98, and 3

Where in the list should he put each of these numbers?

Commentary:
The purpose of this task is to give students an opportunity to compare numbers less than 100 to benchmark numbers. Even though a number line is not explicitly given in the task, it is useful for students to list the numbers in the order they would appear on the number line; this allows them to focus on the relative ordering without worrying about the exact placement on the number line. Students should also have a chance to do similar tasks with a number line.

1.NBT.3 asks students to record comparisons with the symbols $>, =$ and $<$ While this task does not ask for this, it helps build up an understanding of the relative magnitude of numbers which is a precursor to proficiency with the more abstract symbolic comparisons.

The reading level for this task is high for first grade, so it would be a good idea for teachers to present this task to students orally.

Solution: solution

We know that 3 is the smallest number in our list of new numbers so we will find a place for 3 in the row first. 3 is greater than 1 but less than 5 so Malik should put 3 in the row between 1 and 5. The row of numbers is:

1 5 10 50 100

The next greatest number in our new list is 7. 7 is greater than 5 but less than 10 so Malik should put 7 in the row between 5 and 10. The new row of numbers is:

1 3 5 7 10 50 100

The next greatest number in our new list is 22. 22 is greater than 10 but less than 50 so Malik should put 22 in the row between 10 and 50. The new row of numbers is:

1 3 5 7 10 22 50 100

The next greatest number in our new list is 49. 49 is greater than 22 but less than 50 so Malik should put 49 in the row between 22 and 50. The new row of numbers is:

1 3 5 7 10 22 49 50 100

The greatest number in our new list is 98. 98 is greater than 50 but less than 100 so Malik should put 98 in the row between 50 and 100. The new row of numbers is:

1 3 5 7 10 22 49 50 98 100

We have added all of our new numbers to the old row in order from least (on the left) to greatest (on the right) so this is Malik's final row of numbers.