

In Reverse

Name _____

Enter the following into your calculator. Record each number displayed.

1 \ominus \ominus 10 \equiv \equiv \equiv \equiv \equiv \equiv \equiv \equiv \equiv \equiv

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What is the calculator doing? _____

Clear the calculator. Enter.

2 \ominus \ominus 10 \equiv \equiv \equiv \equiv \equiv \equiv \equiv

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What is the calculator doing? _____

How many times did you press \equiv to get 0? _____

Clear the calculator. Enter.

3 \ominus \ominus 10 \equiv \equiv \equiv \equiv \equiv \equiv

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Did the calculator display 0? _____ Explain _____

Thinking Cap

There are several numbers which can be subtracted over and over again from 20 until 0 is displayed on the calculator. Find all the numbers that work.

TEACHER NOTES: *In Reverse*

Objective: To count back by a given number.

Grade Level: 1-3

Topic: *Numeration/Operation Readiness (Division)*

Using the Activity:

This activity uses the automatic constant for subtraction to develop the concept of division. Have students enter the given key sequence into the calculator. As the numbers are displayed on the calculator, students should record the numbers in the boxes provided. The students should see that in the first section the calculator is counting back by 1's, while in the second section, it is counting back by 2's.

Ask students:

When the calculator was counting back by 1's from 10, how many times did you press equal to display 7? (3) to display 0? (10)

What did the calculator display after 0? (-1)

When the calculator was counting back by 2's from 10, how many times did you press equal to display 6? (2) 0? (5)

If you keyed in 5 \square \square 10, how many times would you have to press equal to get 0? (2)

How come when 3 is repeatedly subtracted from 10, 0 is not displayed? (10 cannot be divided evenly into groups of 3)

How many groups of 3 can be subtracted from 10? (3)

How many items are left ungrouped? (1)

Thinking Cap

Students may use the guess and check problem-solving strategy to discover the numbers that can be repeatedly subtracted from 20 to get a display of 0. These numbers (20, 10, 5, 4, 2, 1) represent the whole number divisors of 20 and can be tied to the development of basic division facts.

Extension

Working in groups of 3, one student uses a calculator, one records the results on paper and one child uses interlocking cubes. The child starts by building a train of 10 interlocking cubes. As equal is pressed, the groups of cubes equal in length to the number being repeatedly subtracted are broken off. Students should see that the length of the group is the number being subtracted, and the number of groups broken off is equal to the number of times the equal key is pressed.

Ex: $2 \square \square 10 =$

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 $2 \square \square 10 = =$

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